MITSUBISHI ELECTRIC

GRAPHIC OPERATION TERMINAL

GOT2000 Series

Connection Manual (Mitsubishi Product)

For GT Works3 Version1

- ■ETHERNET CONNECTION
- ■DIRECT CONNECTION TO CPU
- ■COMPUTER LINK CONNECTION
- ■BUS CONNECTION
- ■MELSECNET/H CONNECTION, MELSECNET/10 CONNECTION
- ■CC-Link IE CONNECTION
- ■CC-Link CONNECTION
- ■INVERTER CONNECTION
- ■SERVO AMPLIFIER CONNECTION
- ■ROBOT CONTROLLER CONNECTION
- ■CNC CONNECTION
- ■INSTRUMENT CONNECTION
- ■GOT MULTI-DROP CONNECTION
- ■MULTI-CHANNEL FUNCTION
- ■FA TRANSPARENT FUNCTION

● SAFETY PRECAUTIONS ●

(Always read these precautions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.
The precautions given in this manual are concerned with this product.
In this manual, the safety precautions are ranked as "WARNING" and "CAUTION".

⚠ **WARNING**	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
⚠ **CAUTION**	Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Note that the ⚠ caution level may lead to a serious accident according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

[DESIGN PRECAUTIONS]

⚠ WARNING

- Some failures of the GOT, communication unit or cable may keep the outputs on or off.
  Some failures of a touch panel may cause malfunction of the input objects such as a touch switch.
  An external monitoring circuit should be provided to check for output signals which may lead to a serious accident.Not doing so can cause an accident due to false output or malfunction.
- Do not use the GOT as the warning device that may cause a serious accident.
  An independent and redundant hardware or mechanical interlock is required to configure the device that displays and outputs serious warning.
  Failure to observe this instruction may result in an accident due to incorrect output or malfunction.
- The GOT backlight failure disables the operation on the touch switch(s).
  When the GOT backlight has a failure, the POWER LED blinks (orange/blue) and the display section dims. In such a case, the input by the touch switch(s) is disabled.
- The display section of the GOT is an analog-resistive type touch panel.
  [GT27]
  The GOT is multi-touch compliant; however, do not touch three points or more simultaneously on the display section. Doing so may cause an accident due to incorrect output or malfunction.
  [GT23]
  If you touch the display section simultaneously in two points or more,the switch that is located around the center of the touched point, if any, may operate.Do not touch the display section in two points or more simultaneously.Doing so may cause an accident due to incorrect output or malfunction.
- When programs or parameters of the controller (such as a PLC) that is monitored by the GOT are changed, be sure to reset the GOT, or turn on the unit again after shutting off the power as soon as possible.Not doing so can cause an accident due to false output or malfunction.

[DESIGN PRECAUTIONS]

⚠WARNING

- If a communication fault (including cable disconnection) occurs during monitoring on the GOT, communication between the GOT and PLC CPU is suspended and the GOT becomes inoperative.
  For bus connection (GT27 Only) : The CPU becomes faulty and the GOT becomes inoperative.
  For other than bus connection : The GOT becomes inoperative.
  A system where the GOT is used should be configured to perform any significant operation to the system by using the switches of a device other than the GOT on the assumption that a GOT communication fault will occur.
  Not doing so can cause an accident due to false output or malfunction.

⚠CAUTION

- Do not bundle the control and communication cables with main-circuit, power or other wiring.
  Run the above cables separately from such wiring and keep them a minimum of 100mm apart.
  Not doing so noise can cause a malfunction.
- Do not press the GOT display section with a pointed material as a pen or driver.
  Doing so can result in a damage or failure of the display section.
- When the GOT is connected to the Ethernet network, the available IP address is restricted according to the system configuration.
  - When multiple GOTs are connected to the Ethernet network :
    Do not set the IP address (192.168.3.18) for the GOTs and the controllers in the network.
  - When a single GOT is connected to the Ethernet network :
    Do not set the IP address (192.168.3.18) for the controllers except the GOT in the network.

  Doing so can cause the IP address duplication.
  The duplication can negatively affect the communication of the device with the IP address (192.168.3.18).
  The operation at the IP address duplication depends on the devices and the system.
- Turn on the controllers and the network devices to be ready for communication before they communicate with the GOT.
  Failure to do so can cause a communication error on the GOT.
- When the GOT is subject to shock or vibration, or some colors appear on the screen of the GOT, the screen of the GOT might flicker.

[MOUNTING PRECAUTIONS]

⚠WARNING

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the GOT main unit to/from the panel.
  Not doing so can cause the unit to fail or malfunction.
- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the option unit onto/from the GOT.(GT27 Only)

[MOUNTING PRECAUTIONS]

⚠CAUTION

- Use the GOT in the environment that satisfies the general specifications described in this manual. Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- When mounting the GOT to the control panel, tighten the mounting screws in the specified torque range (0.36 N·m to 0.48 N·m) with a Phillips-head screwdriver No.2.
  Undertightening can cause the GOT to drop, short circuit or malfunction.
  Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or the GOT.
- When loading the communication unit or option unit other than wireless LAN unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range (0.36 N•m to 0.48 N•m) with a Phillips-head screwdriver No.2.
  When loading the wireless LAN unit to the GOT, fit it to the side interface of GOT and tighten the mounting screws in the specified torque range (0.10 N•m to 0.14 N•m) with a Phillips-head screwdriver No.2.
  Under tightening can cause the GOT to drop, short circuit or malfunction.
  Overtightening can cause a drop, failure or malfunction due to the damage of the screws or unit.(GT27 Only)
- When closing the USB environmental protection cover, fix the cover to the GOT by pushing the [PUSH] mark on the latch firmly to comply with the protective structure.(GT27 Only)
- Remove the protective film of the GOT.
  When the user continues using the GOT with the protective film, the film may not be removed.In addition, for the models equipped with the human sensor function, using the GOT with the protective film may cause the human sensor not to function properly
- Operate and store the GOT in environments without direct sunlight, high temperature, dust, humidity, and vibrations.
- When using the GOT in the environment of oil or chemicals, use the protective cover for oil.Failure to do so may cause failure or malfunction due to the oil or chemical entering into the GOT.

[WIRING PRECAUTIONS]

⚠WARNING

- Be sure to shut off all phases of the external power supply used by the system before wiring. Failure to do so may result in an electric shock, product damage or malfunctions.

⚠CAUTION

- Make sure to ground the FG terminal and LG terminal of the GOT power supply section to the protective ground conductors dedicated to the GOT with a ground resistance of 100 Ω or less.
- When tightening the terminal screws, use a Phillips-head screwdriver No.2.
- Terminal screws which are not to be used must be tightened always at torque 0.5 N·m to 0.8 N·m. Otherwise there will be a danger of short circuit against the solderless terminals.

[WIRING PRECAUTIONS]

⚠CAUTION

- Use applicable solderless terminals and tighten them with the specified torque.
  If any solderless spade terminal is used, it may be disconnected when the terminal screw comes loose, resulting in failure.
- Correctly wire the GOT power supply section after confirming the rated voltage and terminal arrangement of the product.
  Not doing so can cause a fire or failure.
- Tighten the terminal screws of the GOT power supply section in the specified torque range (0.5 N·m to 0.8 N·m).
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or the GOT.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the GOT.
  Not doing so can cause a fire, failure or malfunction.
- The module has an ingress prevention label on its top to prevent foreign matter, such as wire offcuts, from entering the module during wiring.
  Do not peel this label during wiring.Before starting system operation, be sure to peel this label because of heat dissipation. (GT27 Only)
- Plug the communication cable into the GOT interface or the connector of the connected unit, and tighten the mounting screws and the terminal screws in the specified torque range.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.
- Plug the QnA/ACPU/Motion controller(A series) bus connection cable by inserting it into the connector of the connected unit until it "clicks".
  After plugging, check that it has been inserted snugly.
  Not doing so can cause a malfunction due to a contact fault.(GT27 Only)

[TEST OPERATION PRECAUTIONS]

⚠WARNING

- Before performing the test operations of the user creation monitor screen (such as turning ON or OFF bit device, changing the word device current value, changing the settings or current values of the timer or counter, and changing the buffer memory current value), read through the manual carefully and make yourself familiar with the operation method.
  During test operation, never change the data of the devices which are used to perform significant operation for the system.
  False output or malfunction can cause an accident.

[STARTUP/MAINTENANCE PRECAUTIONS]

⚠WARNING

- When power is on, do not touch the terminals.
  Doing so can cause an electric shock or malfunction.
- Correctly connect the battery connector.
  Do not charge, disassemble, heat, short-circuit, solder, or throw the battery into the fire.
  Doing so will cause the battery to produce heat, explode, or ignite, resulting in injury and fire.
- Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases.
  Not switching the power off in all phases can cause a unit failure or malfunction.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

⚠CAUTION

- Do not disassemble or modify the unit.
  Doing so can cause a failure, malfunction, injury or fire.
- Do not touch the conductive and electronic parts of the unit directly.
  Doing so can cause a unit malfunction or failure.
- The cables connected to the unit must be run in ducts or clamped.
  Not doing so can cause the unit or cable to be damaged due to the dangling, motion or accidental pulling of the cables or can cause a malfunction due to a cable connection fault.
- When unplugging the cable connected to the unit, do not hold and pull from the cable portion.
  Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault.
- Do not drop the module or subject it to strong shock. A module damage may result.
- Do not drop or give an impact to the battery mounted to the unit.
  Doing so may damage the battery, causing the battery fluid to leak inside the battery.If the battery is dropped or given an impact, dispose of it without using.
- Before touching the unit, always touch grounded metals, etc. to discharge static electricity from human body, etc.
  Not doing so can cause the unit to fail or malfunction.
- Use the battery manufactured by Mitsubishi Electric Corporation.
  Use of other batteries may cause a risk of fire or explosion.
- Dispose of used battery promptly.
  Keep away from children.Do not disassemble and do not dispose of in fire.
- Be sure to shut off all phases of the external power supply before replacing the battery or using the dip switch of the terminating resistor.
  Not doing so can cause the unit to fail or malfunction by static electricity.

[TOUCH PANEL PRECAUTIONS]

⚠CAUTION

- For the analog-resistive film type touch panels, normally the adjustment is not required.
  However, the difference between a touched position and the object position may occur as the period of use elapses.
  When any difference between a touched position and the object position occurs, execute the touch panel calibration.
- When any difference between a touched position and the object position occurs, other object may be activated.
  This may cause an unexpected operation due to incorrect output or malfunction.

[PRECAUTIONS WHEN THE DATA STORAGE IS IN USE]

⚠WARNING

- If the SD card mounted on drive A of the GOT is removed while the GOT is accessed, processing for the GOT might be interrupted about for 20 seconds.
  The GOT cannot be operated during this period.
  The functions that run in the background including a screen updating, alarm, logging, scripts, and others are also interrupted.
  Since this interruption makes an impact to the system operation, it might cause failure.After checking the light off of SD card access LED, remove the SD card.

⚠CAUTION

- If the data storage mounted on the GOT is removed while the GOT is accessed, the data storage and files are damaged.
  To remove the data storage from the GOT, check that the access to the data storage in SD card access LED, the system signal, and others is not performed.
- When inserting a SD card into the GOT, make sure to close the SD card cover.
  Failure to do so causes the data not to be read or written.
- When removing the SD card from the GOT, make sure to support the SD card by hand as it may pop out.
  Failure to do so may cause the SD card to drop from the GOT, resulting in a failure or break.
- When inserting a USB device into a USB interface of the GOT, make sure to insert the device into the interface firmly.
  Failure to do so may cause the USB device to drop from the GOT, resulting in a failure or break.
- Before removing the USB device from the GOT, follow the procedure for removal on the utility screen of the GOT.
  After the successful completion dialog is displayed, remove the USB device by hand carefully.
  Failure to do so may cause the USB device to drop from the GOT, resulting in a failure or break.

[DISPOSAL PRECAUTIONS]

⚠CAUTION

- When disposing of this product, treat it as industrial waste.
  When disposing of batteries, separate them from other wastes according to the local regulations.
  (Refer to the GOT2000 Series User's Manual (Hardware) for details of the battery directive in the EU member states.)

[TRANSPORTATION PRECAUTIONS]

⚠CAUTION

- When transporting lithium batteries, make sure to treat them based on the transport regulations.
  (Refer to the GOT2000 Series User's Manual (Hardware) for details of the regulated models.)
- Make sure to transport the GOT main unit and/or relevant unit(s) in the manner they will not be exposed to the impact exceeding the impact resistance described in the general specifications of this manual, as they are precision devices.
  Failure to do so may cause the unit to fail.
  Check if the unit operates correctly after transportation.
- When fumigants that contain halogen materials such as fluorine, chlorine, bromine, and iodine are used for disinfecting and protecting wooden packaging from insects, they cause malfunction when entering our products.
  Please take necessary precautions to ensure that remaining materials from fumigant do not enter our products, or treat packaging with methods other than fumigation (heat method).
  Additionally, disinfect and protect wood from insects before packing products.

INTRODUCTION

Thank you for choosing Mitsubishi Graphic Operation Terminal (Mitsubishi GOT).
Read this manual and make sure you understand the functions and performance of the GOT thoroughly in advance to ensure correct use.

CONTENTS

3. ACCESS RANGE FOR MONITORING

4. HOW TO MONITOR REDUNTANT SYSTEM

5. ETHERNET CONNECTION

6. DIRECT CONNECTION TO CPU

7. COMPUTER LINK CONNECTION

8. BUS CONNECTION

12. CC-Link CONNECTION (INTELLIGENT DEVICE STATION)

13. CC-Link CONNECTION (Via G4)

MITSUBISHI FA DEVICE CONNECTIONS

14. INVERTER CONNECTION

15. SERVO AMPLIFIER CONNECTION

16. ROBOT CONTROLLER CONNECTION

17. CNC CONNECTION

MULTIPLE GOT CONNECTIONS

18. GOT MULTI-DROP CONNECTION

MULTI-CHANNEL FUNCTION

19. MULTI-CHANNEL FUNCTION

FA TRANSPARENT FUNCTION

20. FA TRANSPARENT FUNCTION

List of Manuals for GT Works3

For the manuals related to this product, install the manuals with the drawing software.
If you need a printed manual, consult your local Mitsubishi representative or branch office.

■1. List of Manuals for GT Designer3(GOT2000)

(1) Screen drawing software manuals

Manual name	Manual number (Model code)
GT Works3 Version1 Installation Procedure Manual	-
GT Designer3 (GOT2000) Help	-
GT Converter2 Version3 Operating Manual for GT Works3	SH-080862ENG (1D7MB2)
GOT2000 Series MES Interface Function Manual for GT Works3 Version1	SH-081228ENG

(2) Connection manuals

Manual name	Manual number (Model code)
GOT2000 Series Connection Manual (Mitsubishi Products) for GT Works3 Version1	SH-081197ENG (1D7MJ8)
GOT2000 Series Connection Manual (Non-Mitsubishi Products 1) for GT Works3 Version1	SH-081198ENG
GOT2000 Series Connection Manual (Non-Mitsubishi Products 2) for GT Works3 Version1	SH-081199ENG
GOT2000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 Version1	SH-081200ENG

(3) GT SoftGOT2000 manuals

Manual name	Manual number (Model code)
GT SoftGOT2000 Version1 Operating Manual	SH-081201ENG

(4) GOT2000 manuals

Manual name	Manual number (Model code)
GOT2000 Series User's Manual (Hardware)	SH-081194ENG (1D7MJ5)
GOT2000 Series User's Manual (Utility)	SH-081195ENG (1D7MJ6)
GOT2000 Series User's Manual (Monitor)	SH-081196ENG (1D7MJ7)

■2. List of Manuals for GT Designer3(GOT1000)

Refer to the Help and manuals for GT Designer3(GOT1000)

Abbreviations and Generic Terms

The following shows the abbreviations and generic terms used in Help.

■1. GOT

Abbreviations and generic terms			Description
GOT2000 Series	GT27	GT2712-S	GT2712-STBA, GT2712-STWA, GT2712-STBD, GT2712-STWD
		GT2710-S	GT2710-STBA, GT2710-STBD
		GT2710-V	GT2710-VTBA, GT2710-VTWA, GT2710-VTBD, GT2710-VTWD
		GT2708-S	GT2708-STBA, GT2708-STBD
		GT2708-V	GT2708-VTBA, GT2708-VTBD
	GT23	GT2310-V	GT2310-VTBA, GT2310-VTBD
		GT2308-V	GT2308-VTBA, GT2308-VTBD
	GT SoftGOT2000		GT SoftGOT2000 Version1
GOT1000 Series			GOT1000 Series
GOT900 Series			GOT-A900 Series, GOT-F900 Series
GOT800 Series			GOT-800 Series

■2. Communication unit

Abbreviations and generic terms	Description
Bus connection unit	GT15-QBUS, GT15-QBUS2, GT15-ABUS, GT15-ABUS2, GT15-75QBUSL, GT15-75QBUS2L, GT15-75ABUSL, GT15-75ABUS2L
Serial communication unit	GT15-RS2-9P, GT15-RS4-9S, GT15-RS4-TE
MELSECNET/H communication unit	GT15-J71LP23-25, GT15-J71BR13
CC-Link IE Controller Network communication unit	GT15-J71GP23-SX
CC-Link IE Field Network communication unit	GT15-J71GF13-T2
CC-Link communication unit	GT15-J61BT13
Wireless LAN communication unit	GT25-WLAN
Serial multi-drop connection unit	GT01-RS4-M
Connection conversion adapter	GT10-9PT5S

■3. Option unit

Abbreviations and generic terms		Description
Printer unit		GT15-PRN
Video/RGB unit	Video input unit	GT27-V4-Z (A set of GT16M-V4 and GT27-IF1000)
	RGB input unit	GT27-R2-Z (A set of GT16M-R2 and GT27-IF1000)
	Video/RGB input unit	GT27-V4R1-Z (A set of GT16M-V4R1 and GT27-IF1000)
	RGB output unit	GT27-ROUT-Z (A set of GT16M-ROUT and GT27-IF1000)
Multimedia unit		GT27-MMR-Z (A set of GT16M-MMR and GT27-IF1000)
Video signal conversion unit		GT27-IF1000
External I/O unit		GT15-DIO, GT15-DIOR
Sound output unit		GT15-SOUT

■4. Option

Abbreviations and generic terms		Description
SD card		L1MEM-2GBSD, L1MEM-4GBSD
Battery		GT11-50BAT, GT11-BAT
Protective sheet	For GT27	GT25-12PSGC, GT25-10PSGC, GT25-08PSGC, GT25-12PSCC, GT25-10PSCC, GT25-08PSCC, GT25-12PSCC-UC, GT25-10PSCC-UC, GT25-08PSCC-UC
	For GT23	GT25-10PSCC-UC, GT25-08PSCC-UC
Protective cover for oil		GT20-10PCO, GT20-08PCO
USB environmental protection cover		GT25-UCOV
Stand		GT15-90STAND, GT15-80STAND, GT15-70STAND, GT15-60STAND
Attachment		GT15-70ATT-98, GT15-70ATT-87, GT15-60ATT-97, GT15-60ATT-96, GT15-60ATT-87, GT15-60ATT-77

■5. Software

(1) Software related to GOT

Abbreviations and generic terms	Description
GT Works3	SW1DNC-GTW3-J, SW1DND-GTW3-J, SW1DNC-GTW3-E, SW1DND-GTW3-E, SW1DND-GTW3-C
GT Designer3 Version1	Screen drawing software GT Designer3 for GOT2000/GOT1000 series
GT Designer3	Screen drawing software for GOT2000 series included in GT Works3
GT Designer3 (GOT2000)	
GT Designer3 (GOT1000)	Screen drawing software for GOT1000 series included in GT Works3
GT Simulator3	Screen simulator GT Simulator3 for GOT2000/GOT1000/GOT900 series
GT SoftGOT2000	Monitoring software GT SoftGOT2000 series
GT Converter2	Data conversion software GT Converter2 for GOT1000/GOT900 series
GT Designer2 Classic	Screen drawing software GT Designer2 Classic for GOT900 series
GT Designer2	Screen drawing software GT Designer2 for GOT1000/GOT900 series
DU/WIN	Screen drawing software FX-PCS-DU/WIN for GOT-F900 series

(2) Software related to iQ Works

Abbreviations and generic terms	Description
iQ Works	Abbreviation of iQ Platform compatible engineering environment MELSOFT iQ Works
MELSOFT Navigator	Generic term for integrated development environment software included in the SW DNC-IQWK (iQ Platform compatible engineering environment MELSOFT iQ Works) (□ indicates a version.)

(3) Other software

Abbreviations and generic terms	Description
GX Works2	SW□DNC-GXW2-J (-JA, -JAZ) type programmable controller engineering software (□ indicates a version.)
GX Simulator2	GX Works2 with the simulation function
GX Simulator	SW□D5C-LLT-J (-JV) type ladder logic test tool function software package (SW5D5C-LLT (-V) or later versions) (□ indicates a version.)
GX Developer	SW□D5C-GPPW-J (-JV)/SW□D5F-GPPW (-V) type software package (□ indicates a version.)
GX LogViewer	SW□DNN-VIEWER-J type software package (□ indicates a version.)
PX Developer	SW□D5C-FBDQ-J type FBD software package for process control (□ indicates a version.)
MT Works2	Motion controller engineering environment MELSOFT MT Works2(SW□DNC-MTW2-J) (□ indicates a version.)
MT Developer	SW□RNC-GSV type integrated start-up support software for motion controller Q series (□ indicates a version.)
MR Configurator2	SW□DNC-MRC2-J type servo configuration software (□ indicates a version.)
MR Configurator	MRZJW□-SETUP type servo configuration software (□ indicates a version.)
FR Configurator	Inverter setup software (FR-SW□-SETUP-WJ) (□ indicates a version.)
NC Configurator	CNC parameter setting support tool NC Configurator
FX Configurator-FP	Parameter setting, monitoring, and testing software packages for FX3U-20SSC-H (SW□D5CFXSSCJ) (□ indicates a version.)
FX3U-ENET-L Configuration tool	FX3U-ENET-L type Ethernet module setting software (SW1D5-FXENETL-J)
RT ToolBox2	Robot program creation software (3D-11C-WINJ)
MX Component	MX Component Version□(SW□D5C-ACT-J, SW□D5C-ACT-JA) (□ indicates a version.)
MX Sheet	MX Sheet Version□(SW□D5C-SHEET-J, SW□D5C-SHEET-JA) (□ indicates a version.)
QnUDVCPU·LCPU Logging Configuration Tool	QnUDVCPU·LCPU logging configuration tool (SW1DNN-LLUTL-J)

■6. License key (for GT SoftGOT2000)

Abbreviations and generic terms	Description
License key	GT27-SGTKEY-U

■7. Others

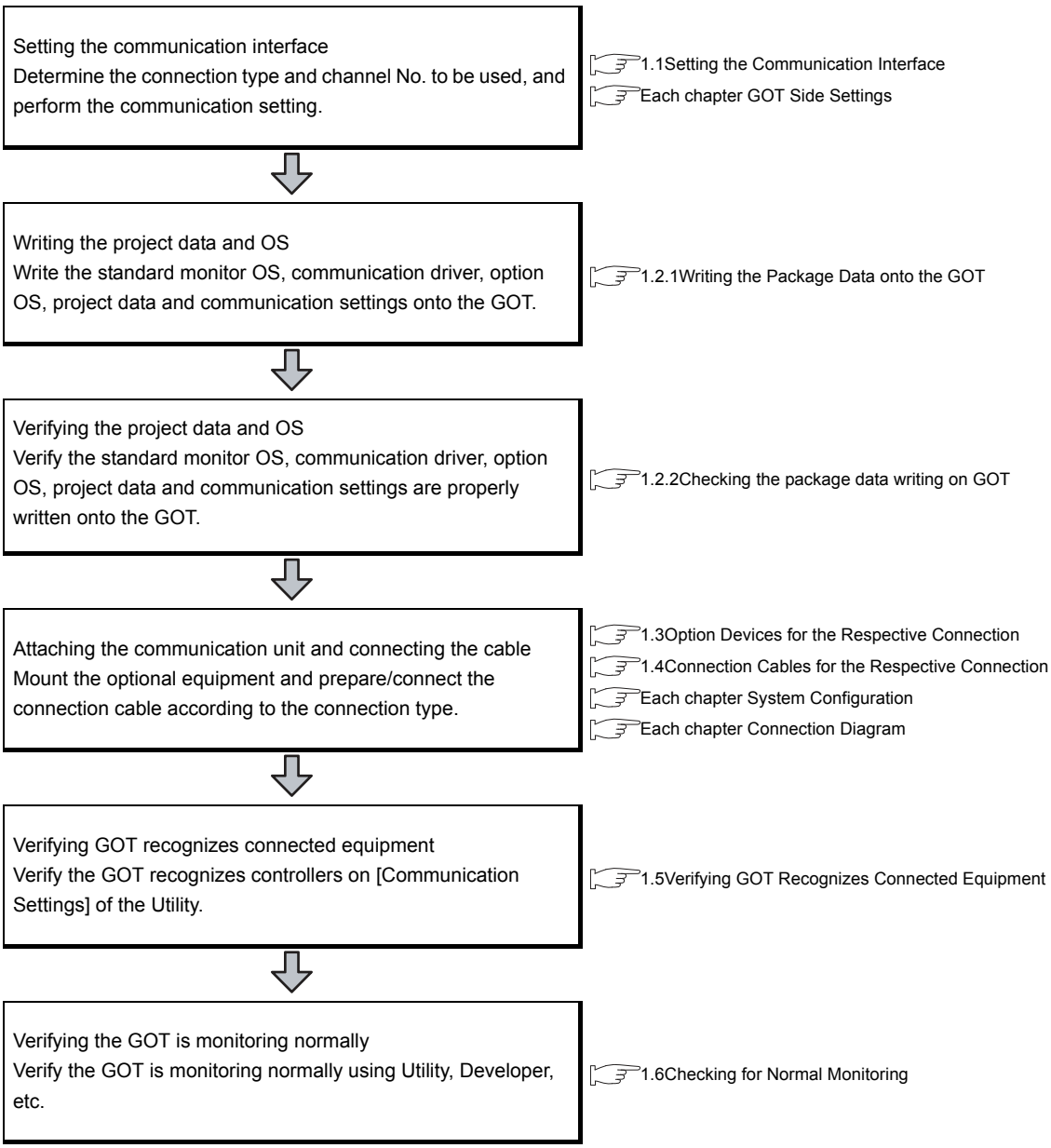
Abbreviations and generic terms	Description
IAI	IAI Corporation
AZBIL	Azbil Corporation
OMRON	OMRON Corporation
KEYENCE	KEYENCE CORPORATION
KOYO EI	KOYO ELECTRONICS INDUSTRIES CO., LTD.
JTEKT	JTEKT Corporation
SHARP	Sharp Manufacturing Systems Corporation
SHINKO	Shinko Technos Co., Ltd.
CHINO	CHINO CORPORATION
TOSHIBA	TOSHIBA CORPORATION
TOSHIBA MACHINE	TOSHIBA MACHINE CO., LTD.
PANASONIC	Panasonic Corporation
PANASONIC IDS	Panasonic Industrial Devices SUNX Co., Ltd.
HITACHI IES	Hitachi Industrial Equipment Systems Co., Ltd.
HITACHI	Hitachi, Ltd.
FUJI ELECTRIC	FUJI ELECTRIC CO., LTD.
YASKAWA	YASKAWA Electric Corporation
YOKOGAWA	Yokogawa Electric Corporation
RKC	RKC INSTRUMENT INC.
ALLEN-BRADLEY	Allen-Bradley products manufactured by Rockwell Automation, Inc.
GE IP	GE Intelligent Platforms KK
LS IS	LS Industrial Systems Co., Ltd.
SCHNEIDER	Schneider Electric SA
SICK	SICK AG
SIEMENS	Siemens AG
PLC	Programmable controller manufactured by each corporation
Control equipment	Control equipment manufactured by each corporation
Temperature controller	Temperature controller manufactured by each corporation
Indicating controller	Indicating controller manufactured by each corporation
Controller	Controller manufactured by each corporation

1

PREPARATORY PROCEDURES FOR MONITORING

1. PREPARATORY PROCEDURES FOR MONITORING

The following shows the procedures to be taken before monitoring and corresponding reference sections.



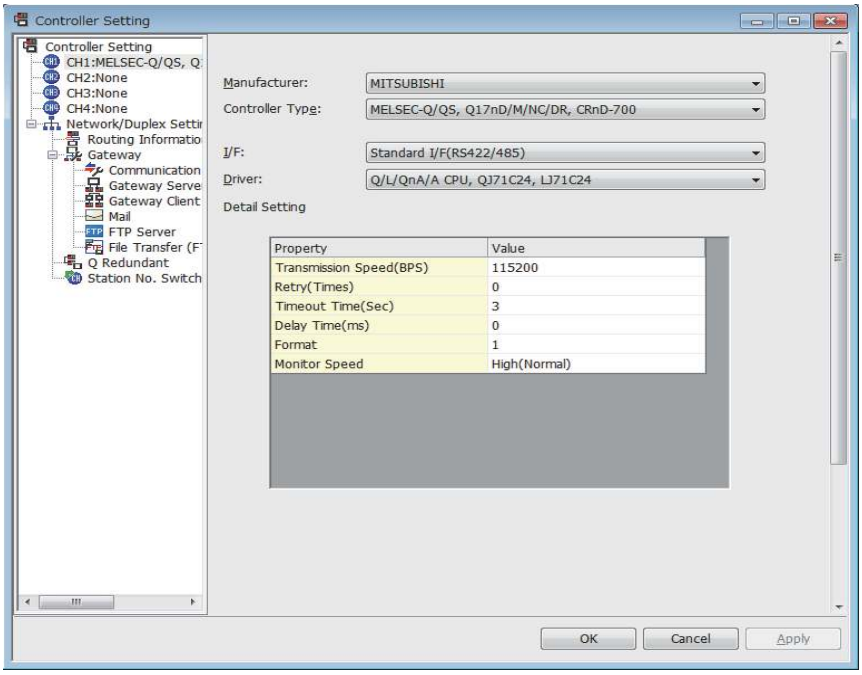
1.1 Setting the Communication Interface

Set the communication interface of GOT and the connected equipment.
When using the GOT at the first time, make sure to set the channel of communication interface and the communication driver before writing to GOT.
Set the communication interface of the GOT at [Controller Setting] and [I/F Communication Setting] in GT Designer3.

1.1.1 Setting connected equipment (Channel setting)

Set the channel of the equipment connected to the GOT.

■ Setting



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting dialog box appears. Select the channel No. to be used from the list menu.
3. Refer to the following explanations for the setting.

POINT

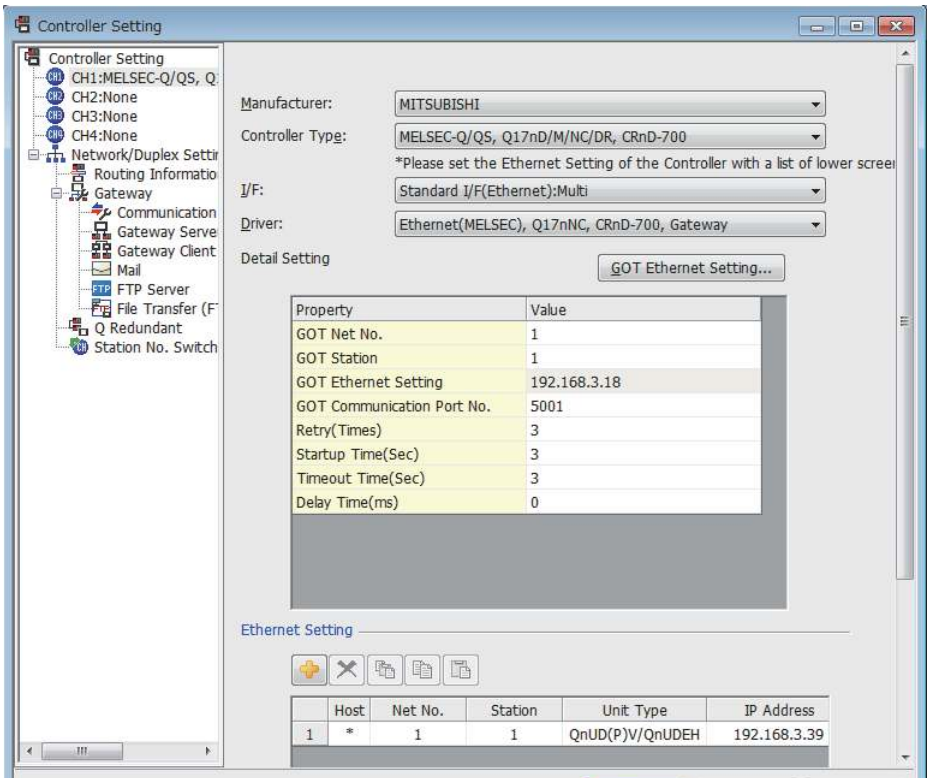
Channel No.2 to No.4

Use the channel No.2 to No.4 when using the Multi-channel function.
For details of the Multi-channel function, refer to the following.

☞ Mitsubishi Products 19. MULTI-CHANNEL FUNCTION

■ Setting item

This section describes the setting items of the Manufacturer, Controller Type, Driver and I/F.
When using the channel No.2 to No.4, put a check mark at [Use CH*].



Item	Description
Use CH*	Select this item when setting the channel No.2 to No.4.
Manufacturer	Select the manufacturer of the equipment to be connected to the GOT.
Type	Select the type of the equipment to be connected to the GOT. For the settings, refer to the following. ☞ (2)Setting [Controller Type]
I/F	Select the interface of the GOT to which the equipment is connected. For the settings, refer to the following. ☞ (3)Setting [I/F]
Driver	Select the communication driver to be written to the GOT. For the settings, refer to the following. ☞ (1)Setting [Driver]
Detail Setting	Make settings for the transmission speed and data length of the communication driver. ☞ Refer to each chapter of the equipment to be connected to the GOT.

(1) Setting [Driver]

The displayed items for a driver differ according to the settings [Manufacturer], [Controller Type] and [I/F].
When the driver to be set is not displayed, confirm if [Manufacturer], [Controller Type] and [I/F] are correct.
For the settings, refer to the following.

☞ [Setting the communication interface] section in each chapter

(2) Setting [Controller Type]

The types for the selection differs depending on the PLC to be used.

For the settings, refer to the following.

Type	Model name
MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700	Q00CPU Q01CPU Q02CPU
	Q02HCPU Q06HCPU Q12HCPU Q25HCPU
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU
	Q172CPU Q173CPU Q172CPUN Q173CPUN Q172HCPU Q173HCPU
	Q00UJCPU
	Q00UCPU
	Q01UCPU
	Q02UCPU
	Q03UDCPU
	Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU
	Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU Q04UDPVCPU Q06UDPVCPU Q13UDPVCPU Q26UDPVCPU
	Q12DCCPU-V Q24DHCCPU-V Q24DHCCPU-LS
	Q172DCPU Q173DCPU Q172DCPU-S1 Q173DCPU-S1
	Q172DSCPU Q173DSCPU Q170MCPU Q170MSCPU Q170MSCPU-S1

Type	Model name
MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700	CNC C70 (Q173NCCPU)
	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)
	CRnD-700 CR750-D CR751-D
MELSEC-QnA, MELDAS C6*	Q00JCPU
	Q00CPU
	Q01CPU
	Q02CPU
	Q02HCPU Q06HCPU Q12HCPU Q25HCPU
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU
	Q12PRHCPU Q25PRHCPU
	QS001CPU
	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU
	Q4ARCPU
	Q2ASCPU
	Q2ASCPU-S1
	Q2ASHCPU
	Q2ASHCPU-S1
	MELDAS C6 (FCA C6) MELDAS C64 (FCA C64)
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P NZ2GF-ETB

*1 When using the multiple CPU system
When using the GOT to monitor the multiple CPU system of other station, select [MELSEC-Q(Multi)/Q-Motion], or [MELSEC-QnU/DC,Q17nD/M/NC/DR,CRnD-700] for the type regardless of the host PLC CPU type.

*2 When connecting to the remote I/O station in the MELSECNET/H network system, set the type to [MELSECQnA/Q/QS, MELDAS C6 *].

Type	Model name
MELSEC-A	A2UCPU
	A2UCPU-S1
	A3UCPU
	A4UCPU
	A2ACPU
	A2ACPUP21
	A2ACPUR21
	A2ACPU-S1
	A2ACPUP21-S1
	A2ACPUR21-S1
	A3ACPU
	A3ACPUP21
	A3ACPUR21
	A1NCPU
	A1NCPUP21
	A1NCPUR21
	A2NCPU
	A2NCPUP21
	A2NCPUR21
	A2NCPU-S1
	A2NCPUP21-S1
	A2NCPUR21-S1
	A3NCPU
	A3NCPUP21
	A3NCPUR21
	A2USCPU
	A2USCPU-S1
	A2USHCPU-S1
	A1SCPU
	A1SCPUC24-R2
	A1SHCPU
	A2SCPU
	A2SHCPU
	A1SJCPU
	A1SJCPU-S3
	A1SJHCPU
	A0J2HCPU
	A0J2HCPUP21
	A0J2HCPUR21
	A0J2HCPU-DC24
	A2CCPU
	A2CCPUP21
	A2CCPUR21
	A2CCPUC24
	A2CCPUC24-PRF
	A2CJCPU-S3

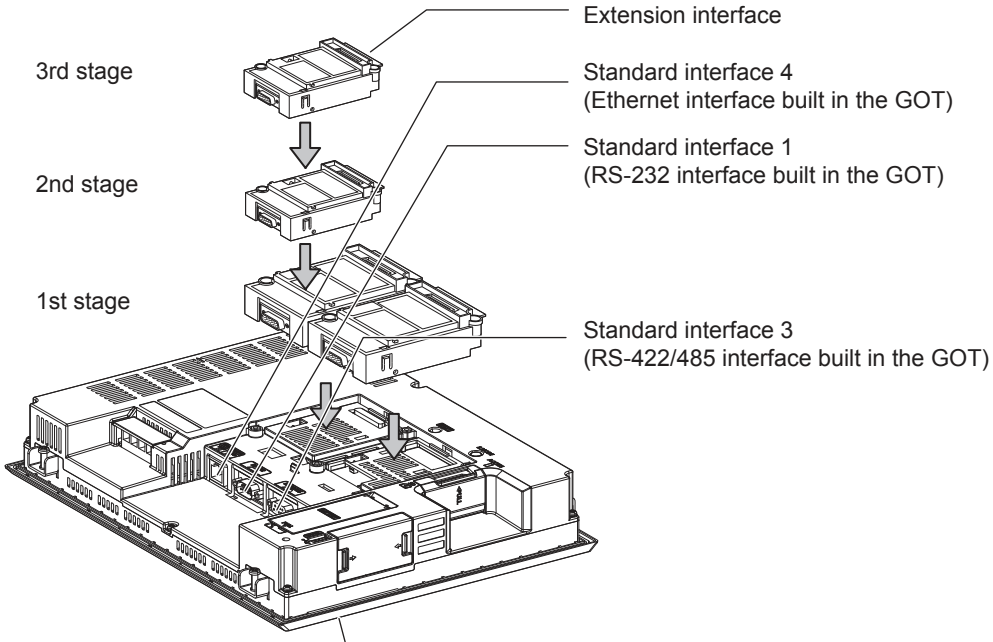
Type	Model name
MELSEC-A	A1FXCPU
	A273UCPU
	A273UHCPU
	A273UHCPU-S3
	A373UCPU
	A373UCPU-S3
	A171SCPU
	A171SCPU-S3
	A171SCPU-S3N
	A171SHCPU
	A171SHCPUN
	A172SHCPU
	A172SHCPUN
	A173UHCPU
	A173UHCPU-S1
MELSEC-FX	FX_0
	FX_{0S}
	FX_{0N}
	FX_1
	FX_2
	FX_{2C}
	FX_{1S}
	FX_{1N}
	FX_{2N}
	FX_{1NC}
	FX_{2NC}
	FX_{3S}
	FX_{3G}
	FX_{3GC}
	FX_{3GE}
	FX_{3U}
	FX_{3UC}
MELSEC-WS	WS0-CPU0
	WS0-CPU1
MELSERVO-J2M-P8A	MELSERVO-J2M-P8A
MELSERVO-J2M-*DU	MELSERVO-J2M-*DU
MELSERVO-J2S-*A	MELSERVO-J2S-*A
MELSERVO-J2S-*CP	MELSERVO-J2S-*CP
MELSERVO-J2S-*CL	MELSERVO-J2S-*CL
MELSERVO-J3-*A	MELSERVO-J3-*A
MELSERVO-J3-*T	MELSERVO-J3-*T
MELSERVO-J4-*A	MELSERVO-J4-*A
MELSERVO-JE-*A	MELSERVO-JE-*A

Type	Model name
FREQROL 500/700/800, SENSORLESS SERVO	FREQROL-S500
	FREQROL-S500E
	FREQROL-E500
	FREQROL-F500
	FREQROL-F500L
	FREQROL-F500J
	FREQROL-A500
	FREQROL-A500L
	FREQROL-V500
	FREQROL-V500L
	FREQROL-D700
	FREQROL-E700
	FREQROL-F700
	FREQROL-F700P
	FREQROL-F700PJ
	FREQROL-A700
	FREQROL-A800
	FREQROL-F800
	FREQROL-E700EX
FREQROL 800 (Automatic Negotiation)	FREQROL-A800
	FREQROL-F800

(3) Setting [I/F]

The interface differs depending on the GOT to be used.

Set the I/F according to the connection and the position of communication unit to be mounted onto the GOT.

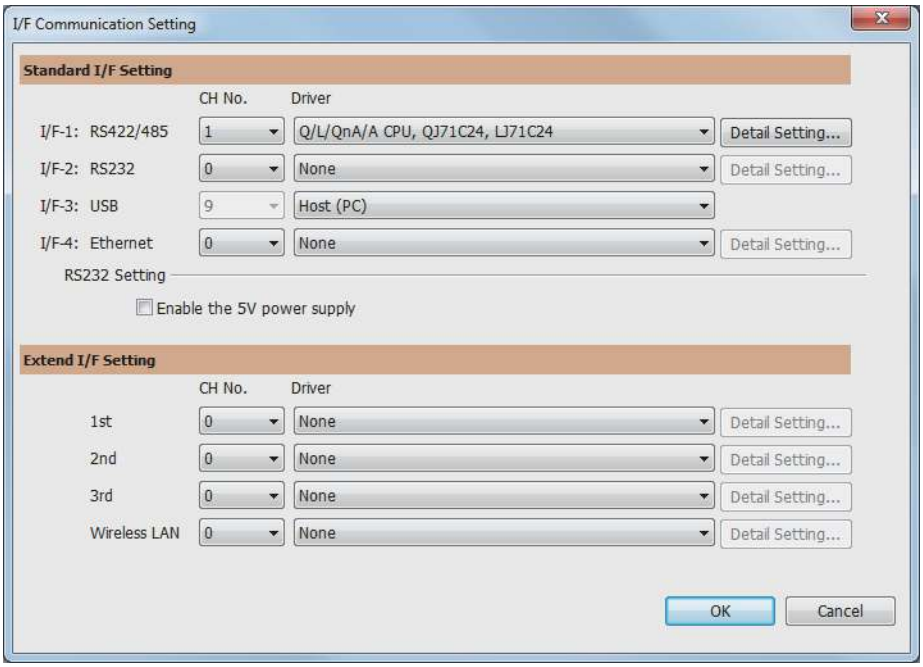


(Example: In the case of the GT27)

1.1.2 I/F communication setting

This function displays the list of the GOT communication interfaces.
Set the channel and the communication driver to the interface to be used.

■ Setting

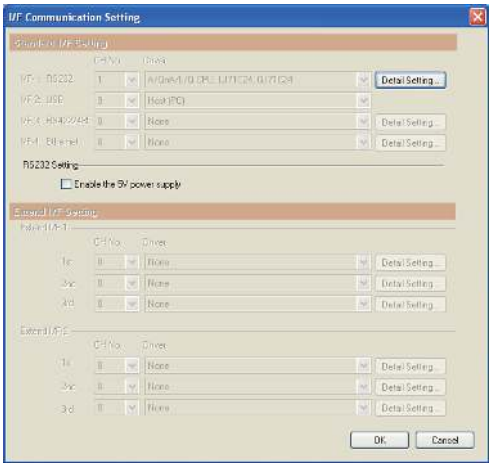


1. Select [Common] → [I/F Communication Setting] from the menu.
2. The I/F Communication Setting dialog box appears. Make the settings with reference to the following explanation.

POINT

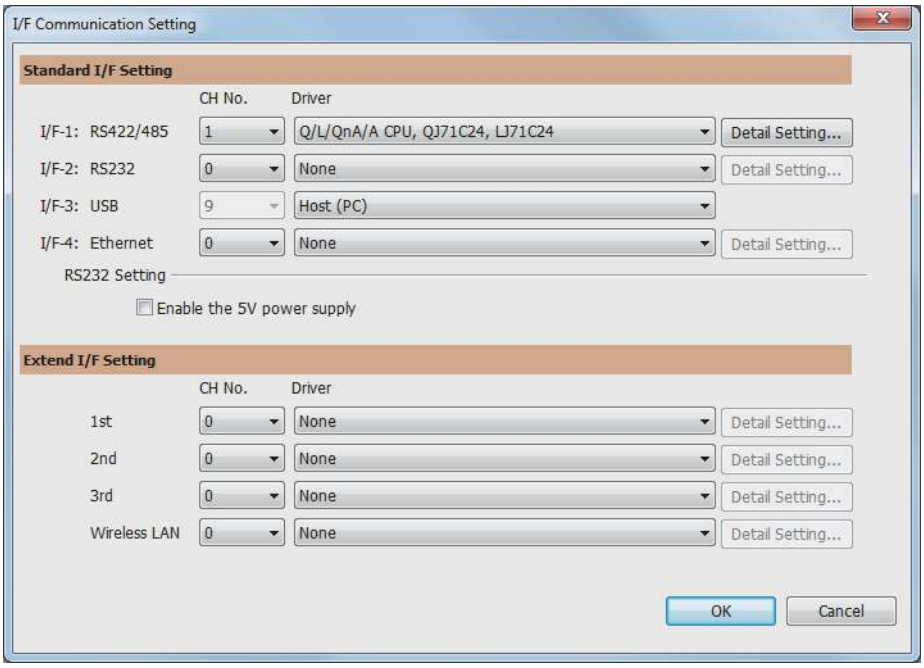
When using the parameter reflection function of MELSOFT Navigator.

When setting [Controller Setting] in GT Designer3 using the parameter function of MELSOFT Navigator, all of I/F Communication Setting are grayout and cannot be edited Set these items at [Controller Setting] or [Peripheral Unit Setting].



■ Setting item

The following describes the setting items for the standard I/F setting and extension I/F setting.



Item		Description
Standard I/F setting		Set channel No. and drivers to the GOT standard interfaces.
	CH No.	Set the CH No. according to the intended purpose. 0: Not used 1 to 4: Used for connecting a controller of channel No. 1 to 4 set in Setting connected equipment (Channel setting) 5 to 8: Used for barcode function, RFID function, remote personal computer operation unction (serial) 9: Used for connecting Host (PC) or Ethernet download A: Used for the report function (with a serial printer), hard copy function (with a serial printer), remote personal computer operation function (Ethernet), VNC server function, gateway function, and MES interface function. Multi: Used for multi-channel Ethernet connection
	I/F	The communication type of the GOT standard interface is displayed.
	Driver	Set the driver for the device to be connected. • None • Host (Personal computer) • Each communication driver for connected devices
	Detail Setting	Make settings for the transmission speed and data length of the communication driver. ☞ Refer to each chapter of the equipment to be connected to the GOT.
	RS232 Setting	To validate the 5V power supply function in RS232, mark the [Enable the 5V power supply] checkbox. The RS232 setting is invalid when the CH No. of [I/F-1: RS232] is [9].
Extension I/F setting		Set the communication unit attached to the extension interface of the GOT.
	CH No.	Set the CH No. according to the intended purpose. The number of channels differs depending on the GOT to be used. 0: Not used 1 to 4: Used for connecting a controller of channel No. 1 to 4 set in Setting connected equipment (Channel setting) 5 to 8: Used for barcode function, RFID function, remote personal computer operation (serial) A: Used for the video/RGB display function, multimedia function, external I/O function, operation panel function, RGB output function, report function, hard copy function (with a printer), sound output function, gateway function, MES interface function, and wireless LAN connection.

POINT

Channel No., drivers, [RS232 Setting]

(1) Channel No.2 to No.4
Use the channel No.2 to No.4 when using the Multi-channel function.
For details of the Multi-channel function, refer to the following.

☞ Mitsubishi Products 19. MULTI-CHANNEL FUNCTION

(2) Drivers
The displayed items for a driver differ according to the settings [Manufacturer], [Controller Type] and [I/F].
When the driver to be set is not displayed, confirm if [Manufacturer], [Controller Type] and [I/F] are correct.

☞ [Setting the communication interface] section in each chapter

1.1.3 Precautions

(1) When using the multiple CPU system
When using the GOT to monitor the multiple CPU system of other stations, select [MELSEC-Q(Multi)/Q-Motion] or [MELSEC-QnU/DC, Q17nD/M/NC/DR, CRnD-700] for the type, regardless of the host PLC CPU type (QCPU, QnACPU, ACPU).
When other models are selected, the setting of the CPU No. becomes unavailable.

(2) Precautions for changing model

(a) When devices that cannot be converted are included.
When setting of [Manufacturer] or [Controller Type] is changed, GT Designer3 displays the device that cannot be converted (no corresponding device type, or excessive setting ranges) as [??]. In this case, set the device again.

(b) When the changed Manufacturer or Controller Type does not correspond to the network.
The network will be set to the host station.

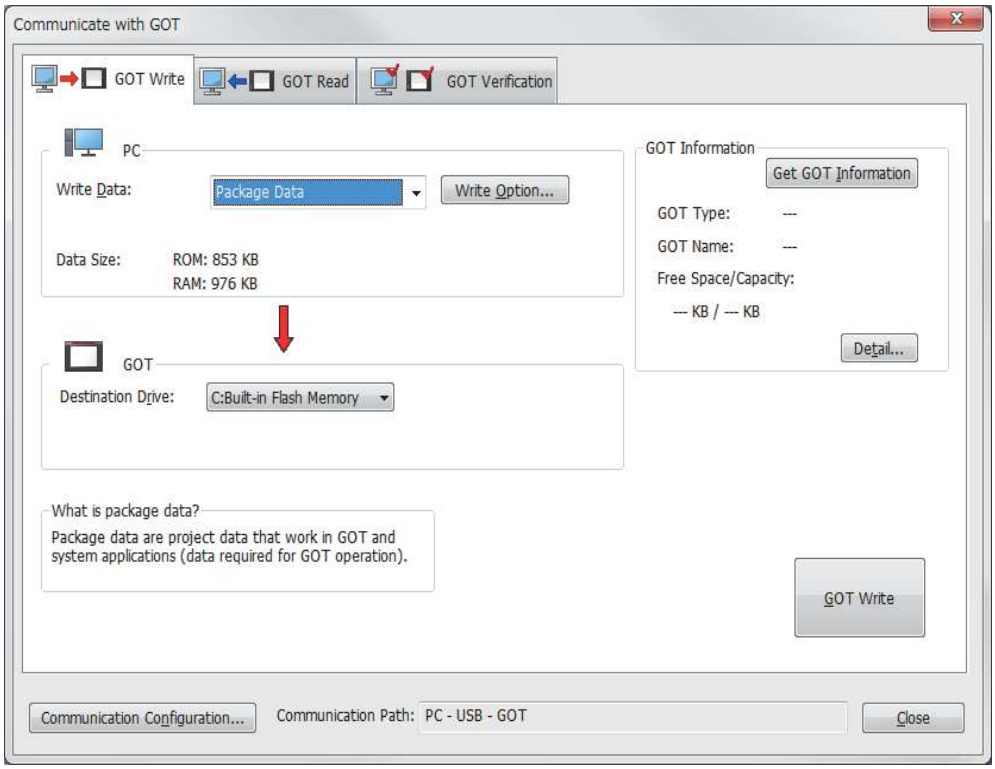
(c) When the Manufacturer or Controller Type is changed to [None]
The GT Designer3 displays the device of the changed channel No. as [??]. In this case, set the device again.
Since the channel No. is retained, the objects can be reused in other channel No. in a batch by using the [Device Bach Edit], [CH No. Batch Edit] or [Device List].

1.2 Writing the Package Data onto the GOT

Write the package data onto the GOT.
For details on writing to GOT, refer to the following help.

☞ GT Designer3 (GOT2000) Help

1.2.1 Writing the Package Data onto the GOT

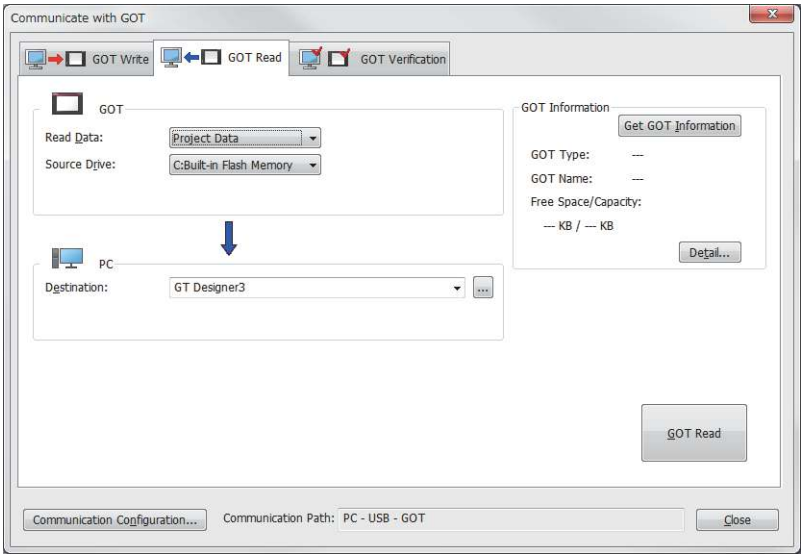


1. Select [Communication] → [Write to GOT…] from the menu.
2. The [Communication configuration] dialog box appears.
   Set the communication setting between the GOT and the personal computer.
   Click the OK button when settings are completed.
3. The [GOT Write] tab appears on the [Communicate with GOT] dialog box.
   Select the [Project data, OS] radio button of the Write Data.
4. Check-mark a desired standard monitor OS, communication driver, option OS, extended function OS, and Communication Settings and click the [GOT Write] button.

1.2.2 Checking the package data writing on GOT

Confirm if the package data is properly written onto the GOT by reading from GOT using GT Designer3.
For reading from the GOT, refer to the following help.

GT Designer3 (GOT2000) Help



1. Select [Communication] → [Read from GOT…] from the menu.
2. The [Communication configuration] dialog box appears.
   Set the communication setting between the GOT and the personal computer.
   Click the OK button when settings are completed.
3. The [GOT Read] tab appears on the [Communicate with GOT] dialog box.
   Select the [Drive information] radio button of the Read Data.
4. Click the [Info Reception] button.
5. Confirm that the project data and OS are written correctly onto the GOT.

1.3 Option Devices for the Respective Connection

The following shows the option devices to connect in the respective connection type.
For the specifications, usage and connecting procedure on option devices, refer to the respective device manual.

1.3.1 Communication module

Product name	Model	Specifications
Bus connection unit	GT15-QBUS	For QCPU (Q mode), motion controller CPU (Q series) Bus connection (1ch) unit standard model
	GT15-QBUS2	For QCPU (Q mode), motion controller CPU (Q series) Bus connection (2ch) unit standard model
	GT15-ABUS	For A/QnACPU, motion controller CPU (A series) Bus connection (1ch) unit standard model
	GT15-ABUS2	For A/QnACPU, motion controller CPU (A series) Bus connection (2ch) unit standard model
	GT15-75QBUSL	For QCPU (Q mode), motion controller CPU (Q series) Bus connection (1ch) unit slim model
	GT15-75QBUS2L	For QCPU (Q mode), motion controller CPU (Q series) Bus connection (2ch) unit slim model
	GT15-75ABUSL	For A/QnACPU, motion controller CPU (A series) Bus connection (1ch) unit slim model
	GT15-75ABUS2L	For A/QnACPU, motion controller CPU (A series) Bus connection (1ch) unit slim model
Serial communication unit	GT15-RS2-9P	RS-232 serial communication unit (D-sub 9-pin (male))
	GT15-RS4-9S	RS-422/485 serial communication unit (D-sub 9-pin (female))
	GT15-RS4-TE	RS-422/485 serial communication unit (terminal block)
MELSECNET/H communication unit	GT15-J71LP23-25	Optical loop unit
	GT15-J71BR13	Coaxial bus unit
MELSECNET/10 communication unit	GT15-J71LP23-25	Optical loop unit (MELSECNET/H communication unit used in the MNET/10 mode)
	GT15-J71BR13	Coaxial bus unit (MELSECNET/H communication unit used in the MNET/10 mode)
CC-Link IE Controller Network communication unit	GT15-J71GP23-SX	Optical loop unit
CC-Link IE Field Network communication unit	GT15-J71GF13-T2	CC-Link IE Field Network (1000BASE-T) unit
CC-Link communication unit	GT15-J61BT13	Intelligent device station unit CC-LINK Ver. 2 compatible
Ethernet communication unit	Built into GOT	Ethernet (100Base-TX)
Wireless LAN communication unit	GT25-WLAN	For the connection to personal computer, IEEE802.11b/g/n compatible, built-in antenna, station (wireless LAN adapter), for Japanese domestic use

1.3.2 Option unit

Product name	Model	Specifications
Multimedia unit	GT27-MMR-Z	For video input signal (NTSC/PAL) 1 ch, playing movie
Video input unit	GT27-V4-Z	For video input signal (NTSC/PAL) 4 ch
RGB input unit	GT27-R2-Z	For analog RGB input signal 2 ch
Video/RGB input unit	GT27-V4R1-Z	For video input signal (NTSC/PAL) 4 ch, for analog RGB mixed input signal 1 ch
RGB output unit	GT27-ROUT-Z	For analog RGB output signal 1 ch
Sound output unit	GT15-SOUT	For sound output
External I/O unit	GT15-DIOR	For the connection to external I/O device or operation panel (Negative Common Input/Source Type Output)
	GT15-DIO	For the connection to external I/O device or operation panel (Positive Common Input/Sink Type Output)

1.3.3 Conversion cables

Product name	Model	Specifications
RS-485 terminal block conversion modules	FA-LTBGT2R4CBL05	RS-422/485 (Connector) ⟷ RS-485 (Terminal block) Supplied connection cable dedicated for the conversion unit
	FA-LTBGT2R4CBL10	
	FA-LTBGT2R4CBL20	

1.3.4 Serial Multi-Drop Connection Unit

Product name	Model	Specifications
Serial multi-drop connection unit	GT01-RS4-M	GOT multi-drop connection module ☞ Mitsubishi Products17. CNC CONNECTION

1.3.5 Installing a unit on another unit (Checking the unit installation position)

This section describes the precautions for installing units on another unit.
For the installation method of each unit, refer to the User's Manual for the communication unit and option unit you are using.
For the method for installing a unit on another unit, refer to the following.

☞ GOT2000 Series User's Manual (Hardware)

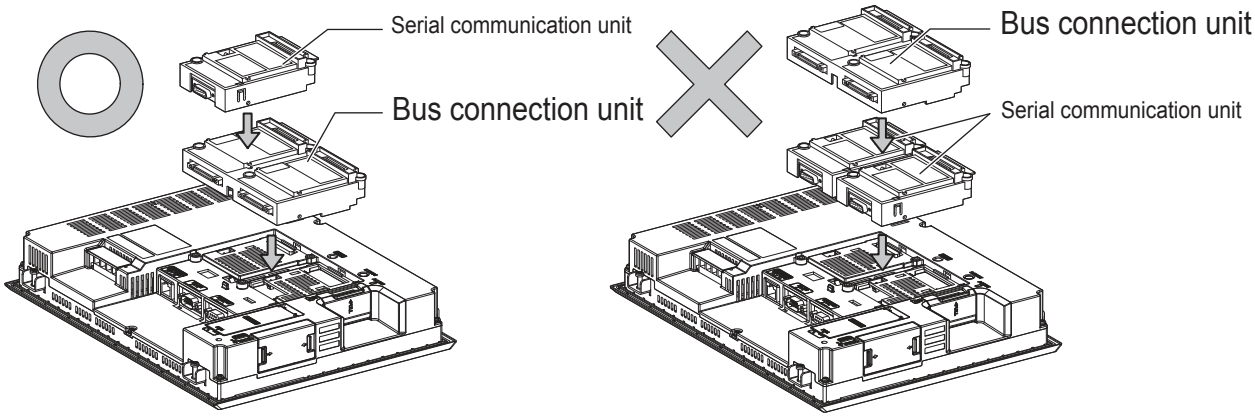
■ When using a bus connection unit

The installation position varies depending on the bus connection unit to be used.

(1) Wide bus units (GT15-75QBUS(2)L, GT15-75ABUS(2)L, GT15-QBUS2, GT15-ABUS2)

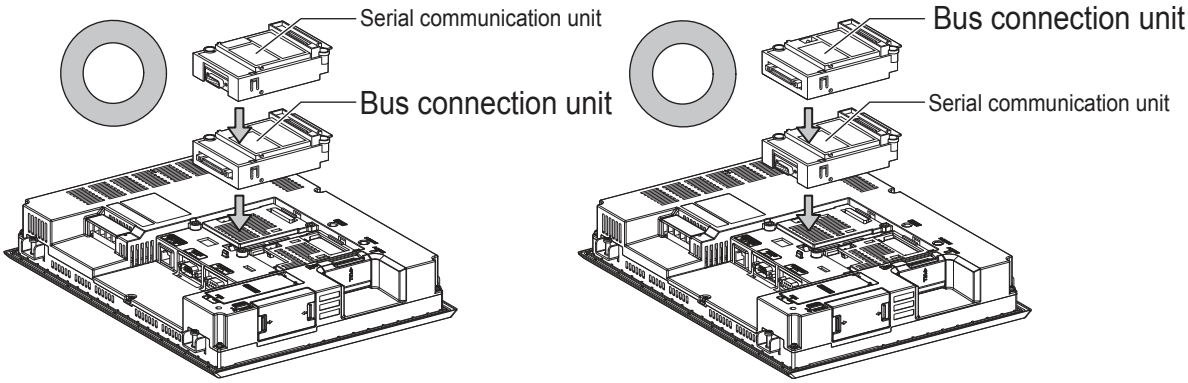
Install a bus connection unit in the 1st stage of the extension interface.
If a bus connection unit is installed in the 2nd stage or above, the unit cannot be used.

Example: Installing a bus connection unit and serial communication units



(2) Standard size bus connection unit (GT15-QBUS and GT15-ABUS)
A bus connection unit can be installed in any position (1st to 3rd stage) of the extension interface.

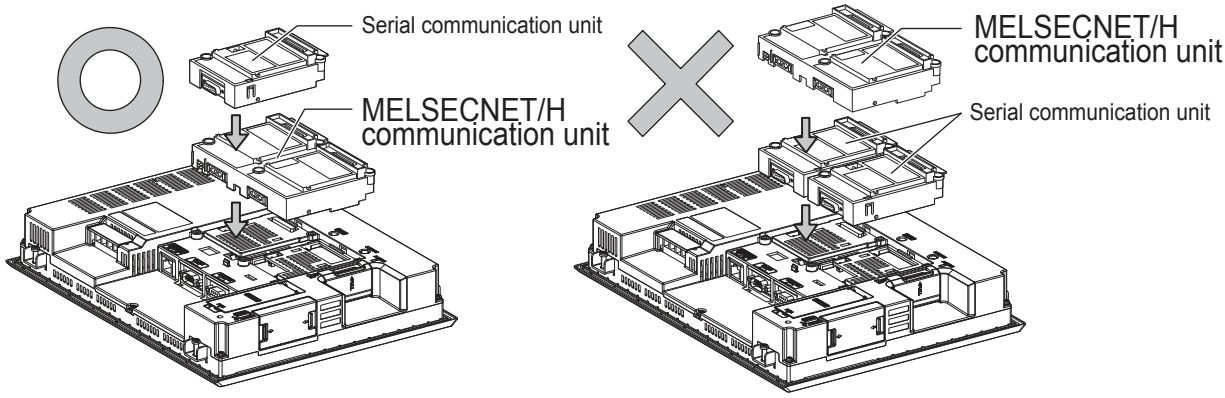
Example: Installing a bus connection unit and serial communication units



■ When using a MELSECNET/H communication unit, CC-Link IE Controller Network communication unit, CC-Link IE Field Network communication unit, or CC-Link communication unit (GT15-J61BT13)

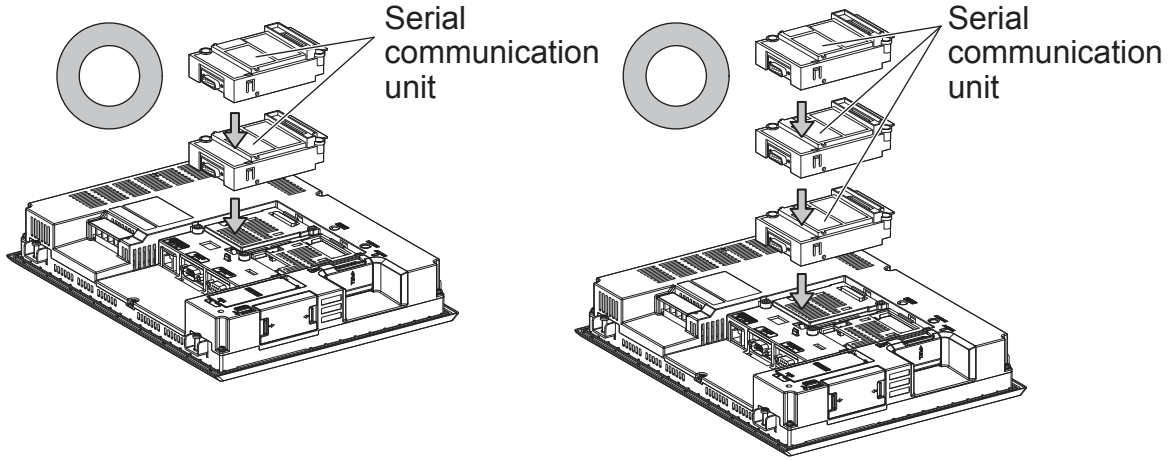
Install a MELSECNET/H communication unit, CC-Link IE Controller Network communication unit, CC-Link IE Field Network communication unit, or CC-Link communication unit in the 1st stage of an extension interface.
If a bus connection unit is installed in the 2nd stage or above, the unit cannot be used.

Example: When installing a MELSECNET/H communication unit and a serial communication unit



■ When using a serial communication unit

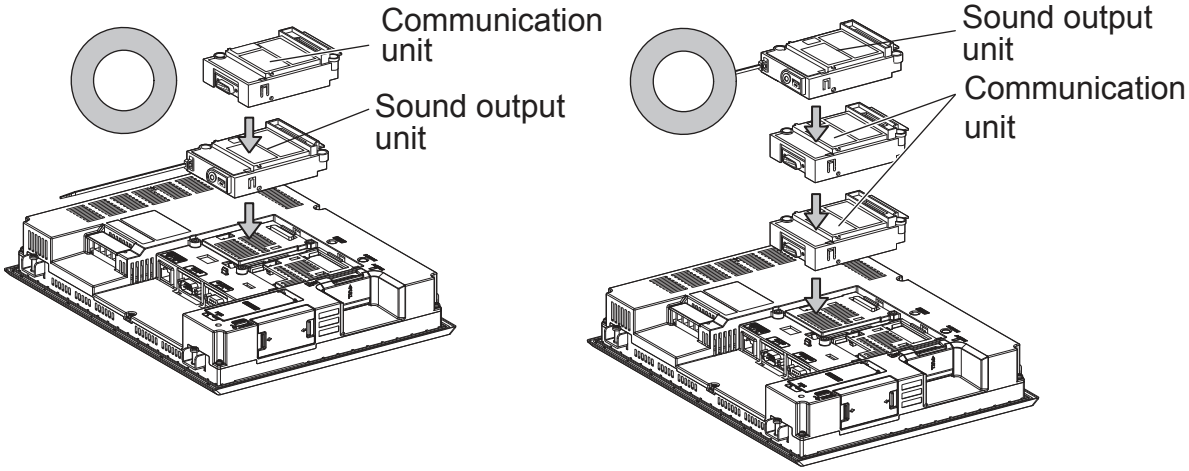
A serial communication unit can be installed in any position (1st to 3rd stage) of the extension interface.



■ When using the sound output unit or external I/O unit

The sound output unit or external I/O unit can be installed in any position (1st to 3rd stage) of the extension interface.

Example: When installing a sound output unit

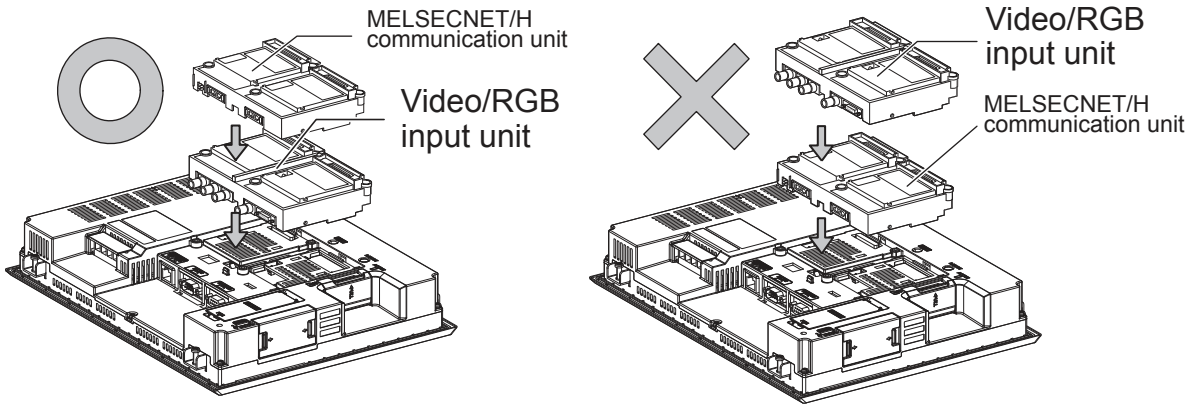


■ When using the video input unit, RGB input unit, video/RGB input unit, RGB output unit, or multimedia unit

Install the video input unit, RGB input unit, video/RGB input unit, RGB output unit, or multimedia unit at the 1st stage of the extension interface. These communication units cannot be used if installed in the 2nd or higher stage.
When any of these units is used, the communication units indicated below must be installed in the 2nd stage of the extension interface.

Communication unit	Model
Bus connection unit	GT15-QBUS2, GT15-ABUS2
MELSECNET/H communication unit	GT15-J71LP23-25, GT15-J71BR13
CC-Link IE Controller Network connection	GT15-J71GP23-SX
CC-Link communication unit	GT15-J61BT13

Example: When installing a video input unit and a MELSECNET/H communication unit



1.4 Connection Cables for the Respective Connection

To connect the GOT to a device in the respective connection type, connection cables between the GOT and a device are necessary.
For cables needed for each connection, refer to each chapter for connection.

1.4.1 GOT connector specifications

The following shows the connector specifications on the GOT side.
Refer to the following table when preparing connection cables by the user.

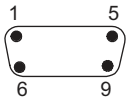
■ RS-232 interface

Use the following as the RS-232 interface and the RS-232 communication unit connector on the GOT. For the GOT side of the connection cable, use a connector and connector cover applicable to the GOT connector.

(1) Connector specifications

GOT	Hardware Version*1	Connector type	Connector model	Manufacturer
GT27 GT23	-	9-pin D-sub (male) inch screw fixed type	17LE-23090-27(D4C□)	DDK Ltd.
GT15-RS2-9P	-	9-pin D-sub (male) inch screw fixed type	17LE-23090-27(D3CC)	DDK Ltd.
GT01-RS4-M	-			

(2) Connector pin arrangement

GT27, GT23, GT15-RS2-9P, GT01-RS4-M
GOT main part connector see from the front    9-pin D-sub (male)

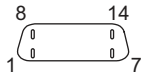
■ RS-422/485 interface

Use the following as the RS-422/485 interface and the RS-422/485 communication unit connector on the GOT.
For the GOT side of the connection cable, use a connector and connector cover applicable to the GOT connector.

(1) Connector model

GOT	Connector type	Connector model	Manufacturer
GT27 GT23	9-pin D-sub (female) M2.6 millimeter screw fixed type	17LE-13090-27(D2AC)	DDK Ltd.
GT15-RS4-9S	9-pin D-sub (female) M2.6 millimeter screw fixed type	17LE-13090-27(D3AC)	DDK Ltd.
GT01-RS4-M			
GT15-RS4-TE	-	-	SL-SMT3.5/10/90F BOX

(2) Connector pin arrangement

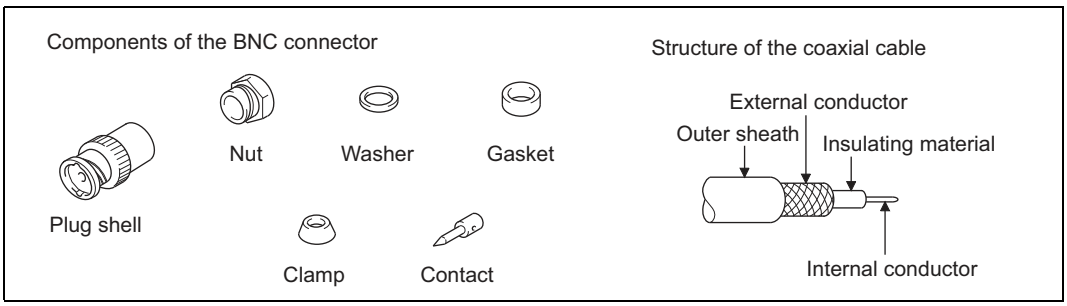
GT27, GT23, GT15-RS4-9P, GT01-RS4-M
GOT main part connector see from the front    14-pin (female)

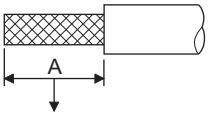
1.4.2 Coaxial cableconnector connection method

The following describes the method for connecting the BNC connector (connector plug for coaxial cable) and the cable.

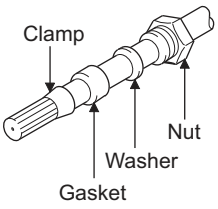
⚠CAUTION

- Solder the coaxial cable connectors properly.
  Insufficient soldering may result in malfunctions.

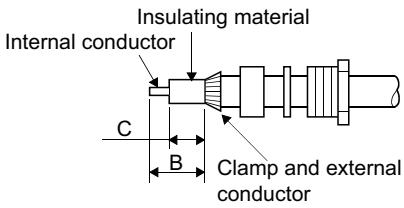




1. Remove the external sheath of the coaxial cable with dimensions as shown below.

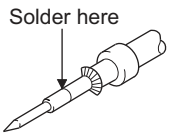


2. Pass the nut, washer, gasket, and clamp through the coaxial cable as shown on the left and loosen the external conductor.

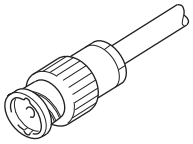


3. Cut the external conductor, insulting material, and internal conductor with the dimensions as shown below.
   Note that the external conductor should be cut to the same dimension as the tapered section of the clamp and smoothed down to the clamp.

Cable in use	B	C
3C-2V	6 mm	3 mm
5C-2V, 5C-2V-CCY	7 mm	5 mm



4. Solder the contact to the internal conductor.



5. 4. Insert the connector assembly shown in ### into the plug shell and screw the nut into the plug shell.

Precautions for soldering

Note the following precautions when soldering the internal conductor and contact.

- Make sure that the solder does not bead up at the soldered section.
- Make sure there are no gaps between the connector and cable insulator or they do not cut into each other.
- Perform soldering quickly so the insulation material does not become deformed.

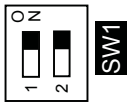
1.4.3 Terminating resistors of GOT

The following shows the terminating resistor specifications on the GOT side.
When setting the terminating resistor in each connection type, refer to the following.

■ RS-422/485 communication unit

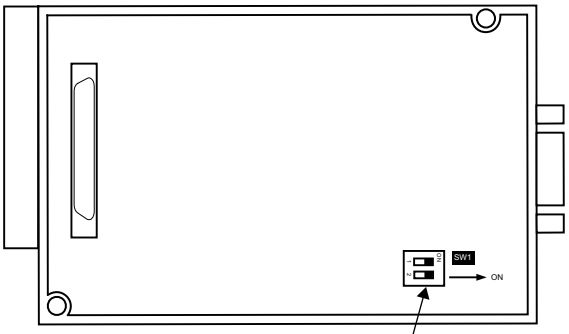
Set the terminating resistor using the terminating resistor setting switch.

Terminating resistor*1	Switch No.	
	1	2
100 OHM	ON	ON
Disable	OFF	OFF



*1 The default setting is "Disable".

• For RS422/485 communication unit



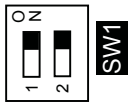
Terminating resistor setting switch

Rear view of RS-422/485 communication unit.

■ GT27

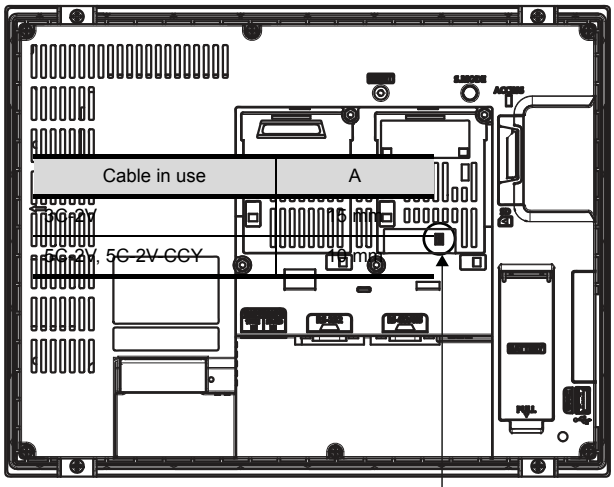
Set the terminating resistor using the terminating resistor setting switch.

Terminating resistor*1	Switch No.	
	1	2
100 OHM	ON	ON
Disable	OFF	OFF



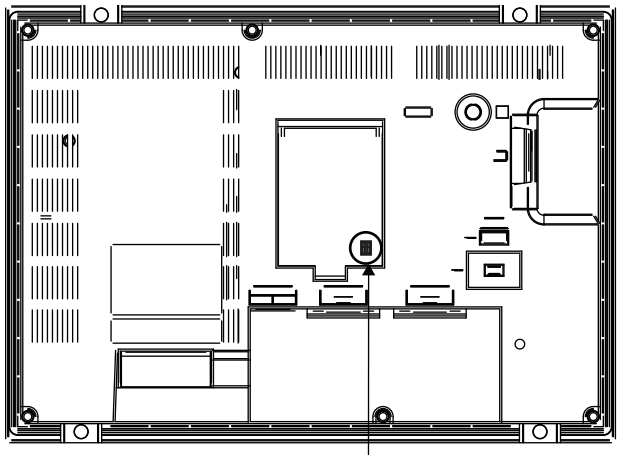
*1 The default setting is "Disable".

• For GT2710-V



Terminating resistor setting switch
(inside the cover)

• For GT2310-V



Terminating resistor setting switch
(inside the cover)

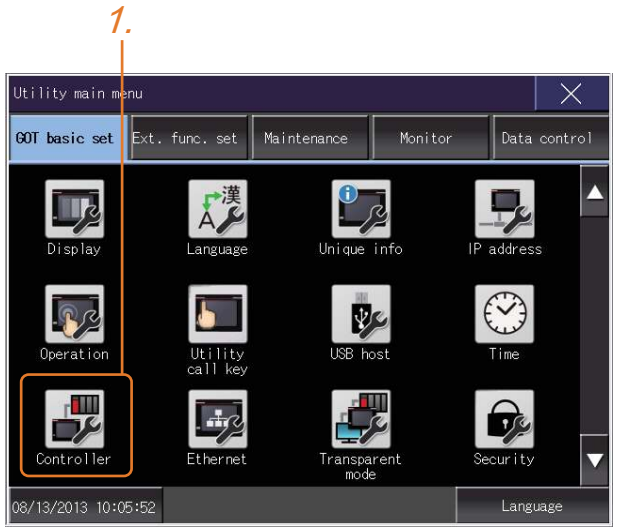
1.5 Verifying GOT Recognizes Connected Equipment

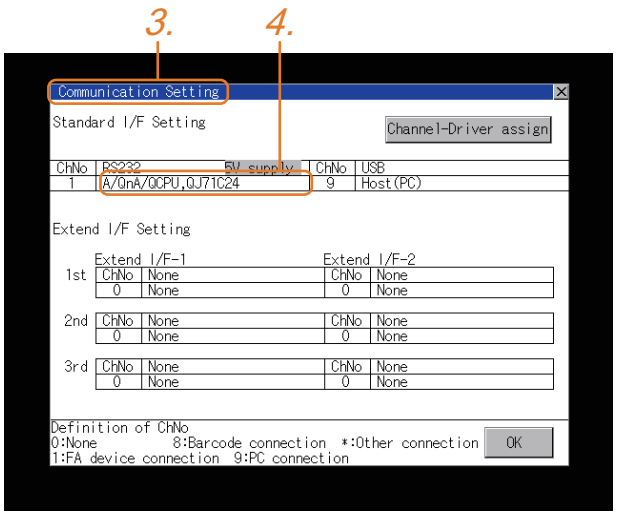
Verify the GOT recognizes controllers on [Communication Settings] of the Utility.

- Channel number of communication interface, communication drivers allocation status
- Communication unit installation status

For details on the Utility, refer to the following manual.

GOT2000 Series User's Manual (Utility)





1. After powering up the GOT, touch [GOT basic set] → [Controller] from the Utility.

2. The [Communication Settings] appears.

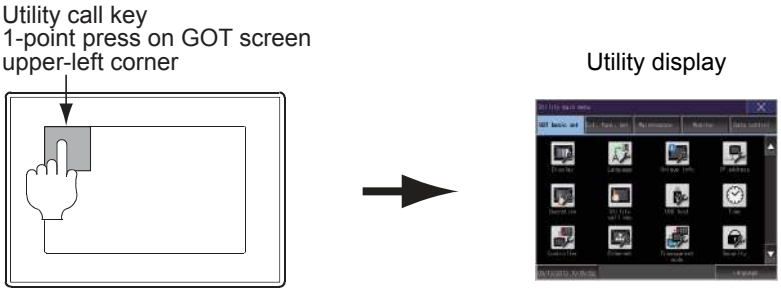
3. Verify that the communication driver name to be used is displayed in the communication interface box to be used.

4. When the communication driver name is not displayed normally, carry out the following procedure again.
1.1Setting the Communication Interface

POINT

Utility

(1) How to display Utility (at default)



(2) Utility call

When setting [Pressing time] to other than 0 second on the setting screen of the utility call key, press and hold the utility call key until the buzzer sounds. For the setting of the utility call key, refer to the following.

GOT2000 Series User's Manual (Utility)

(3) Communication interface setting by the Utility

The communication interface setting can be changed on the Utility's [Communication setting] after writing [Communication Settings] of project data.

For details on the Utility, refer to the following manual.

GOT2000 Series User's Manual (Utility)

(4) Precedence in communication settings

When settings are made by GT Designer3 or the Utility, the latest setting is effective.

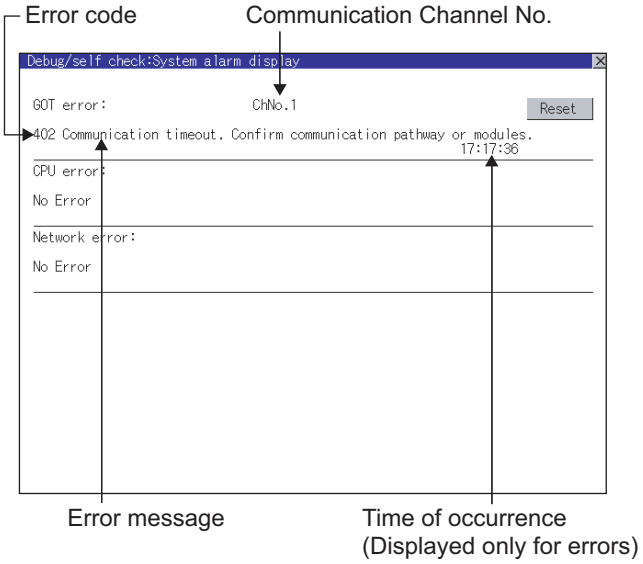
1.6 Checking for Normal Monitoring

1.6.1 Check on the GOT

■ Check for errors occurring on the GOT

Presetting the system alarm to project data allows you to identify errors occurred on the GOT, PLC CPU, servo amplifier and communications.
For details on the operation method of the GOT Utility screen, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)



HINT

Alarm popup display

With the alarm popup display function, alarms are displayed as a popup display regardless of whether an alarm display object is placed on the screen or not (regardless of the display screen).
Since comments can be flown from right to left, even a long comment can be displayed all.
For details of the alarm popup display, refer to the following manual.

☞ GT Designer3 (GOT2000) Help

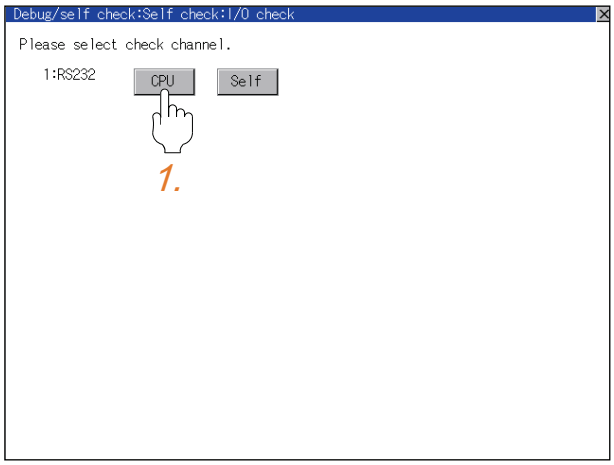
■ Perform an I/O check

Whether the PLC can communicate with the GOT or not can be checked by the I/O check function.
If this check ends successfully, it means correct communication interface settings and proper cable connection.
Display the I/O check screen by Main Menu.

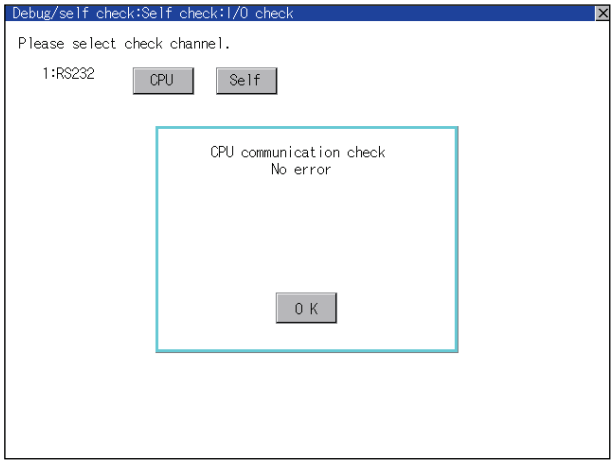
- Display the I/O check screen by [Maintenance] → [I/O check].

For details on the I/O check, refer to the following manual:

GOT2000 Series User's Manual (Utility)



1. Touch [CPU] on the I/O check screen.
Touching [CPU] executes the communication check with the connected PLC.



2. When the communication screen ends successfully, the screen on the left is displayed.

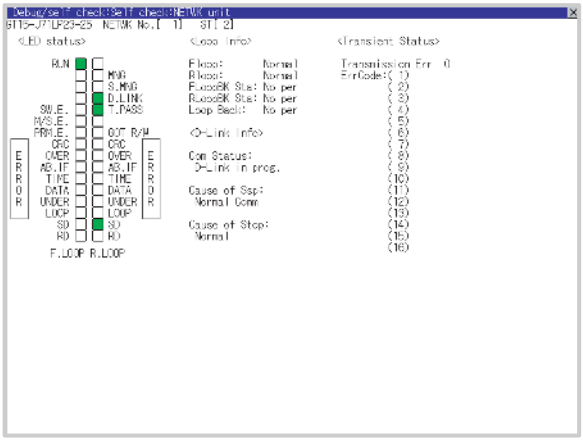
■ Confirming the communication status with network unit by GOT

(1) For MELSECNET/H, MELSECNET/10 network system

The communication status between the GOT and the MELSECNET/H, MELSECNET/10 network system can be confirmed by the Utility screen of the GOT.

For details on the operation method of the GOT Utility screen, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)

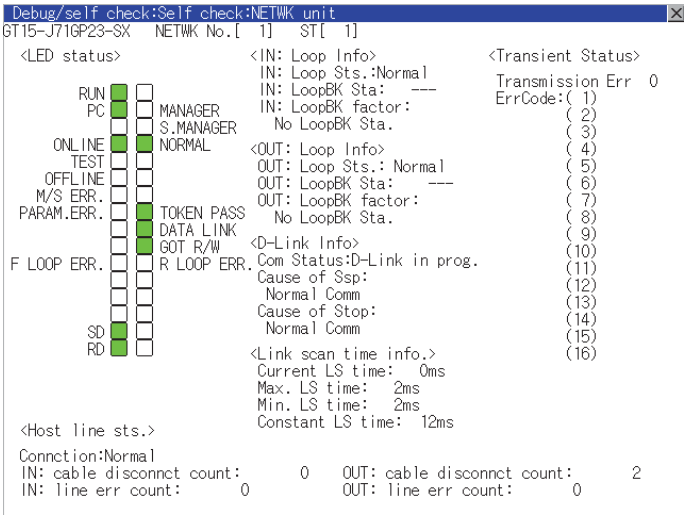


(2) For CC-Link IE Controller Network system

The communication status between the GOT and CC-Link IE Controller Network can be confirmed by the utility screen of the GOT.

For details on the operation method of the GOT Utility screen, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)

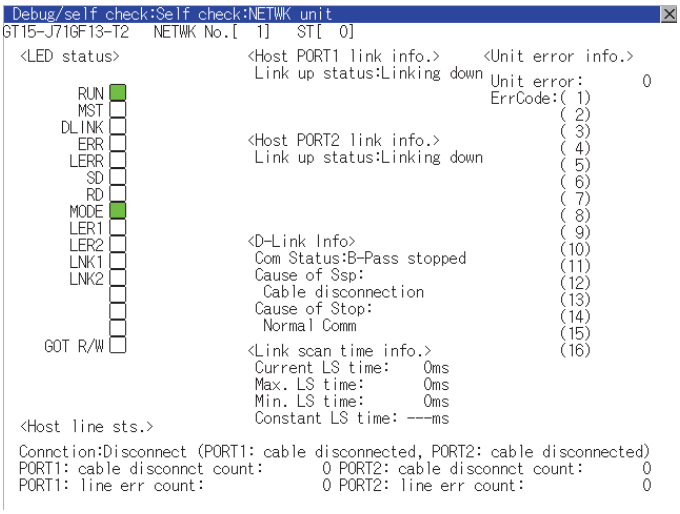


(3) For CC-Link IE Field Network system

The communication status between the GOT and CC-Link IE Field Network can be confirmed by the utility screen of the GOT.

For details on the operation method of the GOT Utility screen, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)

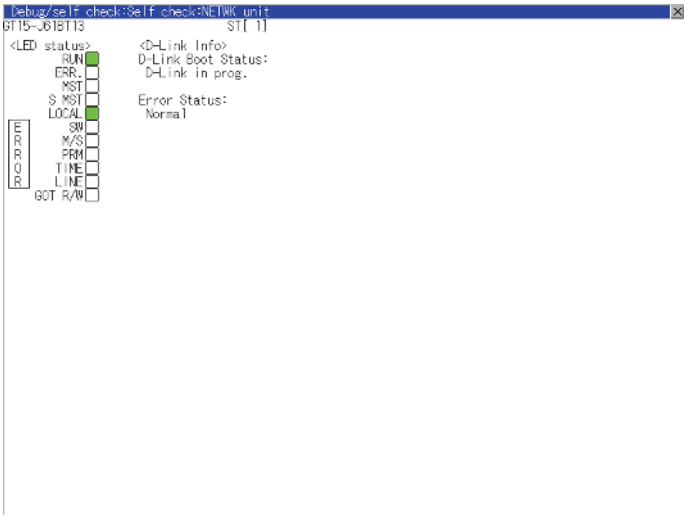


(4) For CC-Link system

The communication status between the GOT and the CC-Link System can be confirmed by the Utility screen of the GOT.

For details on the operation method of the GOT Utility screen, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)



1.6.2 Confirming the communication state on the GOT side (For Ethernet connection)

■ Confirming the communication state on Windows®, GT Designer3

(1) When using the Command Prompt of Windows®

Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication

C:\>Ping 192.168.3.18

Reply from 192.168.3.18: bytes=32 time<1ms TTL=64

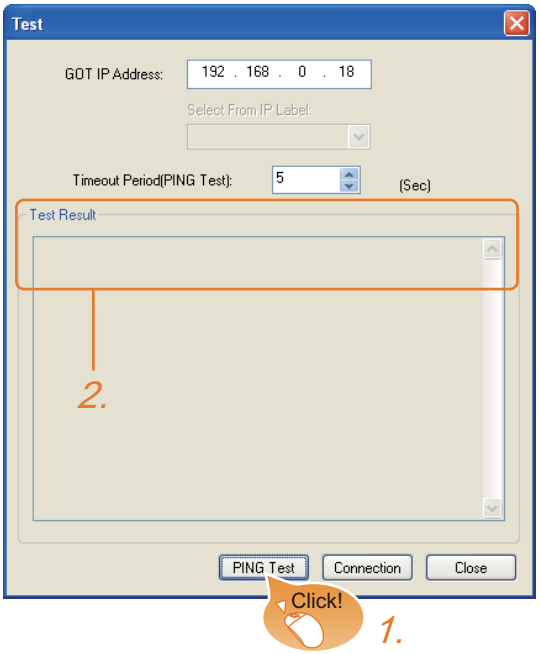
(b) When abnormal communication

C:\>Ping 192.168.3.18

Request timed out.

(2) When using the [PING Test] of GT Designer3

Select [Communication] → [Communication configuration] → [Ethernet] and → [Test].



1. Specify the [GOT IP Address] of the [PING Test] and click the [PING Test] button.
2. The [Test Result] is displayed after the [PING Test] is finished.

(3) When abnormal communication

At abnormal communication, check the followings and execute the Ping command again.

- Mounting condition of Ethernet communication unit
- Cable connecting condition
- Confirmation of [Communication Settings]
- IP address of GOT specified by Ping command

POINT

Ethernet diagnostics of GX Developer

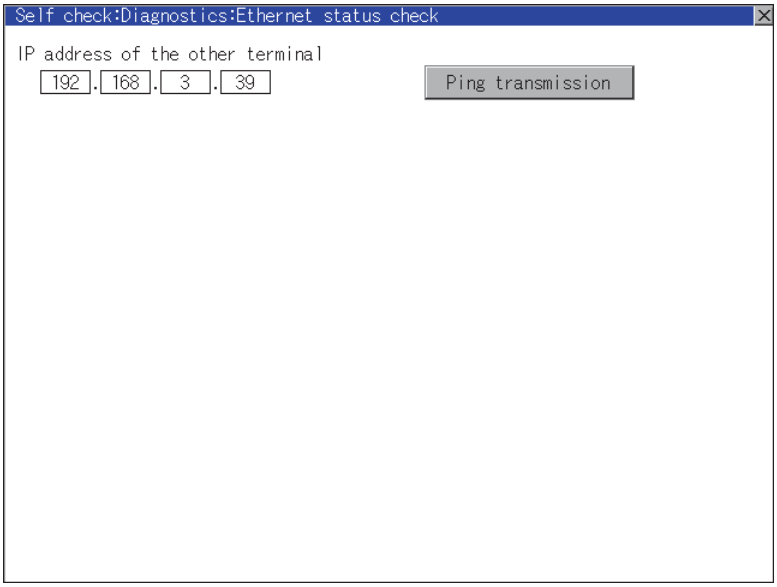
Ethernet diagnostics of GX Developer is available to a Ping test from the PLC.
For details of Ethernet diagnostics of GX Developer, refer to the following manual.

☞ User's manual of the Ethernet module

■ Confirming the communication state on the GOT

[PING Test] can be confirmed by the Utility screen of the GOT.
For details on the operation method of the GOT Utility screen, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)



1.6.3 Confirming the communication state to each station (Station monitoring function)

The station monitoring function detects the faults (communication timeout) of the stations monitored by the GOT. When detecting the abnormal state, it allocates the data for the faulty station to the GOT special register (GS).

(1) No. of faulty stations

(a) Ethernet connection (Except for Ethernet multiple connection)

Total No. of the faulty CPU is stored.

Device	b15 to b8	b7 to b0
GS230	(00H fixed)	No. of faulty stations

(b) Ethernet multiple connection

Total No. of the faulty connected equipment is stored.

Channel	Device	b15 to b8	b7 to b0
Ch1	GS280	(00H fixed)	No. of faulty stations
Ch2	GS300	(00H fixed)	No. of faulty stations
Ch3	GS320	(00H fixed)	No. of faulty stations
Ch4	GS340	(00H fixed)	No. of faulty stations

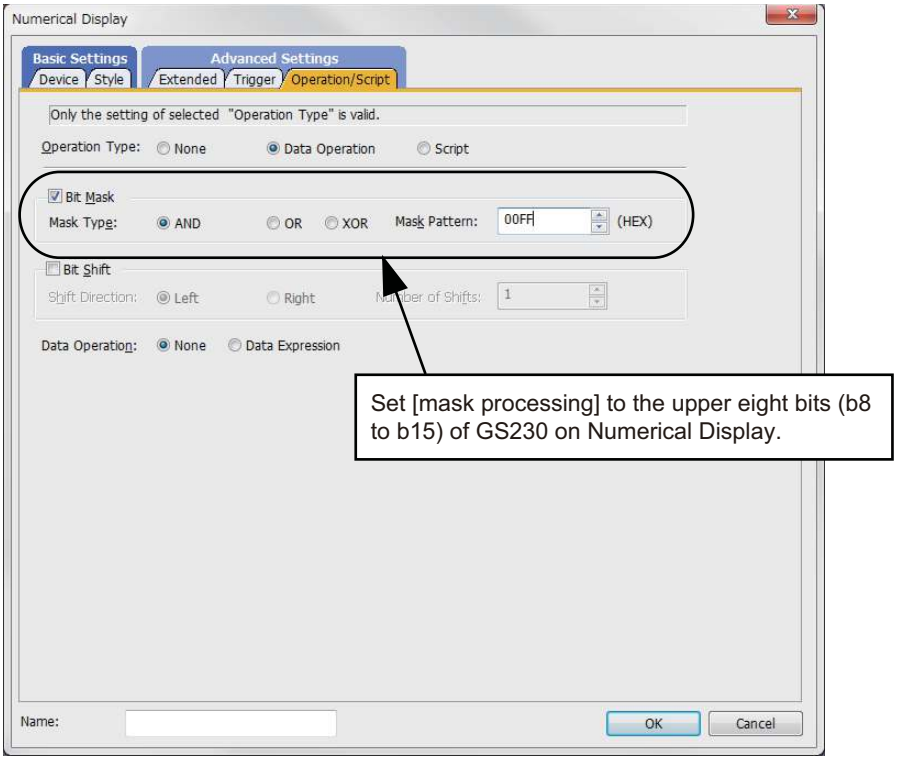
POINT

When monitoring GS230 on Numerical Display

When monitoring GS230 on Numerical Display, check [mask processing] with data operation tab as the following. For the data operation, refer to the following manual.

GT Designer3 (GOT2000) Help

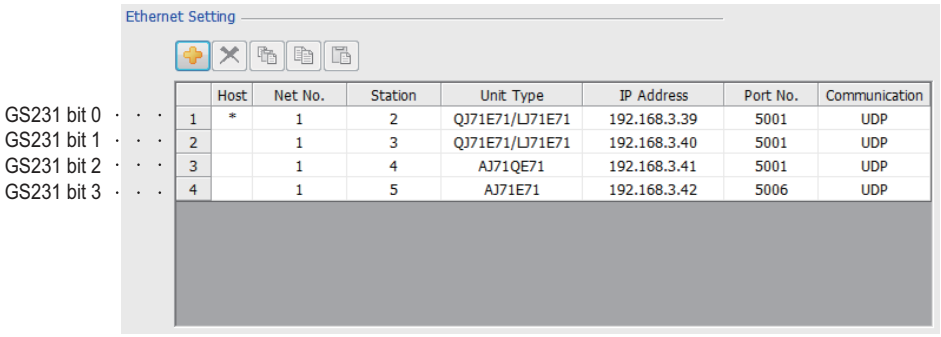
Numerical Display (Data Operation tab)



(2) Faulty station information

The bit corresponding to the faulty station is set. (0: Normal, 1: Abnormal)
The bit is reset after the fault is recovered.

(a) Ethernet connection (Except for Ethernet multiple connection)



Device	Station number															
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
GS231	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
GS232	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
GS233	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33
GS234	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49
GS235	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65
GS236	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81
GS237	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97
GS238	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113

(b) Ethernet multiple connection, servo amplifier connection, inverter connection

The station number to which each device corresponds changes according to the connection/non connection with Ethernet.
With Ethernet connection: 1 to 128
With other than Ethernet connection: 0 to 127
Example) With Ethernet connection, when PC No. 100 CPU connecting to Ch3 is faulty, GS327.b3 is set.
The following table shows the case with Ethernet connection.

Device				Station number															
Ch1	Ch2	Ch3	Ch4	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
GS281	GS301	GS321	GS341	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
GS282	GS302	GS322	GS342	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
GS283	GS303	GS323	GS343	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33
GS284	GS304	GS324	GS344	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49
GS285	GS305	GS325	GS345	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65
GS286	GS306	GS326	GS346	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81
GS287	GS307	GS327	GS347	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97
GS288	GS308	GS328	GS348	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113

For details on the GS Device, refer to the following help.

☞ GT Designer3 (GOT2000) Help

(3) Network No., station No. notification

The network No. and station No. of the GOT in Ethernet connection are stored at GOT startup.
If connected by other than Ethernet, 0 is stored.

Device				Description
CH1	CH2	CH3	CH4	
GS376	GS378	GS380	GS382	Network No. (1 to 239)
GS377	GS379	GS381	GS383	Station No. (1 to 64)

1.6.4 Check on GX Developer

■ Check if the PLC CPU recognizes the GOT (For bus connection) (QCPU (Q mode) only)

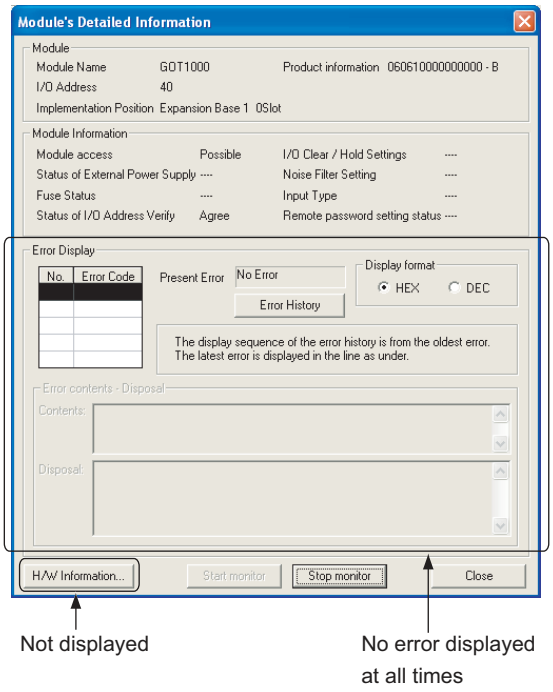
Using the [System monitor] of GX Developer, check if the PLC CPU recognizes the GOT or not.
For the GX Developer operation method, refer to the following manual.

☞ GX Developer Version☐ Operating Manual

(1) Check the Module Name, I/O Address and Implementation Position. (The display example is based on GX Developer Version 8)

Startup procedure

GX Developer → [Diagnostics] → [System monitor]



■ Checking the wiring state (For optical loop system only)

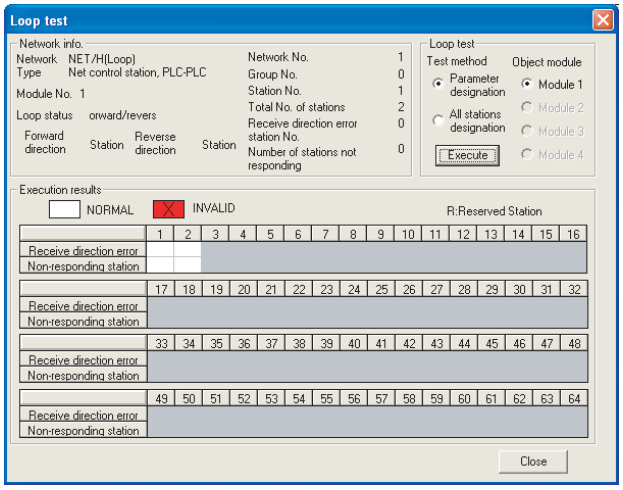
Check if the optical fiber cable is connected correctly in [Loop test] of GX Developer.
For the GX Developer operation method, refer to the following manual.

☞ Q Corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

(1) Check the [Receive direction error station] (The display example on GX Developer Version 8)

Startup procedure

GX Developer → [Diagnostics] → [MELSECNET (II)/10/H diagnostics] → Loop test



■ Checking if the GOT is performed the data link correctly

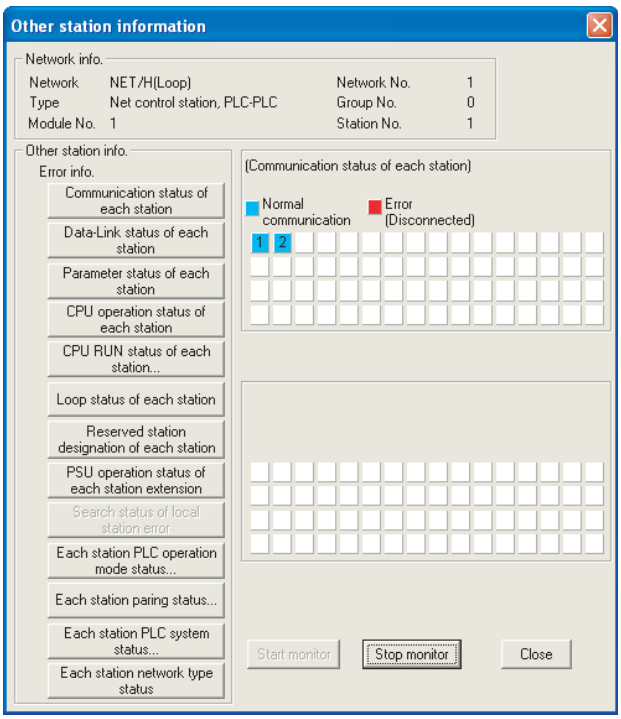
(1) For MELSECNET/H, MELSECNET/10 network system
Check if the GOT is performed the data link correctly in [Other station information].
For the GX Developer operation method, refer to the following manual.

☞ Q Corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

(a) Check [Communication status of each station] and [Data-Link status of each station] (The display example on GX Developer Version 8)

Startup procedure

GX Developer → [Diagnostics] → [MELSECNET (II)/10/H diagnostics] → Other station info.



(2) For CC-Link IE Controller Network system

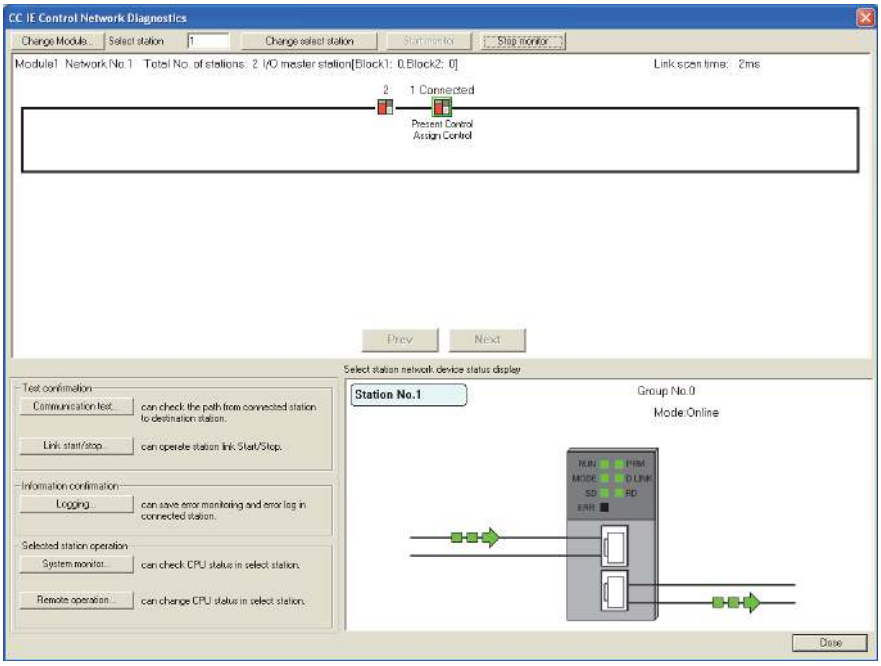
Use [CC IE Control diagnostics…] of GX Developer to check if the GOT is correctly performed the data link.
For the GX Developer operation method, refer to the following manual.

☞ CC-Link IE Controller Network Reference Manual

(a) Check the [Select station network device status display] (The display example on GX Developer Version 8)

Startup procedure

GX Developer → [Diagnostics] → [CC IE Control diagnostics…] → [CC IE Control Network Diagnostics]



(3) For CC-Link system

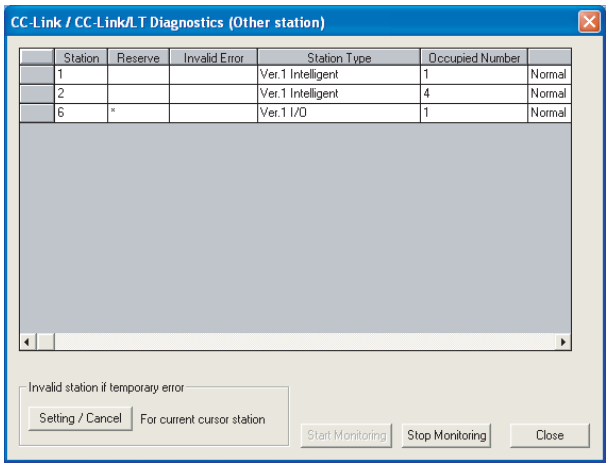
Use [Monitoring other station] of the GX Developer to check if the GOT is correctly performed the data link.
For the GX Developer operation method, refer to the following manual.

☞ CC-Link System Master/Local Module User's Manual QJ61BT11N

(a) Check the [Status] (The display example on GX Developer Version 8)

Startup procedure

GX Developer → [Diagnostics] → [CC-Link / CC-Link LT diagnostics] → Monitoring other station



1.6.5 Check on GX Works2

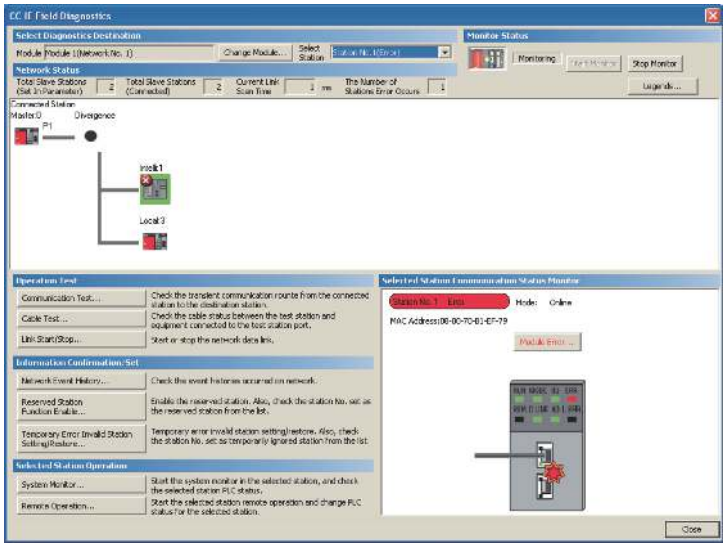
■ For CC-Link IE Controller Network system

Use [CC IE Field diagnostics] of GX Works2 to check if the GOT is correctly performed the data link.
For the GX Works2 operation method, refer to the following manual.

☞ MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual

Startup procedure

GX Works2 → [diagnostics] → [CC IE Field diagnostics]



1.6.6 Check on the PLC

■ Checking the wiring state of the optical fiber cable (For CC-Link IE Controller Network only)

Check if the fiber-optic cable is connected correctly to all the modules in the CC-Link IE Controller Network.
Perform the line test from the control station of the CC-Link IE Controller Network to check the wiring state of the fiber-optic cable.
For the line testing method, refer to the following manual.

☞ CC-Link IE Controller Network Reference Manual

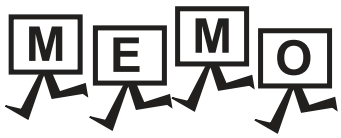
■ Checking the wiring state of the CC-Link dedicated cable (For CC-Link system only)

Check if the CC-Link dedicated cable is connected correctly to all the modules in the CC-Link system.
Perform the line test from the master station of the CC-Link System to check the wiring state of the CC-Link dedicated cable.
For the line testing method, refer to the following manuals.

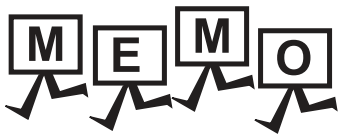
☞ CC-Link System Master/Local Module User's Manual QJ61BT11N

☞ CC-Link System Master/Local Module User's Manual AJ61QBT11, A1SJ61QBT11

☞ CC-Link System Master/Local Module User's Manual AJ61BT11, A1SJ61BT11


MEMO

MITSUBISHI PLC CONNECTIONS


MEMO

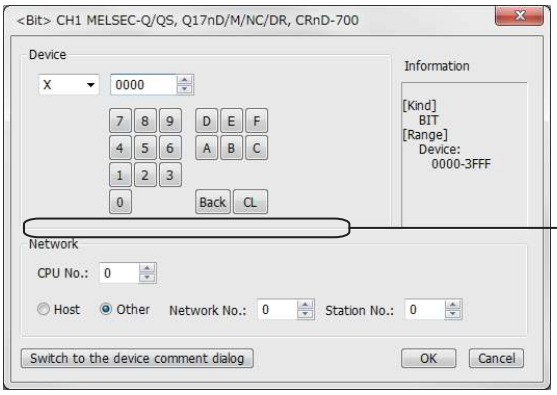
2

DEVICE RANGE THAT CAN BE SET

2. DEVICE RANGE THAT CAN BE SET

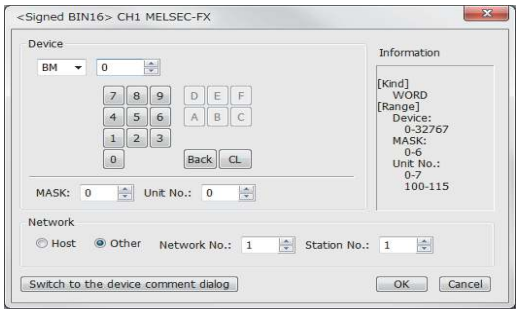
The device ranges that can be set for the Mitsubishi PLCs are as follows.
Note that the device ranges in the following tables are the maximum values that can be set in GT Designer3.
The device specifications of controllers may differ depending on the models, even though belonging to the same series.
Please make the setting according to the specifications of the controller actually used.
When a non-existent device or a device number outside the range is set, other objects with correct device settings may not be monitored.

■ Setting item



(For MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700)

When selecting buffer memory (G) with the following controllers
MELSEC-QnU/DC, Q17nD/M/NC/DR, CRnD-700
MELSEC-L
MELSEC-QnA/Q/QS, MELDAS C6 *
MELSEC-Q(MULTI)/Q MOTION



(For MELSEC-FX)

Item	Description		
Device	Set the device name, device number, and bit number. The bit number can be set only by specifying the bit of word device. When setting buffer memory (BM) and (G), set the buffer memory address in the space for the device number.		
	Block		Set the block number of the extended file register. This item can be set only when the extended file register (ER) is selected.
	Intelligent function module	Unit top I/O	Set when the buffer memory (BM) is selected. Set the head I/O number of the buffer memory for the intelligent function module. Set the first 2 digits of the 3-digit head I/O number.
		Unit No.	Set when the buffer memory (G) is selected. Set the head I/O number of the buffer memory for the intelligent function module. Set the first 2 digits of the 3-digit head I/O number.
	MELSEC-FX buffer memory	Mask type	Set for using the buffer memory of MELSEC-FX series. Set the mask type for monitoring or writing only specified bits of the buffer memory. ☞ (4) Setting of the mask type (MELSEC-FX)
		Unit No.	Set for using the buffer memory of MELSEC-FX series. Set the module No. of the special function unit or special function block to monitor or write. ☞ (5) Setting of the module No. (MELSEC-FX)
Information	Displays the device type and its setting range selected in [Device].		
Network	Set the station number of the controller to be monitored.		
	CPU No.		Set the CPU No. of the controller. ☞ (1) Setting of the CPU No.
	Host		Select this item for monitoring the host controller.
	Other		Select this for monitoring other controllers. After selecting the item, set the station number and network number of the controller to be monitored. NW No.: Set the network No. Station No.: Set the station No.
Swich to the device comment dialog	Reading the device comment data created by GX Developer and confirming the device comment/device name are available during device setting. For details on the procedure to refer to the device comment, refer to the following. ☞ GT Designer3 (GOT2000) Help		

(1) Setting of the CPU No.

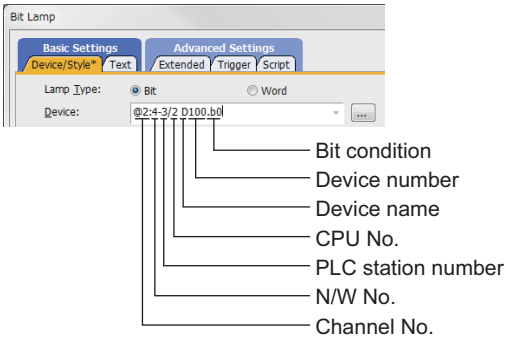
(a) When monitoring a single CPU system
Set to 0.

(b) When monitoring a multiple CPU system
Set the CPU No. (0 to 4) in [CPU No.] when monitoring a multiple CPU system.
When [CPU No.] is set to "0", the monitoring target differs depending on the connection method.

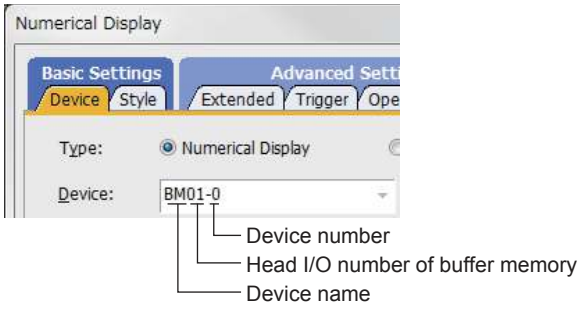
Connection method	Monitoring target
• Direct CPU connection	Connected PLC CPU
• Bus connection • Computer link connection • MELSECNET connection • Ethernet connection • CC-Link connection	Control CPU

(2) When monitoring link relay (B) and link register (W) assigned in link parameter and network parameter.
Set the device link relay (B) and link register (W) running cyclic communication as [Host].
If it is set as [Other] in the network setting, the cyclic transmission is changed to the transient transmission regardless of the network type, resulting in delay of the object display.

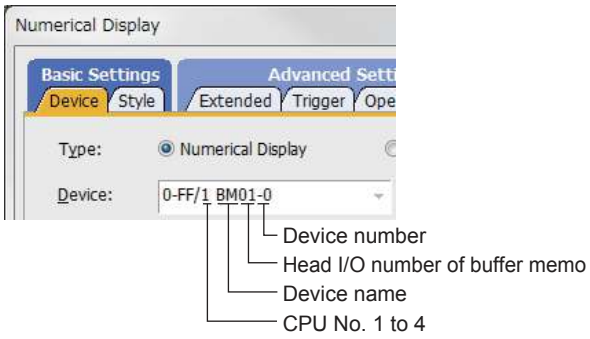
(3) Setting the device by inputting directly from the keyboard
When setting the device by inputting directly from the keyboard, set the items as follows.
(For devices except BM and G)



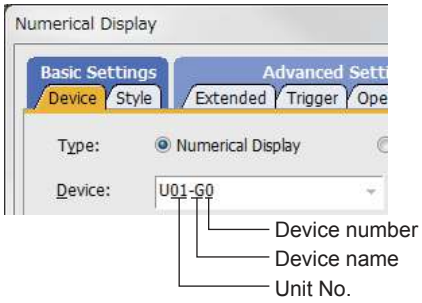
(For device BM and CPU No. 0)



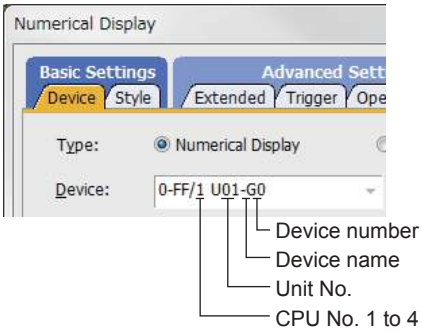
(For device BM and CPU No. 1 to 4)



(For device G and CPU No. 0)



(For device G and CPU No. 1 to 4)



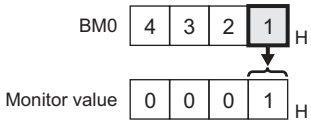
(4) Setting of the mask type (MELSEC-FX)
Set the item for monitoring or writing only the specified bits of the buffer memory.

HINT

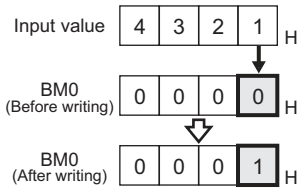
Mask type
The mask type is effective when using for the buffer memories divided per 4 bits, such as an analog input block.

(a) Mask type 0
Monitor and write the buffer memory value directly.

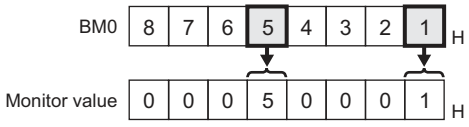
(b) Mask type 1
• (For 16 bits)
Monitor and write only b0 to b3 of the buffer memory.
Example:
The monitor value is 0001H when monitoring BM=4321H as mask type 1.



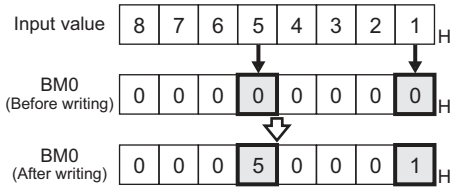
BM0=0001H when writing input value 4321H to BM0=0000H as mask type 1.



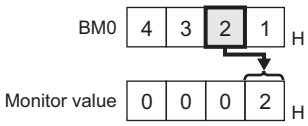
• (For 32 bits)
Monitor and write only b0 to b3 and b16 to 19 of the buffer memory.
Example:
The monitor value is 00050001H when monitoring BM0=87654321H as mask type 1.



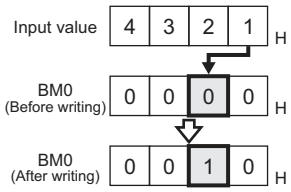
BM0=00050001H when writing input value 87654321H to BM0=00000000H as mask type 1.



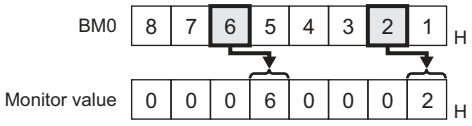
(c) Mask type 2
• (For 16 bits)
Monitor and write only b4 to b7 of the buffer memory.
Example:
The monitor value is 0002H when monitoring BM0=4321H as mask type 2.



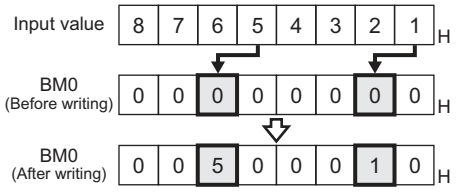
BM0=0010H when writing input value 4321H to BM0=0000H as mask type 2.



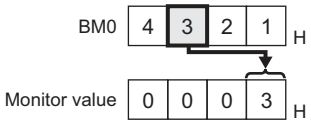
• (For 32 bits)
Monitor and write only b4 to b7 and b20 to 23 of the buffer memory.
Example:
The monitor value is 00060002H when monitoring BM0=87654321H as mask type 2.



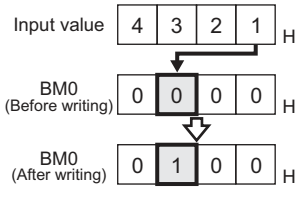
BM0=00500010H when writing input value 87654321H to BM0=00000000H as mask type 2.



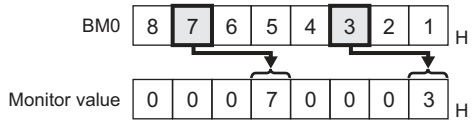
(d) Mask type 3
• (For 16 bits)
Monitor and write only b8 to b11 of the buffer memory.
Example:
The monitor value is 0003H when monitoring BM0=4321H as mask type 3.



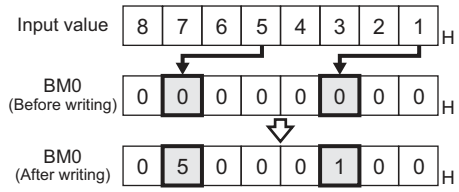
BM0=0100H when writing input value 4321H to BM0=0000H as mask type 3.



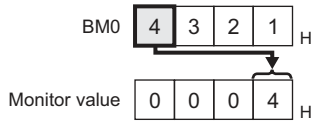
• (For 32 bits)
Monitor and write only b8 to b11 and b28 to 31 of the buffer memory.
Example:
The monitor value is 00070003H when monitoring BM0=87654321H as mask type 3.



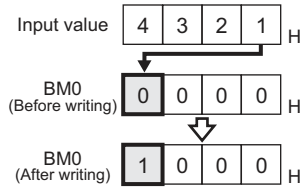
BM0=05000100H when writing input value 87654321H to BM0=00000000H as mask type 3.



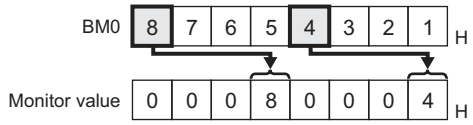
(e) Mask type 4
• (For 16 bits)
Monitor and write only b12 to b15 of the buffer memory.
Example:
The monitor value is 0004H when monitoring BM0=4321H as mask type 4.



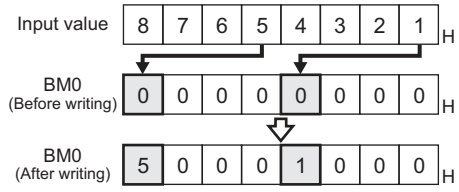
BM0=1000H when writing input value 4321H to BM0=0000H as mask type 4.



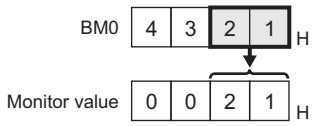
• (For 32 bits)
Monitor and write only b12 to b15 and b28 to 31 of the buffer memory.
Example:
The monitor value is 00080004H when monitoring BM0=87654321H as mask type 4.



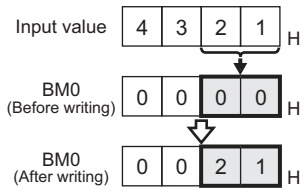
BM0=50001000H for writing input value 87654321H to BM0=00000000H as mask type 4.



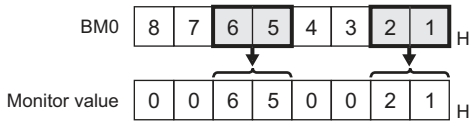
(f) Mask type 5
• (For 16 bits)
Monitor and write only b0 to b7 of the buffer memory.
Example:
The monitor value is 0021H when monitoring BM0=4321H as mask type 5.



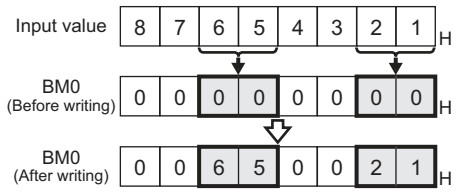
BM0=0021H when writing input value 4321H to BM0=0000H as mask type 5.



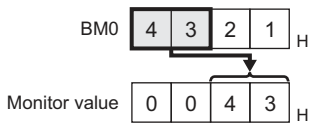
• (For 32 bits)
Monitor and write only b0 to b7 and b16 to 23 of the buffer memory.
Example:
The monitor value is 00650021H when monitoring BM0=87654321H as mask type 5.



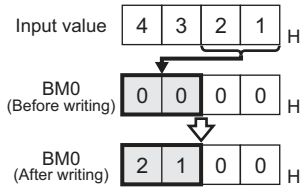
BM0=00650021H when writing input value 87654321H to BM0=00000000H as mask type 5.



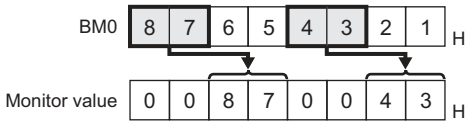
(g) Mask type 6
• (For 16 bits)
Monitor and write only b8 to b15 of the buffer memory.
Example:
The monitor value is 0043H when monitoring BM0=4321H as mask type 6.



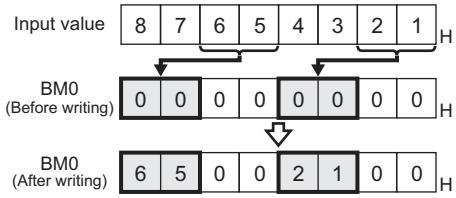
BM0=2100H when writing input value 4321H to BM0=0000H as mask type 6.



• (For 32 bits)
Monitor and write only b8 to b15 and b24 to 31 of the buffer memory.
Example:
The monitor value is 00870043H when monitoring BM0=87654321H as mask type 6.



BM0=65002100H when writing input value 87654321H to BM0=00000000H as mask type 6.



(5) Setting of the module No. (MELSEC-FX)
Set the module No. of the special function unit or special function block to monitor or write.
The module No.0 to No.7 are assigned in order for the nearest module or block from the main unit. For details of the module No., refer to the following.
☞User's Manual (Hardware) of MELSEC-FX

(a) Direct specification
Specify the module No. (No.0 to No.7) of the special function unit or special function block directly, to monitor or write when setting the devices.

(b) Indirect specification*1
Specify the module No. of the special function unit or special function block indirectly, to monitor or write when setting the devices, by using the 16-bit GOT internal data register (GD10 to GD25).
When specifying the station No. from 100 to 115 on GT Designer3, the value of GD10 to GD25 corresponding to the module No. will be the module No. of the special function unit or special function block.

Module No.	Compatible device	Setting range
100	GD10	0 to 7 For the setting other than the above, error (dedicated device is out of range) will occur. If a non-existent module No. is set, a timeout error occurs.
101	GD11	
:	:	
114	GD24	
115	GD25	

*1 The module No. cannot be specified indirectly for the multi-drop connection.

2.1 MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700

The table below shows the device ranges in [MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700] as the controller type.

	Device name[*6]		Setting range			Device No. representation
Bit device	Input (X)		X0	to	X3FFF	Hexadecimal
	Output (Y)		Y0	to	Y3FFF	
	Internal relay (M)[*5][*8]		M0	to	M61439	Decimal
	Latch relay (L)		L0	to	L32767	
	Annunciator (F)		F0	to	F32767	
	Link relay (B)		B0	to	B9FFFF	Hexadecimal
	Timer[*5]	Contact (TT)	TT0	to	TT32767	Decimal
		Coil (TC)	TC0	to	TC32767	
	Counter[*5]	Contact (CT)	CT0	to	CT32767	
		Coil (CC)	CC0	to	CC32767	
	Special relay (SM)		SM0	to	SM2255	
	Retentive timer[*5]	Contact (SS)	SS0	to	SS32767	
		Coil (SC)	SC0	to	SC32767	
	Step relay (S)		S0	to	S32767	
	Link special relay (SB)		SB0	to	SB7FFF	Hexadecimal
	Word device bit		Specified bit of the following word devices (Except Timer, Counter, Retentive timer, Index register and Buffer memory)			—
Word device	Data register (D)[*5][*8]		D0	to	D4910079	Decimal
	Special data register (SD)		SD0	to	SD2255	
	Link register (W)		W0	to	W4AEBFF	Hexadecimal
	Timer (current value) (TN)[*5]		TN0	to	TN32767	Decimal
	Counter (current value) (CN)[*5]		CN0	to	CN32767	
	Retentive timer (current value) (SN)[*5]		SN0	to	SN32767	
	Link special register (SW)		SW0	to	SW7FFF	Hexadecimal
	File register (R)[*1][*2]		R0	to	R32767	Decimal
	Extension file register (ER)[*1]	Block	0	to	255	
		Device	ER0	to	ER32767	
	Extension file register (ZR)[*1][*3]		ZR0	to	ZR4849663	
	Index register (Z)		Z0	to	Z19	
	Buffer memory (Intelligent function module) (G)[*4]		G0	to	G65535	
	Ww[*7]		Ww0	to	Ww1FFF	Hexadecimal
	Wr[*7]		Wr0	to	Wr1FFF	
	Multiple CPU high speed transmission memory (U3E0)		U3E010000 to U3E024335			
	Multiple CPU high speed transmission memory (U3E1)		U3E110000 to U3E124335			
	Multiple CPU high speed transmission memory (U3E2)		U3E210000 to U3E224335			
	Multiple CPU high speed transmission memory (U3E3)		U3E310000 to U3E324335			
	Motion device (#)		#0	to	#12287	Decimal
	Bit device word[*9]		Converting the above bit devices into words (Except Timer, Counter and Retentive timer)			—

*1 Do not set a file register by GT Designer3 when executing multiple programs with the file of the file register set at [Use the same file name as the program] by the PLC parameter of GX Developer.
Otherwise, read/write at GOT will be erroneous.

*2 Available for file register of block No. switched with the RSET instruction.

*3 Available for file register of block No. of file name switched with the QDRSET instruction.

*4 Only the intelligent function module on the station connected to GOT can be specified.
Set within the address range of the buffer memory existing in the target intelligent function module.

*5 Do not use local devices set in the MELSEC-Q system.
Otherwise, normal monitoring is not performed.

*6 Even though Universal model QCPU processes 64-bit data, the GOT cannot monitor 64-bit data.

*7 This cannot be monitored when in GOT multi-drop connection.

*8 For monitoring the internal relay (M) or data register (D) of a C Controller module, configure the settings related to the device functions in the device setting tab of the language controller setting utility.

*9 The device No. must be set in multiples of 16.

(When using the QCPU)
* For details of *1 to *6, refer to 2.2 MELSEC-QnA, MELDAS C6 *.

*7 This is not supported by GT10.

*8 This cannot be monitored when in GOT multi-drop connection.

(When using the Q Motion)

*9 When setting special internal relay M9000 to M9255, use SM for the device name and set the value subtracted 9000 for the device number (0 to 255).

*10 The setting range is D9000 to D9255 when setting the special data register.

*11 D8192 to D8999 and D9256 to D9999 are out of the valid setting range.

(When using the QCPU/Q Motion)

*12 Do not use local devices set in the MELSEC-Q (Multi)/Q Motion system.
Otherwise, normal monitoring is not performed.

2.2 MELSEC-QnA, MELDAS C6 *

The device ranges that can be set when selecting [MELSEC-QnA/, MELDAS C6*] as the controller type are as follows.

	Device name*6*7*10		Setting range			Device No. representation
Bit device	Input (X)		X0	to	X3FFF	Hexadecimal
	Output (Y)		Y0	to	Y3FFF	
	Internal relay (M)*8		M0	to	M32767	Decimal
	Latch relay (L)		L0	to	L32767	
	Annunciator (F)		F0	to	F32767	
	Link relay (B)		B0	to	B7FFF	Hexadecimal
	Timer*8	Contact (TT)	TT0	to	TT32767	Decimal
		Coil (TC)	TC0	to	TC32767	
	Counter*8	Contact (CT)	CT0	to	CT32767	
		Coil (CC)	CC0	to	CC32767	
	Special relay (SM)		SM0	to	SM2047	
	Retentive timer*8	Contact (SS)	SS0	to	SS32767	
		Coil (SC)	SC0	to	SC32767	
	Step relay (S)		S0	to	S32767	
	Link special relay (SB)		SB0	to	SB7FFF	Hexadecimal
	Word device bit		Specified bit of the following word devices (Except Timer, Counter, Retentive timer, Index register and Buffer memory)			—
Word device	Data register (D)*8		D0	to	D32767	Decimal
	Special data register (SD)		SD0	to	SD2047	
	Link register (W)		W0	to	W7FFF	Hexadecimal
	Timer (current value) (TN)*8		TN0	to	TN32767	Decimal
	Counter (current value) (CN)*8		CN0	to	CN32767	
	Retentive timer (current value) (SN)*8		SN0	to	SN32767	
	Link special register (SW)		SW0	to	SW7FFF	Hexadecimal
	File register (R)*1*2		R0	to	R32767	Decimal
	Extension file register (ER)*1*9	Block	0	to	255	
		Device	R0	to	R32767	
	Extension file register (ZR)*1*3*9		ZR0	to	ZR1042431	
	Index register (Z)		Z0	to	Z15	
	Buffer memory (Intelligent function module) (G)*4*9		G0	to	G65535	
	Ww*9		Ww0	to	Ww1FFF	Hexadecimal
	Wr*9		Wr0	to	Wr1FFF	
	Bit device word*5		Converting the above bit devices into words (Except Timer, Counter and Retentive timer)			—

*1 Do not set a file register by GT Designer3 when executing multiple programs with the file of the file register set at [Use the same file name as the program] by the PLC parameter of GX Developer.(Except MELSEC-QnA)
Otherwise, read/write at GOT will be erroneous.

*2 Available for file register of block No. switched with the RSET instruction.

*3 Available for file register of block No. of file name switched with the QDRSET instruction.

*4 Only the intelligent function module on the station connected to GOT can be specified.
Set within the address range of the buffer memory existing in the target intelligent function module.

*5 The device No. must be set in multiples of 16.

*6 When monitoring MELDAS C6/64, if a word device outside the range is set, the value becomes indefinite.
When a bit device outside the range is set, the object may not be displayed or the set function may fail to operate.
Check the set device using the device list of GT Designer3.

*7 Devices used by the MELDAS C6/64 system cannot be used.

*8 Do not use local devices set in the MELSEC-Q system.
Otherwise, normal monitoring is not performed.

*9 This cannot be monitored when in GOT multi-drop connection.

*10 Only reading is possible from QS001CPU.

2.3 MELSEC-L

The device ranges that can be set when selecting [MELSEC-L] as the controller type are as follows.

	Device name		Setting range			Device No. representation
Bit device	Input (X)		X0	to	X3FFF	Hexadecimal
	Output (Y)		Y0	to	Y3FFF	
	Internal relay (M)*5		M0	to	M61439	Decimal
	Latch relay (L)		L0	to	L32767	
	Annunciator (F)		F0	to	F32767	
	Link relay (B)		B0	to	BEFFF	Hexadecimal
	Timer*5	Contact (TT)	TT0	to	TT32767	Decimal
		Coil (TC)	TC0	to	TC32767	
	Counter*5	Contact (CT)	CT0	to	CT32767	
		Coil (CC)	CC0	to	CC32767	
	Special relay (SM)		SM0	to	SM2047	
	Retentive timer*5	Contact (SS)	SS0	to	SS32767	
		Coil (SC)	SC0	to	SC32767	
	Step relay (S)		S0	to	S8191	
	Link special relay (SB)		SB0	to	SB7FFF	Hexadecimal
	Word device bit		Specified bit of the following word devices (Except Timer, Counter, Retentive timer, Index register and Buffer memory)			—
Word device	Data register (D)*5		D0	to	D421887	Decimal
	Special data register (SD)		SD0	to	SD2047	
	Link register (W)		W0	to	W66FFF	Hexadecimal
	Timer (current value) (TN)*5		TN0	to	TN32767	Decimal
	Counter (current value) (CN)*5		CN0	to	CN32767	
	Retentive timer (current value) (SN)*5		SN0	to	SN32767	
	Link special register (SW)		SW0	to	SW7FFF	Hexadecimal
	File register (R)*1*2		R0	to	R32767	Decimal
	Extension file register (ZR)*1*3		ZR0	to	ZR393215	
	Index register (Z)		Z0	to	Z19	
	Buffer memory (Intelligent function module) (G)*4		G0	to	G65535	
	Ww*6		Ww0	to	Ww1FFF	Hexadecimal
	Wr*6		Wr0	to	Wr1FFF	
	Bit device word*7		Converting the above bit devices into words (Except Timer contact and Counter contact)			—

*1 Do not set a file register by GT Designer3 when executing multiple programs with the file of the file register set at [Use the same file name as the program] by the PLC parameter of GX Developer.
Otherwise, read/write at GOT will be erroneous.

*2 Available for file register of block No. switched with the RSET instruction.

*3 Available for file register of block No. of file name switched with the QDRSET instruction.

*4 Only the intelligent function module on the station connected to GOT can be specified.
Set within the address range of the buffer memory existing in the target intelligent function module.

*5 Do not use local devices set in the MELSEC-L system. Otherwise, normal monitoring is not performed. (The data register (D) can be used for D32768 or later.)

*6 This cannot be monitored when in GOT multi-drop connection.

*7 The device No. must be set in multiples of 16.

2.4 MELSEC-A

The device ranges that can be set when selecting [MELSEC-A] as the controller type are as follows.

(1) For GT27

	Device name		Setting range			Device No. representation
Bit device	Input (X)		X0	to	X1FFF	Hexadecimal
	Output (Y)		Y0	to	Y1FFF	
	Internal relay/Special internal relay (M)		M0	to	M32767	Decimal
	Latch relay (L)		L0	to	L32767	
	Annunciator (F)		F0	to	F32767	
	Link relay (B)		B0	to	B7FFF	Hexadecimal
	Timer	Contact (TT)	TT0	to	TT32767	Decimal
		Coil (TC)	TC0	to	TC32767	
	Counter	Contact (CT)	CT0	to	CT32767	
		Coil (CC)	CC0	to	CC32767	
	Link special relay (SB)		SB0	to	SB7FF	Hexadecimal
	Word device bit		Specified bit of the following word devices (Except Index register and Buffer memory)			—
Word device	Data register/Special data register (D)		D0	to	D32767	Decimal
	Link register (W)		W0	to	W7FFF	Hexadecimal
	Timer (current value) (TN)		TN0	to	TN32767	Decimal
	Counter (current value) (CN)		CN0	to	CN32767	
	Link special register (SW)		SW0	to	SW7FF	Hexadecimal
	File register (R)		R0	to	R32767	Decimal
	Extension file register (ER)*1	Block	1	to	255	
		Device	ER0	to	ER32767	
	Index register*2	(Z)	Z0	to	Z15	
		(V)	V0	to	V6	
	Accumulator (A)		A0	to	A1	
	Buffer memory (Intelligent function module) (BM)*3		BM0	to	BM32767	Decimal
	Ww		Ww0	to	Ww7FF	Hexadecimal
	Wr		Wr0	to	Wr7FF	
	Bit device word*4*5		Converting the above bit devices into words (Except Timer and Counter)			—

*1 In the computer link connection, the bit specification writing of the word device to the ER29-0 (block 29 of the extension file register) or later of A3ACPU, A3UCPU, or A4UCPU is not available.
When the bit specification writing of the word device is required, use the range of block No. 0 to 28.

*2 In the computer link connection, writing to the index register (e.g., the touch switch function, numerical input function) is not available.

*3 Only the intelligent function module on the station connected to GOT can be specified.
Set within the address range of the buffer memory existing in the target intelligent function module.

*4 The device No. must be set in multiples of 16.

*5 If the special internal relay (M) is converted to the word device, treat 9000 of the device No. as 0 and set in multiples of 16.
Example: M9000, M9016, M9240

(2) For GOT MULTI-DROP CONNECTION

	Device name		Setting range			Device No. representation
Bit device	Input (X)		X0	to	X1FFF	Decimal
	Output (Y)		Y0	to	Y1FFF	
	Internal relay/ Special internal relay (M)		M0	to	M9255	
	Latch relay (L)		L0	to	L8191	
	Annunciator (F)		F0	to	F2047	
	Link relay (B)		B0	to	B1FFF	Hexadecimal
	Timer	Contact (TT)	TT0	to	TT2047	Decimal
		Coil (TC)	TC0	to	TC2047	
	Counter	Contact (CT)	CT0	to	CT1023	
		Coil (CC)	CC0	to	CC1023	
	Word device bit		Specified bit of the following word devices (Except Index register)			—
Word device	Data register/ Special data register (D)		D0	to	D9255	Decimal
	Link register (W)		W0	to	W1FFF	Hexadecimal
	Timer (current value) (TN)		TN0	to	TN2047	Decimal
	Counter (current value) (CN)		CN0	to	CN1023	
	File register (R)		R0	to	R8191	
	Index register*1	(Z)	Z0	to	Z6	
		(V)	V0	to	V6	
	Accumulator (A)*2		A0	to	A1	
	Bit device word*3*4		Converting the above bit devices into words (Except Timer and Counter)			—

*1 In the computer link connection, writing to the index register (e.g., the touch switch function, numerical input function) is not available.

*2 With the computer link connection, the GOT cannot read/ write data from/to the accumulator.

*3 The device No. must be set in multiples of 16.

*4 If the special internal relay (M) is converted to the word device, treat 9000 of the device No. as 0 and set in multiples of 16.
Example: M9000, M9016, M9240

2.5 MELSEC-FX

The device ranges that can be set when selecting [MELSEC-FX] as the controller type are as follows.

	Device name	Setting range	Device No. representation
Bit device	Input relay (X)	X0 to X377	Octal
	Output relay (Y)	Y0 to Y377	
	Auxiliary relay (M)	M0 to M7679	Decimal
	Special auxiliary relay (M)	M8000 to M8511	
	State (S)	S0 to S4095	
	Timer contact (T)	T0 to T511	
	Counter contact (C)	C0 to C255	
	Word device bit*1	Specified bit of the following word devices (Except Timer (set value) and Counter (set value))	—
Word device	Data register (D)	D0 to D0999	Decimal
	File register (D)	D1000 to D7999	
	Special data register (D)	D8000 to D8511	
	Timer (current value) (T)	T0 to T511	
	Counter (current value) (C)	C0 to C255	
	Timer (set value) (TS)*3*5	TS0 to TS511	
	Counter (set value) (CS)*4*5	CS0 to CS255	
	Extension register (R)	R0 to R32767	
	Index register (V)	V0 to V7	
	Index register (Z)	Z0 to Z7	
	Buffer memory (BM)*6	BM0 to BM32767	
	Bit device word*2	Converting the above bit devices into words (Except Timer contact and Counter contact)	

*1 When executing the touch switch function set during the bit specification of the word device, do not write any data to the word device through the sequence program.
*2 The device No. must be set in multiples of 16.
*3 Only 16-bit (1-word) designation is allowed.
*4 For CS0 to CS199, only 16-bit (1-word) designation is allowed.
For CS200 to CS255, only 32-bit (2-word) designation is allowed.
*5 Monitoring or writing is not possible in the continuous device designation mode.
In addition, setting values of the timer and counter, which are not used for the program, cannot be monitored. If monitoring is executed, a reading error occurs.
*6 Can be used only for special blocks or special units compatible with FX1N, FX1NC, FX2N, FX2NC, FX3G, FX3GC, FX3U, FX3UC.
(Except FX0N-3A, FX2N-2AD, and FX2N-2DA)

POINT

(1) Precautions when using the buffer memory
- When the power supply of the special block or special module is turned off, the contents of the buffer memory are initialized, except for some keeping areas.
- When the buffer memory is monitored by the GOT, the PLC scan time may increase instantly.
- Use the 16 bit specification for the buffer memory of 16 bit data. Use the 32 bit specification for the buffer memory of 32 bit data.
If using the 16 bit specification for a buffer memory of 32 bit data, monitoring and writing may not be executed normally.
For the data size of each buffer memory, refer to the following.

☞ User's Manual of the special block or special module

- When reading from/writing to the special block or special module by interrupt processing of the sequence program, monitoring/writing from GOT to the buffer memory may not be executed normally.

(2) How to select a keyword protection level
For equipment that are allowed to operate the FX PLC online, 3 levels of protection level can be set. When monitoring or changing settings by any online equipment is required, set a keyword referring to the following.

(a) When setting the keyword only
Select a protection level by the initial letter of the keyword.
All operation protect: Set a keyword with the initial letter "A", "D" to "F", or "0" to "9".
Incorrect write/read protect: Set a keyword with the initial letter "B".
Incorrect write protect: Set a keyword with the initial letter "C".

(b) When setting the keyword and 2nd keyword
Select a protection level by [Registration condition].

(3) Monitoring availability at each keyword protection level
The following shows the device monitoring availability at each keyword protection level.

Item		When registering the keyword only			When registering the keyword and 2nd keyword			Keyword not registered or protection cancelled
		All operation protect	Incorrect write/ read protect	Incorrect write protect	All online operation protect	Read/ write protect	Write protect	
Monitoring devices		○	○	○	×	○	○	○
Changing devices	T, C set value and file register (D1000 and the following)	×*1	×*1	×*1	×	○	○	○
	Other than above	○	○	○	×	○	○	○

*1 When the T, C set values are specified indirectly, changing devices is available.

(4) Difference between all online operations prohibition and all operations prohibition
When specifying all online operations prohibition, displaying devices and inputting data with programming tools or GOT are all prohibited.
When all operations are prohibited, displaying devices and inputting data with the GOT are enabled while all operations using programming tools are prohibited.

2.6 MELSEC-WS

The device ranges that can be set when selecting [MELSEC-WS] as the controller type are as follows.

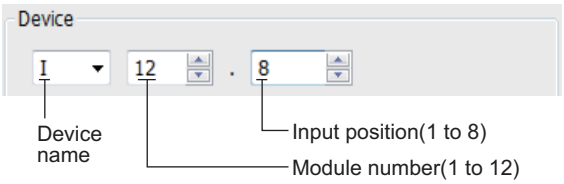
	Device	Setting range			Device No. representation
Bit device	Input (I)	I1.1	to	I12.8	Decimal +Decimal
	Output (Q)	Q1.1	to	Q12.8	
	Logic result (LQ)	LQ0.0	to	LQ3.7	
	Logic input (LI)	LI0.0	to	LI3.7	
	Word device bit	Specified bit of the following word devices			-
Word device	Data (byte)(D)	D0	to	D99	Decimal
	Data (word)(W)	W0	to	W49	
	EFI input (byte)(EI)	EI110	to	EI233	Decimal +Decimal +Decimal
	EFI output (byte)(EQ)	EQ10	to	EQ22	Decimal +Decimal
	Logic input (byte)(LD)	LD0	to	LD3	Decimal
	Logic input (word)(LW)	LW0	to	LW1	Decimal

POINT

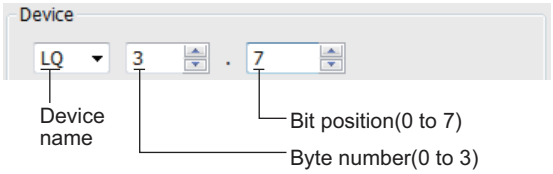
(1) Devices of MELSEC-WS
Only reading is possible for all devices.

(2) Device settings of MELSEC-WS

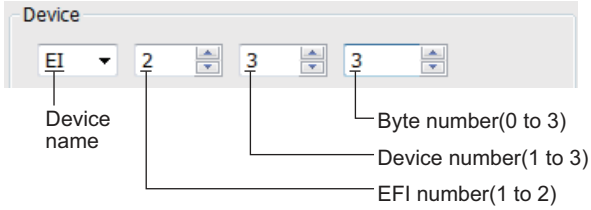
• Input(I), Output(Q)



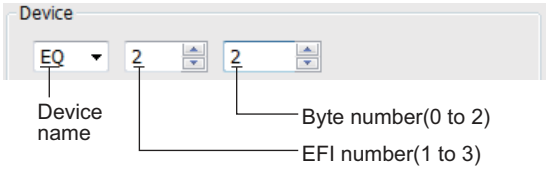
• Logic result(LQ), Logic input(LI)



• EFI input(EI)



• EFI output(EQ)



(3) Engineering software for MELSEC-WS and device representation of GT Designer3
The engineering software for MELSEC-WS and the device representation of GT Designer3 are different. Set the device by referring to the following table.

Device	GT Designer3	Engineering software for MELSEC-WS
I*1	I□□.△ □□(1-12(Dec)): Module number △(1-8): Input position	▲▲▲▲[□□].I△ ▲▲▲▲: I/O model name (such as XTIO) □□(1-12(Dec)): Module number △(1-8): Input position
Q*1	Q□□.△ □□(1-12(Dec)): Module number △(1-8): Output position	▲▲▲▲[□□].Q△ ▲▲▲▲: I/O model name (such as XTIO) □□(1-12(Dec)): Module number △(1-8): Output position
LQ*1	LQ□.△ □(0-3): Byte number △(0-7): Bit position	▲▲□.△ ▲▲: "Result" □(0-3): Byte number △(0-7): Bit position
LI*1	LI□.△ □(0-3): Byte number △(0-7): Bit position	▲▲▲▲[0] .□.△ ▲▲▲▲: CPU type (CPU0, CPU1) □(0-3): Byte number △(0-7): Bit position
EI*1	EI○□△ ○(1-2): EFI number □(1-3): Device number △(0-3): Byte number	▲▲▲▲[0].EFI○:□, Byte △ ▲▲▲▲: CPU type (CPU0, CPU1) ○(1-2): EFI number □(1-3): Device number △(0-3): Byte number
EQ*1	EQ○△ ○(1-2): EFI number △(0-2): Byte number	▲▲▲▲[0].EFI○:1, Byte △ ▲▲▲▲: CPU type (CPU0, CPU1) ○(1-2): EFI number △(0-2): Byte number
D	D△ △(0-99(Dec)): Byte number	RS232 data (Safety controller to RS232)
W	W△ △(0-49(Dec)): Word number Word virtualization of D device W0= (D1(Upper bits), D0(Lower bits))	GOT independent device (Not available)
LD	LD△ △(0-3): Byte number	RS232 data (Safety controller to RS232)

Device	GT Designer3	Engineering software for MELSEC-WS
LW	LW△ △(0-1): Word number Word virtualization of LD device LW0= (LD1(Upper bits), LD0(Lower bits))	GOT independent device (Not available)

*1 When the mapping position is changed by the MELSEC-WS engineering software, a mismatch occurs between virtual devices on GOT and MELSEC-WS mapping devices. When mapping is changed, use D devices or LD devices.

(4) When using offset specification

When setting devices using the offset function, the device values are as follows.

(a) Input(I)

Offset	+0	+1	+2	+3	+4	+5	+6	+7	+8 to +15
+0	I1.1	I1.2	I1.3	I1.4	I1.5	I1.6	I1.7	I1.8	Fixed to 0 (OFF)
+16	I2.1	I2.2	I2.3	I2.4	I2.5	I2.6	I2.7	I2.8	
+32	I3.1	I3.2	I3.3	I3.4	I3.5	I3.6	I3.7	I3.8	
+48	I4.1	I4.2	I4.3	I4.4	I4.5	I4.6	I4.7	I4.8	
+64	I5.1	I5.2	I5.3	I5.4	I5.5	I5.6	I5.7	I5.8	
+80	I6.1	I6.2	I6.3	I6.4	I6.5	I6.6	I6.7	I6.8	
+96	I7.1	I7.2	I7.3	I7.4	I7.5	I7.6	I7.7	I7.8	
+112	I8.1	I8.2	I8.3	I8.4	I8.5	I8.6	I8.7	I8.8	
+128	I9.1	I9.2	I9.3	I9.4	I9.5	I9.6	I9.7	I9.8	
+144	I10.1	I10.2	I10.3	I10.4	I10.5	I10.6	I10.7	I10.8	
+160	I11.1	I11.2	I11.3	I11.4	I11.5	I11.6	I11.7	I11.8	
+176	I12.1	I12.2	I12.3	I12.4	I12.5	I12.6	I12.7	I12.8	
+192	Device range error								

(b) Output(Q)

Offset	+0	+1	+2	+3	+4	+5	+6	+7	+8 to +15
+0	Q1.1	Q1.2	Q1.3	Q1.4	Q1.5	Q1.6	Q1.7	Q1.8	Fixed to 0 (OFF)
+16	Q2.1	Q2.2	Q2.3	Q2.4	Q2.5	Q2.6	Q2.7	Q2.8	
+32	Q3.1	Q3.2	Q3.3	Q3.4	Q3.5	Q3.6	Q3.7	Q3.8	
+48	Q4.1	Q4.2	Q4.3	Q4.4	Q4.5	Q4.6	Q4.7	Q4.8	
+64	Q5.1	Q5.2	Q5.3	Q5.4	Q5.5	Q5.6	Q5.7	Q5.8	
+80	Q6.1	Q6.2	Q6.3	Q6.4	Q6.5	Q6.6	Q6.7	Q6.8	
+96	Q7.1	Q7.2	Q7.3	Q7.4	Q7.5	Q7.6	Q7.7	Q7.8	
+112	Q8.1	Q8.2	Q8.3	Q8.4	Q8.5	Q8.6	Q8.7	Q8.8	
+128	Q9.1	Q9.2	Q9.3	Q9.4	Q9.5	Q9.6	Q9.7	Q9.8	
+144	Q10.1	Q10.2	Q10.3	Q10.4	Q10.5	Q10.6	Q10.7	Q10.8	
+160	Q11.1	Q11.2	Q11.3	Q11.4	Q11.5	Q11.6	Q11.7	Q11.8	
+176	Q12.1	Q12.2	Q12.3	Q12.4	Q12.5	Q12.6	Q12.7	Q12.8	
+192	Device range error								

(c) Logic result(LQ)

Offset	+0	+1	+2	+3	+4	+5	+6	+7
+0	LQ0.0	LQ0.1	LQ0.2	LQ0.3	LQ0.4	LQ0.5	LQ0.6	LQ0.7
+8	LQ1.0	LQ1.1	LQ1.2	LQ1.3	LQ1.4	LQ1.5	LQ1.6	LQ1.7
+16	LQ2.0	LQ2.1	LQ2.2	LQ2.3	LQ2.4	LQ2.5	LQ2.6	LQ2.7
+24	LQ3.0	LQ3.1	LQ3.2	LQ3.3	LQ3.4	LQ3.5	LQ3.6	LQ3.7
+32	Device range error							

(d) Logic input(LI)

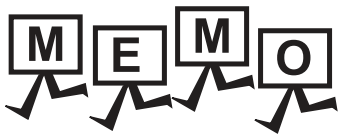
Offset	+0	+1	+2	+3	+4	+5	+6	+7
+0	LI0.0	LI0.1	LI0.2	LI0.3	LI0.4	LI0.5	LI0.6	LI0.7
+8	LI1.0	LI1.1	LI1.2	LI1.3	LI1.4	LI1.5	LI1.6	LI1.7
+16	LI2.0	LI2.1	LI2.2	LI2.3	LI2.4	LI2.5	LI2.6	LI2.7
+24	LI3.0	LI3.1	LI3.2	LI3.3	LI3.4	LI3.5	LI3.6	LI3.7
+32	Device range error							

(e) EFI input(EI)

Offset	+0	+1	+2	+3	+8 to +15
+0	EI110	EI111	EI112	EI113	Fixed to 0
+16	EI120	EI121	EI122	EI123	
+32	EI130	EI131	EI132	EI133	
+48 : +240	Fixed to 0				
+256	EI210	EI211	EI212	EI213	
+272	EI220	EI221	EI222	EI223	
+288	EI230	EI231	EI232	EI233	Device range error
+302	Device range error				

(f) EFI output(EQ)

Offset	+0	+1	+2	+3 to +15
+0	EQ10	EQ11	EQ12	Fixed to 0
+16 : +240	Fixed to 0			
+256	EQ20	EQ21	EQ22	Device range error
+272	Device range error			


MEMO

3

ACCESS RANGE FOR MONITORING

3. ACCESS RANGE FOR MONITORING

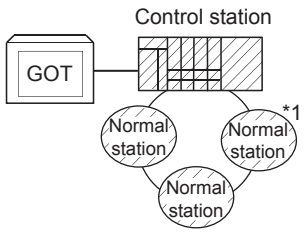
3.1 Access Range for Monitoring Stations on Network Systems

3.1.1 MELSECNET/H, MELSECNET/10, CC-Link IE Controller Network, CC-Link IE Field Network

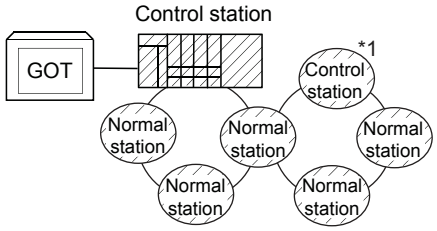
■ Bus connection

(1) When connecting to multiple CPU system

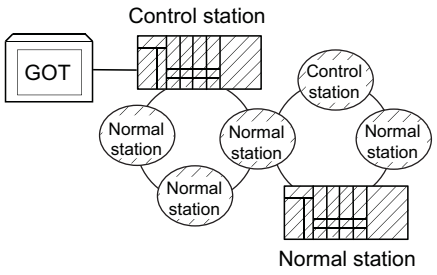
• The GOT can monitor the control station and all the normal stations on the network.



• The GOT can monitor the control station and all the normal stations on other networks.
(For monitoring stations on other networks, be sure to set the routing parameter)
When the Universal model QCPU is used as a relay station, the GOT can monitor stations with the station No.65 or later in the CC-Link IE controller network.



• When connecting to the multiple CPU system, the GOT can monitor CPU No.1 to No.4.



• Devices of other stations (other than devices B and W that are allocated by the network parameter) may not allow monitoring depending on their PLC CPU.

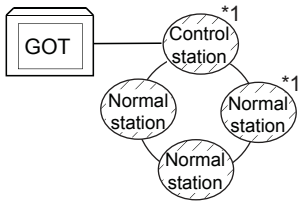
☞ ■ Monitor accessible range of other stations and setting method of monitor devices (Examples 1 to 2)

• The motion controller CPU (Q Series) at other stations cannot be monitored.

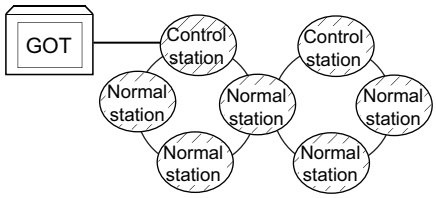
*1 The control station and normal station correspond to the master station and local station in the CC-Link IE field network respectively.

(2) When connecting to QCPU (Q mode)/QnACPU/AnUCPU

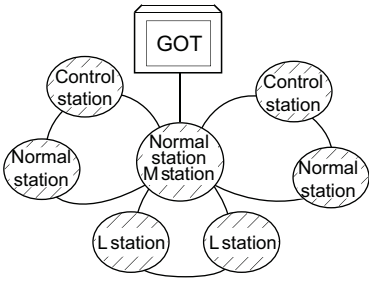
- The GOT can monitor the control station and all the normal stations on the network.



- The GOT can monitor the control station and all the normal stations on other networks.
  (For monitoring stations on other networks, be sure to set the routing parameter)
  When the Universal model QCPU is used as a relay station, the GOT can monitor stations with the station No.65 or later in the CC-Link IE controller network.



- When connected to a relay station and the data link system is included, the master station and local stations can be monitored.
- When connected to a relay station, it is not necessary to designate the data link parameter [Effective unit number for accessing other stations] for the PLC CPU of the connected station. (Even if designated, the parameter is ignored)



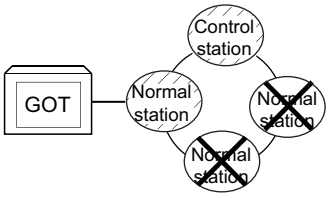
- Devices of other stations (other than devices B and W that are allocated by the network parameter) may not allow monitoring depending on their PLC CPU.

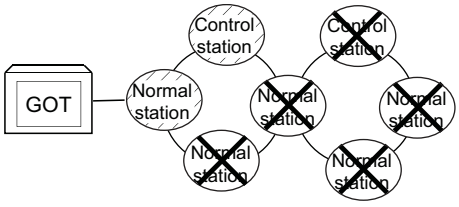
☞ ■ Monitor accessible range of other stations and setting method of monitor devices (Examples 1 to 2)

*1 The control station and normal station correspond to the master station and local station in the CC-Link IE field network respectively.

(3) When connecting to AnACPU/AnNCPU

- The GOT can monitor the control station on the network.
  When the PLC CPU on the control station is the QCPU (Q mode) or QnACPU, the GOT cannot monitor devices other than B and W assigned for the network parameter.
- The GOT cannot monitor normal stations on the network.
- The GOT cannot monitor any stations on the other networks.



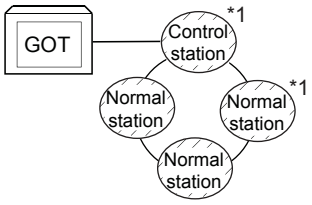


■ Direct CPU connection/computer link connection

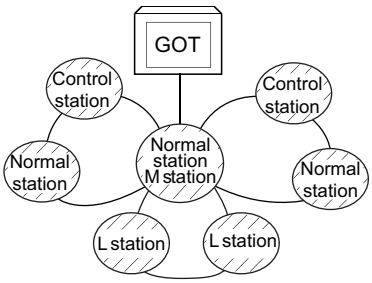
(1) When connecting to multiple CPU system
- Corresponding to the access range described in ■ Bus connection (1).

(2) When connecting to QCPU (Q mode)/QnACPU
- Corresponding to the access range described in ■ Bus connection (2).

(3) When connecting to QCPU (A mode)/AnUCPU
- The GOT can monitor the control station and all the normal stations on the network.
  For monitoring devices (other than B and W assigned for the network parameter) of other stations, the GOT cannot monitor the devices of the PLC CPU that is the QCPU (Q mode) or QnACPU.



- If connected to a relay station, use data link parameter [Effective unit number for accessing other stations] to designate the unit number that is connected to the network to be monitored.



(4) When connecting to AnACPU/AnNCPU
- Corresponding to the access range described in ■ Bus connection (3).

(5) When connecting to motion controller CPU (Q series), CNC (CNC C70), or robot controller (CRnQ-700) via direct CPU connection
Monitor the motion controller CPU (Q series), CNC (CNC C70), or robot controller (CRnQ-700) via the following QCPUs in the multiple CPU system.

Controller		Relay CPU
Motion controller CPU (Q Series)	Q172HCPU, Q173HCPU	QCPU (Q mode)
	Q172DCPU, Q173DCPU	QnUCPU
CNC (CNC C70)	Q173NCCPU	
Robot controller (CRnQ-700)	Q172DRCPU	

*1 The control station and normal station correspond to the master station and local station in the CC-Link IE field network respectively.

■ CC-Link connection (intelligent device station), CC-Link connection (via G4)

- Only the station connected to the GOT can be monitored.

  ☞ ■ Monitor accessible range of other stations and setting method of monitor devices Example 6: When using CC-Link connection (intelligent device station) /CC-Link connection (via G4)

- When the station connected to the GOT is in the multiple CPU system, the GOT can monitor CPU No.1 to No.4.
- The GOT cannot monitor other stations.

■ MELSECNET/H connection, MELSECNET/10 connection, CC-Link IE Controller Network connection, CC-Link IE Field Network connection

POINT

Precautions for cyclic transmission

When transmitting cyclic transmission with a GOT, even if link device X and/or Y are assigned to a GOT when setting the network parameter for the control station, the GOT cannot access the host station.
When transmitting cyclic transmission, use link device B and/or W.

• The GOT is regarded as a normal station and monitors the control station and all normal stations on the network.
When the monitoring target is a PLC CPU within a multiple CPU system, the GOT can monitor CPU No. 1 to CPU No. 4 by specifying CPU No.
• When monitoring other networks, a CPU on another Ethernet, MELSECNET/H, MELSECNET/10, CC-Link IE Controller Network, or CC-Link field network is accessible via the PLC CPU.
However, the GOT cannot monitor the CNC C70 on other networks.
On the Ethernet network, only QCPU (Q mode) and QnACPU can be accessed.
• When monitoring other networks in MELSECNET/10 connection, install the MELSECNET/H communication unit on the GOT.
• To monitor other networks, setting of routing parameters is required.
For routing parameter setting, refer to the following manuals.

Routing parameter setting for the GOT

☞ 9. MELSECNET/H CONNECTION (PLC TO PLC NETWORK), MELSECNET/10 CONNECTION (PLC TO PLC NETWORK)

☞ 10. CC-Link IE CONTROLLER NETWORK CONNECTION

☞ 11. CC-Link IE FIELD NETWORK CONNECTION

Routing parameter setting for the PLC CPU (MELSECNET/H network system, MELSECNET/10 network system)

☞ Q Corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

Routing parameter setting for the PLC CPU (When connecting to the CC-Link IE Controller Network)

☞ CC-Link IE Controller Network Reference Manual

Routing parameter setting for the PLC CPU (When connecting to the CC-Link IE Field Network)

☞ CC-Link IE Field Network Master/Local Module User's Manual

• If devices of other stations (other than devices B and W that are allocated by the network parameter) are monitored, monitoring may not be available depending on the PLC CPU of the network system to be monitored.

☞ ■ Monitor accessible range of other stations and setting method of monitor devices Example 5: When using MELSECNET/10 connection

POINT

Precautions when using the QCPU redundant system

When monitoring other networks, do not set the QCPU redundant system as a relay station.
If the QCPU redundant system is set as a relay station, the GOT cannot switch the monitoring target automatically when the system is switched.
(A timeout error occurs due to failed monitoring)

■ Monitoring devices of other stations on the network

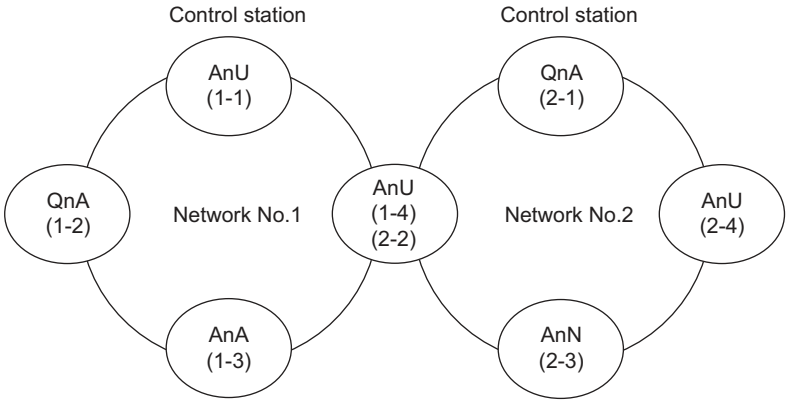
If devices of other stations on the network system are monitored, the display speed will be significantly reduced. Therefore, monitor the link relay (B) and link register (W) that are allocated by the network parameter.

■ Monitoring devices of other networks (Bus connection, CPU direct connection, computer link connection)

- Be sure to designate the routing parameter to the PLC CPU of the connected station.
- If another network is monitored, the display speed of object etc. will be significantly reduced.

■ Monitor accessible range of other stations and setting method of monitor devices

Example 1: When using bus connection



- Monitor accessible range of devices (other than B or W) of other stations or other networks
  Specify the accessing network No. or station as shown in the following table.

(1) To monitor B or W of the connected station (host station) assigned with a network parameter, specify the host station.

(2) To monitor another station (other than B or W) or another network, specify the station (network No. and station No.).

Station to be accessed / Station connected to GOT	Network No.1				Network No.2			
	AnU (1-1)	QnA (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	○	×	○	○	×	○	×	○
	Host	—	Other (1-3)	Other (1-4)	—	Other (2-2)	—	Other (2-4)
QnA (1-2)	○	○	×	○	○	○	×	○
	Other (1-1)	Host	—	Other (1-4)	Other (2-1)	Other (2-2)	—	Other (2-4)
AnA (1-3)	○	×	○	×	×	×	×	×
	Other (0-0)	—	Host	—	—	—	—	—
AnU (1-4) (2-2)	○	×	×	○	×	○	×	○
	Other (1-1)	—	—	Host	—	Host	—	Other (2-4)
QnA (2-1)	○	○	×	○	○	○	○	○
	Other (1-1)	Other (1-2)	—	Other (1-4)	Host	Other (2-2)	Other (2-3)	Other (2-4)
AnN (2-3)	×	×	×	×	×	×	○	×
	—	—	—	—	—	—	Host	—
AnU (2-4)	○	×	×	○	×	○	×	○
	Other (1-1)	—	—	Other (1-4)	—	Other (2-2)	—	Host

How to read the table

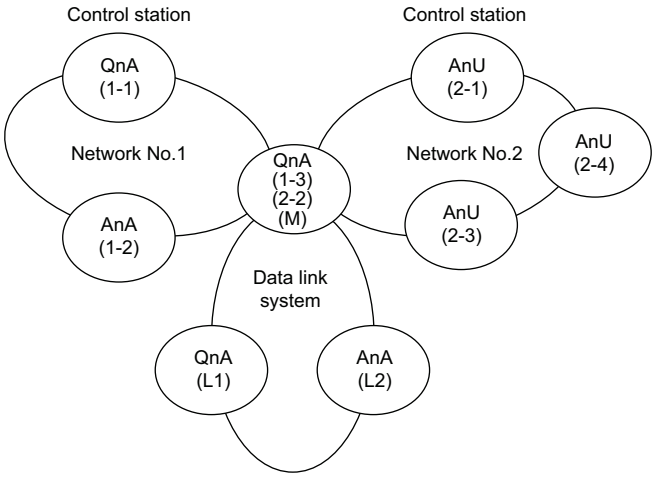
Upper line: Accessibility
○: Accessible
×: Not accessible
Lower line: Network settings
Host
Other (Network No. - Station number)

POINT

Monitoring link device B or W

For monitoring devices B and W that are allocated by the link parameter, use the host device number even when designating devices allocated to another station.
Otherwise, the display speed will be reduced.

Example 2: When using bus connection



- Monitor accessible range of devices (other than B or W) of other stations or other networks
  Specify the accessing network No. or station as shown in the following table.

(1) To monitor B or W of the connected station (host station) assigned with a network parameter, specify the host station.

(2) To monitor another station (other than B or W) or another network, specify the station (network No. and station No.).

Station to be accessed / Station connected to GOT	Network No.1			Network No.2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	AnU (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
QnA (1-1)	○	○	○	○	○	○	○	○	×	×
	Host	Other (1-2)	Other (1-3)	Other (2-1)	Other (2-2)	Other (2-3)	Other (2-4)	Other (1-3) or Other (2-2)	—	—
AnA (1-2)	×	○	×	×	×	×	×	×	×	×
	—	Host	—	—	—	—	—	—	—	—
QnA (1-3) (2-2) (M)	○	×	○	○	○	○	○	○	×	○
	Other (1-1)	—	Host	Other (2-1)	Host	Other (2-3)	Other (2-4)	Host	—	Other (0-2)*1
AnU (2-1)	×	×	×	○	×	○	○	×	×	×
	—	—	—	Host	—	Other (2-3)	Other (2-4)	—	—	—
AnU (2-3)	×	×	×	○	×	○	○	×	×	×
	—	—	—	Other (2-1)	—	Host	Other (2-4)	—	—	—
AnU (2-4)	×	×	×	○	×	○	○	×	×	×
	—	—	—	Other (2-1)	—	Other (2-3)	Host	—	—	—
QnA (L1)	×	×	×	×	×	×	×	×	○	×
	—	—	—	—	—	—	—	—	Host	—
AnA (L2)	×	×	×	×	×	×	×	×	×	○
	—	—	—	—	—	—	—	—	—	Host

*1 When monitoring the data link system, designate the network No. as 0.

How to read the table

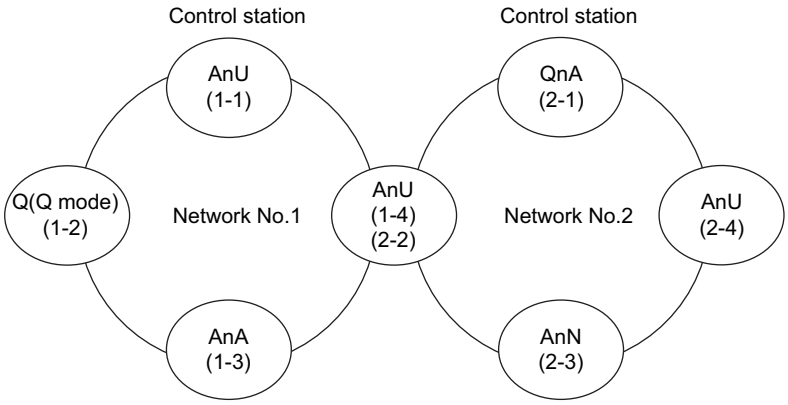
Upper line: Accessibility
○: Accessible
×: Not accessible

Lower line: Network settings
Host
Other (Network No. - Station number)

POINT

Monitoring link device B or W
For monitoring devices B and W that are allocated by the link parameter, use the host device number even when designating devices allocated to another station.
Otherwise, the display speed will be reduced.

Example 3: When using CPU direct connection or computer link connection



- Monitor accessible range of devices (other than B or W) of other stations or other networks
  Specify the accessing network No. or station as shown in the following table.

(1) To monitor B or W of the connected station (host station) assigned with a network parameter, specify the host station.

(2) To monitor another station (other than B or W) or another network, specify the station (network No. and station No.).

Station to be accessed / Station connected to GOT	Network No.1				Network No.2			
	AnU (1-1)	Q(Q mode) (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	○	×	○	○	×	○	×	×
	Host	—	Other (1-3)	Other (1-4)	—	Other (2-2)	—	—
Q (Q mode) (1-2)	○	○	×	○	○	○	×	○
	Other (1-1)	Host	—	Other (1-4)	Other (2-1)	Other (2-2)	—	Other (2-4)
AnA (1-3)	○	×	○	×	×	×	×	×
	Other (0-0)	—	Host	—	—	—	—	—
AnU (1-4) (2-2)	○	×	×	○	×	○	×	×
	Other (1-1)	—	—	Host	—	Host	—	—
QnA (2-1)	○	○	×	○	○	○	○	○
	Other (1-1)	Other (1-2)	—	Other (1-4)	Host	Other (2-2)	Other (2-3)	Other (2-4)
AnN (2-3)	×	×	×	×	×	×	○	×
	—	—	—	—	—	—	Host	—
AnU (2-4)	×	×	×	×	×	○	×	○
	—	—	—	—	—	Other (2-2)	—	Host

How to read the table

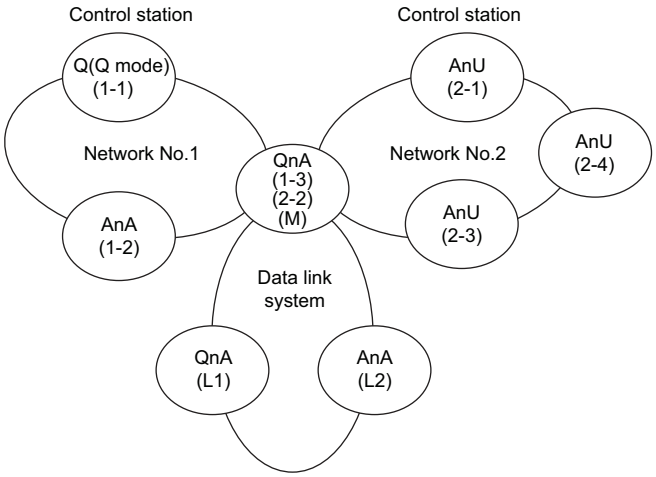
Upper line: Accessibility
○: Accessible
×: Not accessible
Lower line: Network settings
Host
Other (Network No. - Station number)

POINT

Monitoring link device B or W

For monitoring devices B and W that are allocated by the link parameter, use the host device number even when designating devices allocated to another station.
Otherwise, the display speed will be reduced.

Example 4: When using CPU direct connection or computer link connection



- Monitor accessible range of devices (other than B or W) of other stations or other networks
  Specify the accessing network No. or station as shown in the following table.

(1) To monitor B or W of the connected station (host station) assigned with a network parameter, specify the host station.

(2) To monitor another station (other than B or W) or another network, specify the station (network No. and station No.).

Station to be accessed / Station connected to GOT	Network No.1			Network No.2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	AnU (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
Q (Q mode) (1-1)	○	○	○	○	○	○	○	○	×	×
	Host	Other (1-2)	Other (1-3)	Other (2-1)	Other (2-2)	Other (2-3)	Other (2-4)	Other (1-3) or Other (2-2)	—	—
AnA (1-2)	×	○	×	×	×	×	×	×	×	×
	—	Host	—	—	—	—	—	—	—	—
QnA (1-3) (2-2) (M)	○	×	○	○	○	○	○	○	×	○
	Other (1-1)	—	Host	Other (2-1)	Host	Other (2-3)	Other (2-4)	Host	—	*1 Other (0-2)
AnU (2-1)	×	×	×	○	×	○	○	×	×	×
	—	—	—	Host	—	Other (2-3)	Other (2-4)	—	—	—
AnU (2-3)	×	×	×	○	×	○	○	×	×	×
	—	—	—	Other (2-1)	—	Host	Other (2-4)	—	—	—
AnU (2-4)	×	×	×	○	×	○	○	×	×	×
	—	—	—	Other (2-1)	—	Other (2-3)	Host	—	—	—
QnA (L1)	×	×	×	×	×	×	×	×	○	×
	—	—	—	—	—	—	—	—	Host	—
AnA (L2)	×	×	×	×	×	×	×	×	×	○
	—	—	—	—	—	—	—	—	—	Host

*1 When monitoring the data link system, designate the network No. as 0.

How to read the table

Upper line: Accessibility
○: Accessible
×: Not accessible

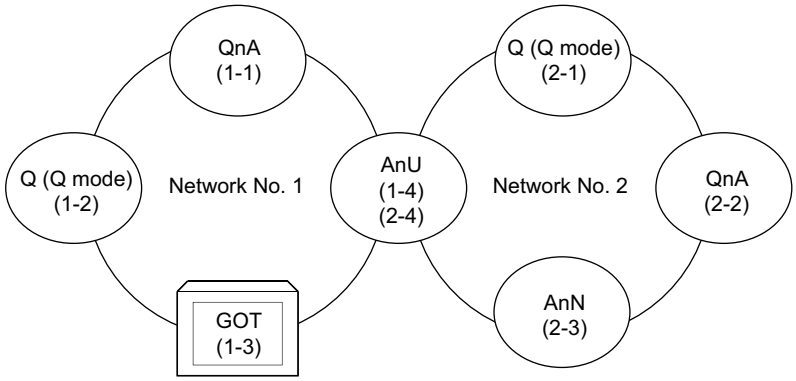
Lower line: Network settings
Host
Other (Network No. - Station number)

POINT

Monitoring link device B or W

For monitoring devices B and W that are allocated by the link parameter, use the host device number even when designating devices allocated to another station.
Otherwise, the display speed will be reduced.

Example 5: When using MELSECNET/10 connection



• Monitor access range for other station devices (other than B and W)

Station to be accessed / Station connected to GOT	Network No.1				Network No.2			
	QnA (1-1)	Q (Q mode) (1-2)	GOT (1-3)	AnU (1-4)	Q (Q mode) (2-1)	QnA (2-2)	AnN (2-3)	AnU (2-4)
GOT (1-3)	○	○	——	○	○	○	×	○

○: Accessible ×: Not accessible

• Designating network No. and station number for setting monitor device

(a) Monitoring devices B and W that are allocated by network parameter
NW No.: 1, Station number: Host

POINT

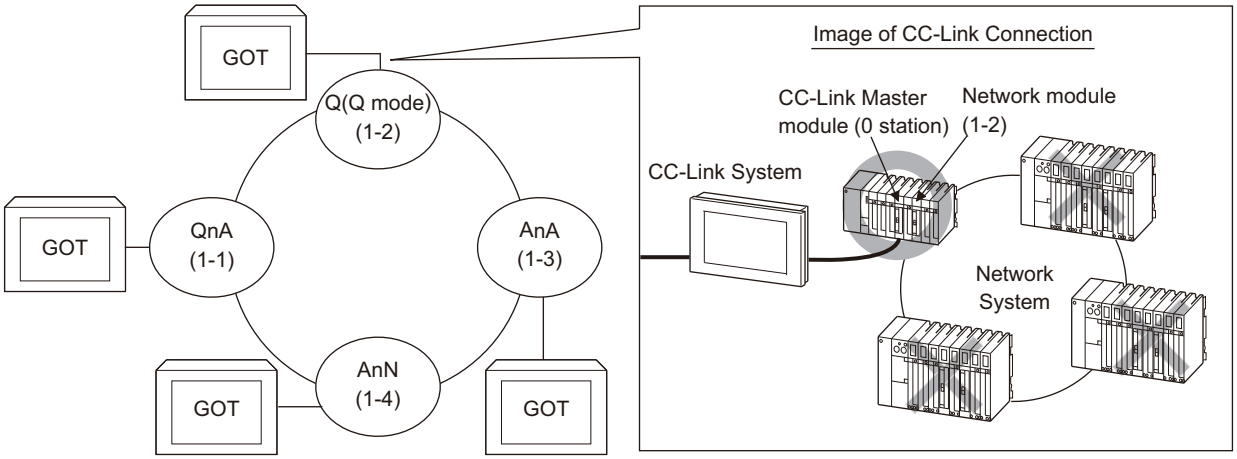
For monitoring devices B and W that are allocated by the link parameter, use the local device number if designating devices allocated to another station.
Otherwise, the display speed will be reduced.

(b) Monitoring other stations (other than B and W)

Station to be accessed / Station connected to GOT	QnA (1-1)	Q (Q mode) (1-2)	GOT (1-3)	AnU (1-4)
GOT (1-3)	1, Other (1)	1, Other (2)	——	1, Other (4)

How to read the table 1, Other (2)
↑ ↑
NW No. Station number

Example 6: When using CC-Link connection (intelligent device station) /CC-Link connection (via G4)



Station to be accessed / Station connected to GOT	QnA (1-1)	Q (Q mode) (1-2)	AnA (1-3)	AnN (1-4)
QnA (1-1)	○	×	×	×
Q(Q mode) (1-2)	×	○	×	×
AnA (1-3)	×	×	○	×
AnN (1-4)	×	×	×	○

○: Accessible ×: Not accessible

3.2 Access Range for Monitoring when Using Ethernet Connection

■ Access range

(1) MITSUBISHI PLC

The PLC can be monitored via the Ethernet module set in the Ethernet setting on GT Designer3.
The GOT can access CPUs on another Ethernet, MELSECNET/H, MELSECNET/10, CC-Link IE Controller Network, or CC-Link field network via the QCPU or QnACPU.
However, the GOT cannot monitor the CNC C70 on other networks.
(The GOT cannot monitor the AnNCPU on the CC-Link IE Controller Network, MELSECNET/H, and MELSECNET/10 networks)
For monitoring CPUs on the MELSECNET/H, MELSECNET/10, CC-Link IE Controller Network, and CC-Link field network, set the routing parameter.
For the routing parameter setting, refer to the following manuals.

- Routing parameter setting of the GOT

  ☞ 5. ETHERNET CONNECTION

- Routing parameter setting for accessing CPUs on the MELSECNET/H network system, or MELSECNET/10 network system

  ☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

- Routing parameter setting for accessing CPUs on the CC-Link IE Controller Network

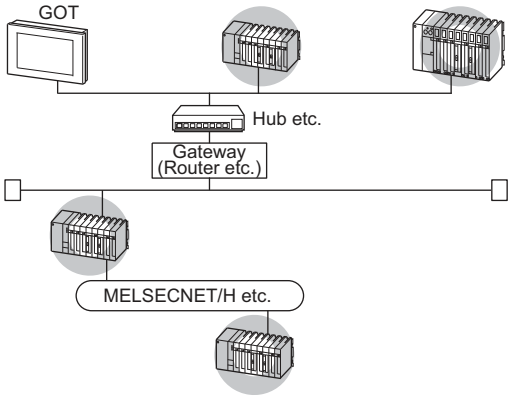
  ☞ CC-Link IE Controller Network Reference Manual

- Routing parameter setting for accessing CPUs on the CC-Link IE Field Network

  ☞ MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual

  ☞ CC-Link IE Field Network Ethernet Adapter Module User's Manual

Monitoring via the MELSECNET (II) or MELSECNET/B network cannot be performed.



POINT

(1) Host in the Ethernet connection

While the GOT is handled as the host in MELSECNET/H, MELSECNET/10 or CC-Link connection, the station (Ethernet module) set as the host in the Ethernet setting of GT Designer3 is handled as the host in Ethernet connection.

(2) Precautions when using the QCPU redundant system

When monitoring other networks, do not set the QCPU redundant system as a relay station.
If the QCPU redundant system is set as a relay station, the GOT cannot switch the monitoring target automatically when the system is switched.
(A timeout error occurs due to failed monitoring)

■ Various settings

For the Ethernet setting by GT Designer3, refer to the following.

☞ 5. ETHERNET CONNECTION

3.3 CC-Link System Access Range for Monitoring

■ When using Bus connection/CPU direct connection/computer link connection

Only connected stations can be monitored.

■ When using CC-Link connection (intelligent device station)

(1) Access range

The master station and local station can be monitored.

○: Can be monitored, ×: Cannot be monitored

Monitor target	Monitoring by cyclic transmission	Monitoring by transient transmission
Master station (Remote network Ver.2 mode)	○	○
Local station Station No.1 (Ver.1 compatible)	○	○
Local station Station No.6 (Ver.2 compatible)	○*1	○

*1 Monitoring is available only when the CC-Link communication module is the GT15-J61BT13.

All devices RX, RY, RWw and RWr that are allocated to the master station by the CC-Link parameter setting can be monitored.
When the monitor target is the multi-PLC system, CPU No. 1 to No. 4 can be monitored.
The device range of RX, RY, RWw, RWr to be allocated to the GOT differs according to the setting of the number of CC-Link communication units (one station/four station) occupied.
For details on the number of CC-Link stations occupied, refer to the following manual .

☞ User's manual of the CC-Link master unit to be connected

(2) Setting device name and device number

(a) Monitoring devices RX, RY, RWw and RWr that are allocated to the master station by CC-Link parameter setting

Use the following device names.
For devices RX, RY, RWw and RWr, designate the addresses allocated by station number setting.

- In the case of CC-Link Ver.2 (Device names to be refreshed automatically are indicated as X, Y, and D.)

Device name on PLC CPU		Automatic refresh	Device name on master station		Link scan	GT Designer3 settings	
						Device name	Set device range
Input	X	←	Remote input	RX	←	X	X0 to X1FFF
Output	Y	→	Remote output	RY	→	Y	Y0 to Y1FFF
Register (write area)	D	←	Remote register (write area)	RWw	←	Ww	Ww0 to Ww7FF
Register (read area)	D	→	Remote register (read area)	RWr	→	Wr	Wr0 to Wr7FF

- In the case of CC-Link Ver.1 (Device names to be refreshed automatically are indicated as X, Y, and D.)

Device name on PLC CPU		Automatic refresh	Device name on master station		Link scan	GT Designer3 settings	
						Device name	Set device range
Input	X	←	Remote input	RX	←	X	X0 to X7FF
Output	Y	→	Remote output	RY	→	Y	Y0 to Y7FF
Register (write area)	D	←	Remote register (write area)	RWw	←	Ww	Ww0 to WwFF
Register (read area)	D	→	Remote register (read area)	RWr	→	Wr	Wr0 to WrFF

(b) Monitoring PLC CPU devices of other stations
Set the device name and device No.

☞ 2. DEVICE RANGE THAT CAN BE SET

(3) Setting NW No. and station number

(a) When monitoring devices RX, RY, RWw and RWr that are allocated to the master station by CC-Link parameter setting
NW No.: 0, PLC station number: Local

(b) When monitoring PLC CPU devices of another station
NW No. 0, PLC station number: Other (Station number: n)
(n: Station number of another station to be monitored (0: Master station, 1-64: Local station))

POINT

For monitoring devices RX, RY, RWw and RWr that are allocated by CC-Link parameter, use the local device even if designating devices allocated to another station.
Otherwise, the display speed will be reduced.

■ When using CC-Link connection (via G4) (Q series only)

(1) Access range
GT27 can monitor the master station and local stations.

(2) Setting NW No. and station number

(a) When monitoring master station
NW No.: 0, PLC station number: Host/other (station number: 0)

(b) When monitoring local station
NW No.: 0, PLC station number: Other (station number: 1 to 64)

(3) Setting device name and device number
Set the device name and device No.

☞ 2. DEVICE RANGE THAT CAN BE SET

■ Monitoring overview

The following two methods are available for monitoring by the GOT with CC-Link communication unit.

Monitoring method	Monitoring by transient transmission*2	Monitoring by cyclic transmission*2
Contents	Devices of the PLC CPU on the CC-Link system master and local station are specified and monitored.	All remote inputs/outputs and remote registers assigned to the Master station by CC-Link parameter setting are specified and monitored.
Advantage	The CC-Link parameter setting sequence program is required. However, the GOT communication sequence program is not needed.*1	The data communication processing speed is high.
Disadvantage	The data communication processing speed is lower than that of cyclic transmission.	• Writing from the GOT (read command from the master station) can be performed only to remote outputs and remote registers assigned to the GOT of the master station and to the GOT internal registers. • GOT communication sequence program is required.*1

*1 This program is not required if the CC-Link parameter setting sequence program and GOT communication sequence program satisfy the following conditions.

- Use a QCPU (Q mode) or QnACPU whose number given in the DATE field of the rating plate is "9707B" or later as the PLC CPU of the master station.
- Use GX Developer or SW2□-GPPW and make CC-Link parameter setting and batch refresh device setting in the CC-Link setting on the package.
  For details of the connection method, refer to the following manual .

☞ User's manual of the CC-Link master unit to be connected

*2 For whether the data can be sent to/received from the CC-Link Ver. 2 compatible station by transient transmission and cyclic transmission, refer to the following.

☞ ■ When using CC-Link connection (intelligent device station)

POINT

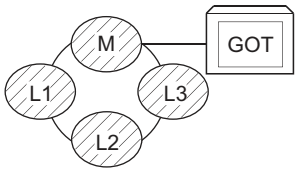
In transient transmission, connection of several (five or more as a guideline) intelligent device stations (GOTs and intelligent device units) reduces the data communication speed.
To raise the data communication speed, increase the CC-Link system, for example, and do not connect five or more intelligent device stations to a single CC-Link system.

3.4 Data Link System (MELSECNET/B, (II)) Access Range for Monitoring

■ Bus connection, CPU direct connection, Computer link connection

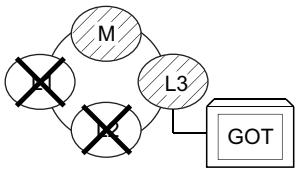
(1) When connecting to the master station

- Local stations can be monitored.
  When the PLC CPU of the local station is QnACPU, devices other than B and W that are allocated by the link parameter cannot be monitored.



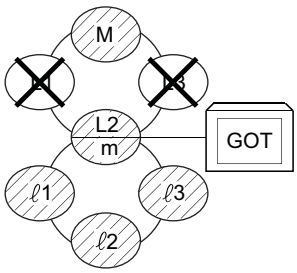
(2) When connecting to the local station

- The master station can be monitored.
  However, when the PLC CPU of the local station is QnACPU, devices other than B and W that are allocated by the link parameter cannot be monitored.
- Other local stations cannot be monitored.



(3) When connecting to the master station on the third layer

- The master station on the second layer and local stations on the third layer can be monitored.
  However, when the PLC CPU of the local station is QnACPU, devices other than B and W that are allocated by the link parameter cannot be monitored.
- Local stations on the second layer cannot be monitored.

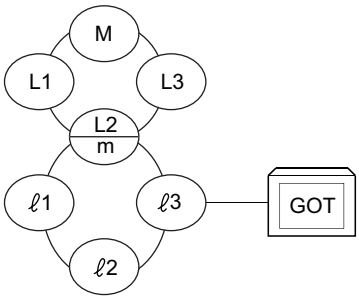


■ Monitoring devices of other stations

If devices of other stations on the data link system are monitored, the display speed will be significantly reduced. Therefore monitor the link relay (B) and link register (W) that are allocated by the link parameter.

■ Setting method of monitor device

The following example describes the method of setting the network No. and the station numbers when setting monitor devices .



(1) Monitoring the connected station (host station) and B and W allocated by the link parameter
Specify the host station.

(2) Monitoring devices of other stations
Network No.: 0, Station number: Refer to the following table.

Setting of the station No.

Station connected to GOT \ Station to be accessed	M	L1	L2 m	L3	ℓ1	ℓ2	ℓ3
M	Host	Other 1	Other 2	Other 3	—	—	—
L1	Other 0	Host	—	—	—	—	—
L2 m	Other 0	—	Host	—	Other 1	Other 2	Other 3
L3	Other 0	—	—	Host	—	—	—
ℓ1	—	—	Other 0	—	Host	—	—
ℓ2	—	—	Other 0	—	—	Host	—
ℓ3	—	—	Other 0	—	—	—	Host

POINT

Monitoring link device B or W

For monitoring devices B and W that are allocated by the link parameter, use the host device number even when designating devices allocated to another station.
Otherwise, the display speed will be reduced.

3.5 Access Range for Monitoring when Connecting FXCPU

The access range that can be monitored for the direct CPU connection is only the connected CPU. (The GOT cannot monitor other stations.)
The access range that can be monitored for the Ethernet connection is the host and others.
The access range that can be monitored for the multi-drop communication is only the CPU to which the serial multi-drop connection unit (GT01-RS4-M) is connected directly.

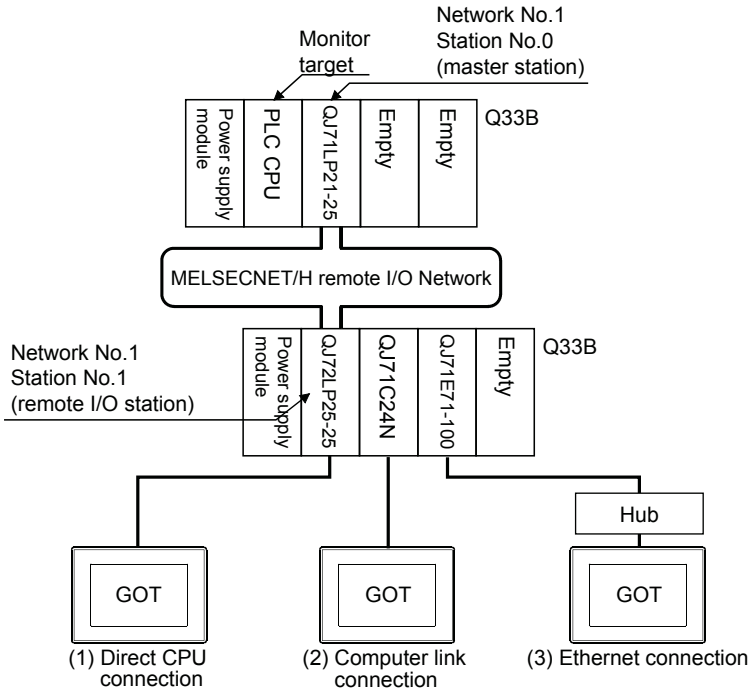
3.6 Connection to Remote I/O Station in MELSECNET/H Network System

When connected to the remote I/O station of the MELSECNET/H network system, the GOT can monitor the PLC CPU of the master station.
When connecting the GOT to the remote I/O station, use the following connection methods.

POINT

Connection to remote I/O station of MELSECNET/B, (II) or /10

The GOT cannot be connected to the remote I/O station on the MELSECNET/B, (II) data link system and MELSECNET/10 network system.
Connect the GOT to the remote I/O station on the MELSECNET/H network system.



■ Direct CPU connection

(1) The network units (QJ72LP25-25, QJ72LP25G, QP72BR15) of the remote I/O station are handled as PLC CPU. Connect the GOT to the RS-232 interface of the network unit.
For cables required for connection with the network module and other details, refer to the following.

☞ 6. DIRECT CONNECTION TO CPU

(2) Specify a type including MELSEC-Q (including multiple), or MELSEC-QnU for the controller type on GT Designer3. Then, specify [[NW No.] (Network No. of the remote I/O network) to 1, and specify [Station No.] (Master station) to 0.] as the monitoring target in the network setting of the device setting dialog box. (GT16, GT15 only)
The GOT monitors stations on the MELSECNET/H network with the transient transmission.
Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, execute the cyclic transmission so that the GOT can monitor link devices B and W of the host station set in the MELSECNET/H network.
For settings required for the PLC CPU, refer to the following manual.

☞ Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/Q network)

(3) To monitor other networks, set the routing parameter to the PLC CPU as necessary. For routing parameter settings of the PLC CPU, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

■ Computer link connection

(1) Connect the GOT to the serial communication module (QJ71C24, QJ71C24-R2, QJ71C24N, QJ71C24N-R2, QJ71C24N-R4) or modem interface module (QJ71CMO) mounted on the remote I/O station.
For the cables required for connection with the serial communication module or modem interface module and other details, refer to the following.

☞ 7. COMPUTER LINK CONNECTION

(2) Specify a type including MELSEC-Q (including multiple), or MELSEC-QnU for the controller type on GT Designer3. Then, specify [[NW No.] (Network No. of the remote I/O network) to 1, and specify [Station No.] (Master station) to 0.] as the monitoring target in the network setting of the device setting dialog box. (GT16, GT15 only)
The GOT monitors stations on the MELSECNET/H network with the transient transmission.
Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, execute the cyclic transmission so that the GOT can monitor link devices B and W of the host station set in the MELSECNET/H network.
For settings required for the PLC CPU, refer to the following manual.

☞ Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/Q network)

(3) To monitor other networks, set the routing parameter to the PLC CPU as necessary. For routing parameter settings of the PLC CPU, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

■ Ethernet connection

(1) Connect the GOT to the Ethernet module (QJ71E71-100, QJ71E71-B5, QJ71E71-B2, QJ71E71) mounted on the remote I/O station.
For details of cables and others required for connecting the GOT to the Ethernet module, refer to the following.

☞ 5. ETHERNET CONNECTION

(2) Specify a type including MELSEC-Q (including multiple), or MELSEC-QnU for the controller type on GT Designer3. Then, specify [[NW No.] (Network No. of the remote I/O network) to 1, and specify [Station No.] (Master station) to 0.] as the monitoring target in the network setting of the device setting dialog box. (GT16, GT15 only)
The GOT monitors stations on the MELSECNET/H network with the transient transmission.Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, execute the cyclic transmission so that the GOT can monitor link devices B and W of the remote I/O station.
For settings required for the PLC CPU, refer to the following manual.

☞ Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/Q network)

(3) To monitor other networks, set the routing parameter to the GOT and PLC CPU as necessary. For routing parameter settings of the GOT, refer to the following manual.

☞ 5. ETHERNET CONNECTION

For routing parameter settings of the PLC CPU, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

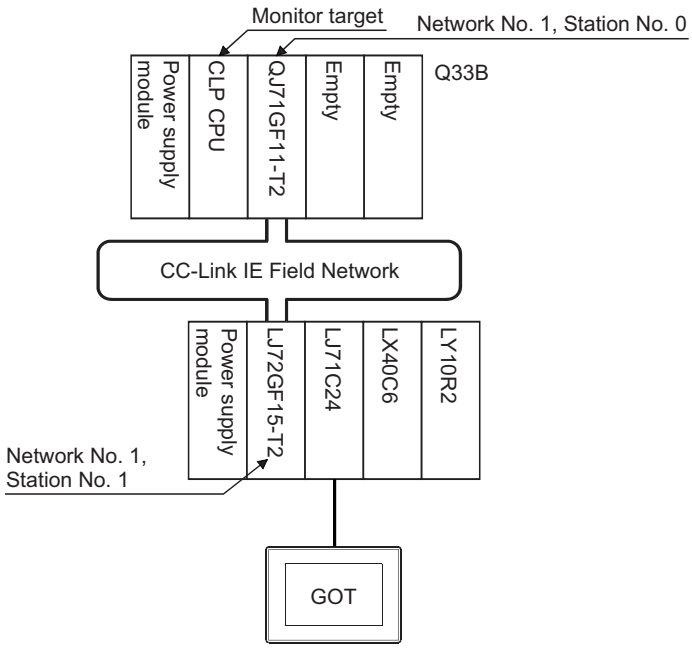
■ Restrictions on connection to remote I/O station

The GOT does not allow the clock of the master station to be set in the clock setting of the utility function.
The master station clock will not change even if the clock setting is made.
Use GX Developer or a similar software to set the PLC CPU clock of the master station.

3.7 Connection to the Head Module of CC-Link IE Field Network System

When connected to the head module of the CC-Link IE Field Network, the GOT can monitor the PLC CPUs of the master station and local stations. When connecting the GOT to the head module, use the following connection methods.

■ Computer link connection



(1) Connect the GOT to the serial communication module (LJ71C24, LJ71C24-R2) mounted on the head module. For cables required for connection with the serial communication module and other details, refer to the following.

☞ 7. COMPUTER LINK CONNECTION

(2) Specify a GOT type which includes MELSEC-QnU in the controller type on GT Designer3. Then, specify [Network No. 1 (Network No. of CC-Link IE Field Network), Station No. 0 (Master station)] as the monitoring target in the network setting of the device setting dialog box. (GT16, GT15, GT14 only)
In this case, the GOT monitoring is performed by transient transmission of the CC-Link IE Field Network. Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, execute the cyclic transmission so that the GOT can monitor link devices B and W of the host station set in the CC-Link field network.
For settings required for the PLC CPU, refer to the following manual.

☞ MELSEC-L CC-Link IE Field Network Head Module User's Manual

(3) To monitor other networks, set the routing parameter to the PLC CPU as necessary. For routing parameter setting of the PLC CPU, refer to the following manual.

☞ MELSEC-L CC-Link IE Field Network Head Module User's Manual

■ Restrictions on connection to head module

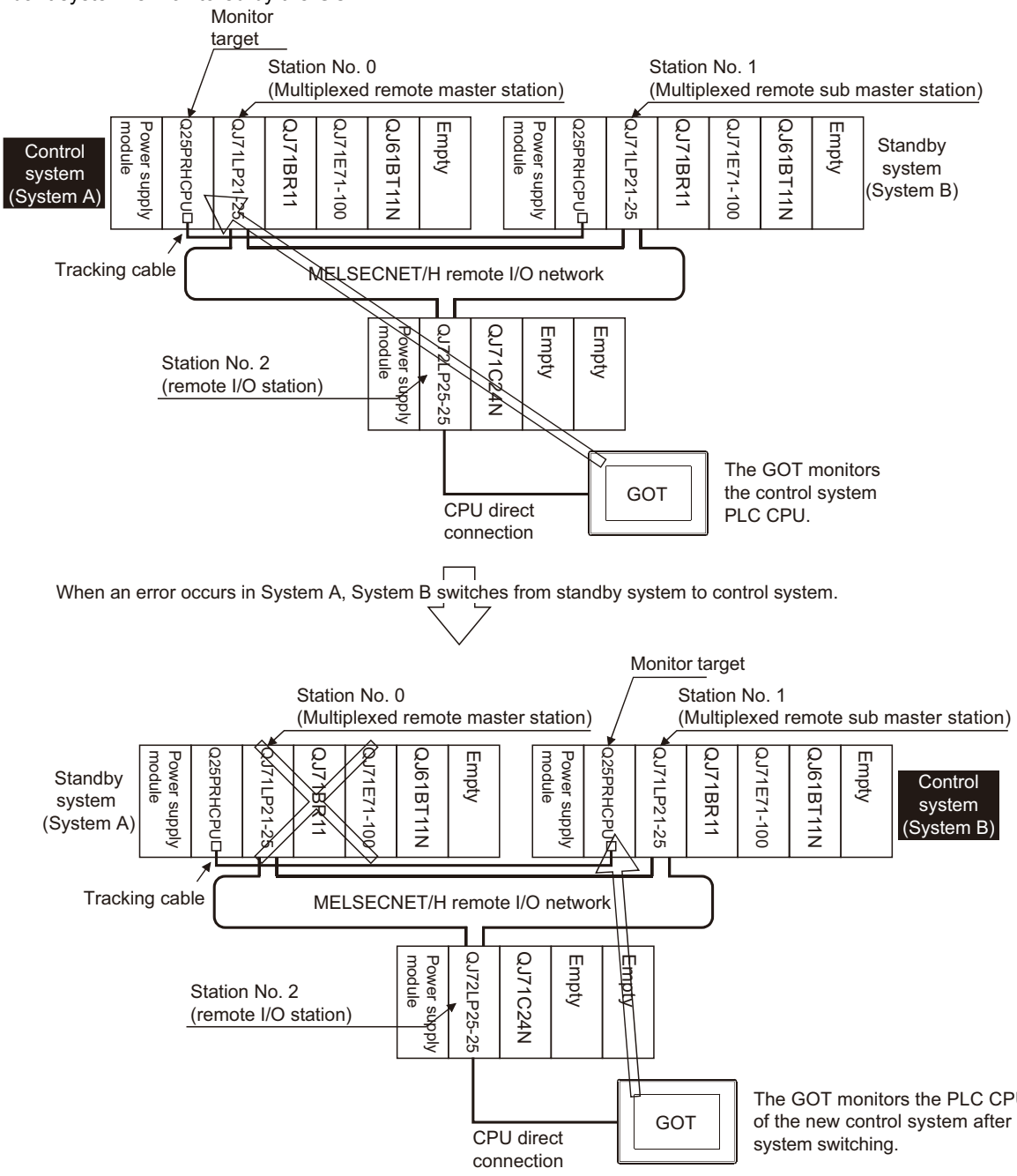
The GOT does not allow the clock of the master station to be set in the clock setting of the utility function.
The master station clock will not change even if the clock setting is made.
Use GX Works or similar software to set the PLC CPU clock of the master station.

4

HOW TO MONITOR REDUNTANT SYSTEM

4. HOW TO MONITOR REDUNTANT SYSTEM

This section explains the restrictions on the connection methods and other information applicable when the QCPU redundant system is monitored by the GOT.



In a redundant system, the monitoring can be performed with the monitoring target specified as the control system or the standby system on the GOT. By specifying the monitoring target PLC CPU as the control system of the redundant system, the monitoring target is automatically changed to the PLC CPU in the control system when system switching occurs.
To enable this automatic changing of the monitoring target at the GOT, settings are required in the GT Designer3.

☞ 4.9 Q Redundant Setting

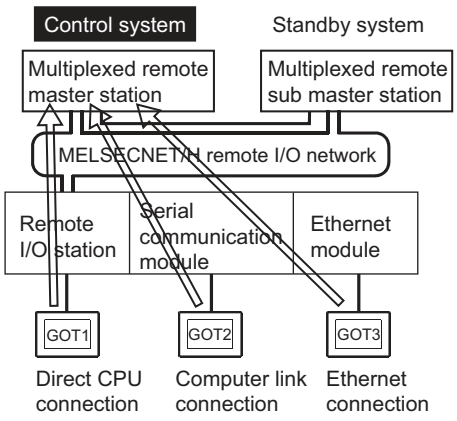
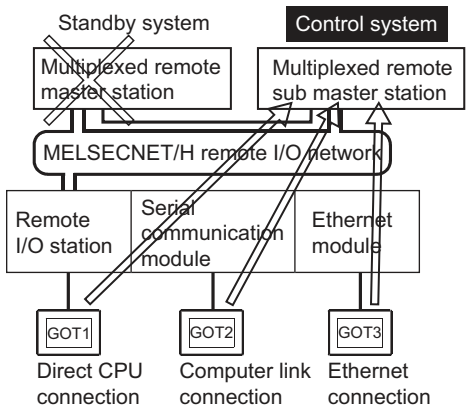
The following connection methods are available for the QCPU redundant system.

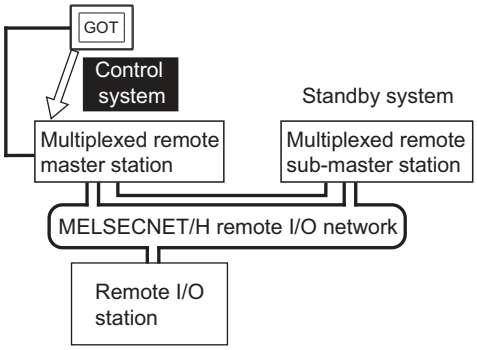
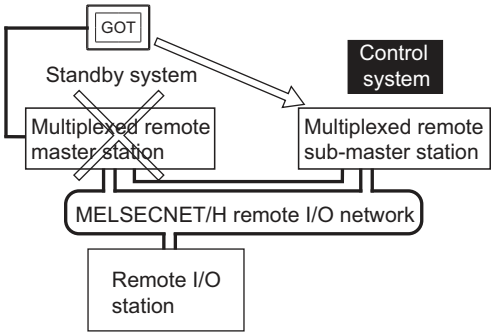
- Connection to remote I/O station in MELSECNET/H network system
  - (1) Direct CPU connection (Remote I/O station of MELSECNET/H network system)
    ☞ 4.1.1 Direct CPU connection (Direct CPU connection to the remote I/O station)
  - (2) Computer link connection (Serial communication module mounted on remote I/O station of MELSECNET/H network system)
    ☞ 4.1.2 Computer link connection (Connection to serial communication module mounted on remote I/O station)
  - (3) Ethernet connection (Ethernet module mounted on the remote I/O station of the MELSECNET/H network system)
    ☞ 4.1.3 Ethernet connection (Connection to Ethernet module mounted on remote I/O station)
- Direct CPU connection
  ☞ 4.2 Direct CPU Connection
- CC-Link connection (intelligent device station)
  ☞ 4.3 CC-Link Connection (Intelligent Device Station)
- CC-Link connection (Via G4)
  ☞ 4.4 CC-Link Connection (Via G4)
- MELSECNET/H connection, MELSECNET/10 connection (Network system)
  ☞ 4.5 MELSECNET/H and MELSECNET/10 Connections (Network Systems)
- CC-Link IE Controller Network connection (Network system)
  ☞ 4.6 CC-Link IE Controller Network Connection (Network System)
- Ethernet connection
  ☞ 4.7 Ethernet Connection
- Connection to the redundant type extension base unit
  - (1) Computer link connection (Serial communication module mounted on the redundant type extension base unit)
    ☞ 4.8.1 Computer link connection (Connection to the Serial communication module mounted on the redundant type extension base unit)
  - (2) Ethernet connection (Ethernet module mounted on the redundant type extension base unit)
    ☞ 4.8.2 Ethernet connection (Connection to the Ethernet module mounted on redundant type extension base unit)
  - (3) CC-Link connection (intelligent device station) (CC-Link module mounted on the redundant type extension base unit)
    ☞ 4.8.3 CC-Link connection (intelligent device station) (Connection to the CC-Link module mounted on redundant type extension base unit)
  - (4) CC-Link connection (Via G4) (CC-Link module mounted on the redundant type extension base unit)
    ☞ 4.8.4 CC-Link connection (Via G4) (Connection to the CC-Link module mounted on redundant type extension base unit)

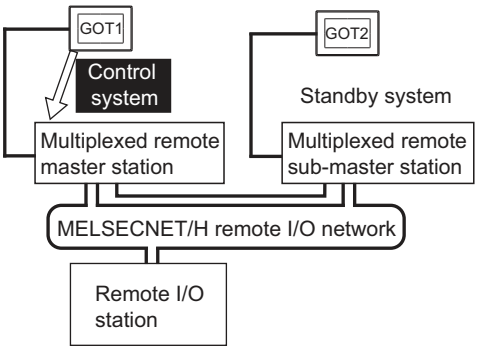
For details of PLC CPUs that can be monitored in each connection method of GOT, refer to the following.

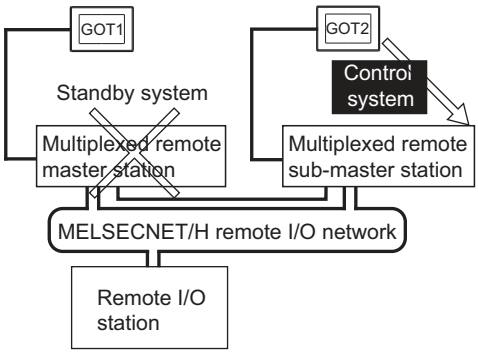
☞ Monitorable controllers of each chapter

The following table shows the features of each connection method.

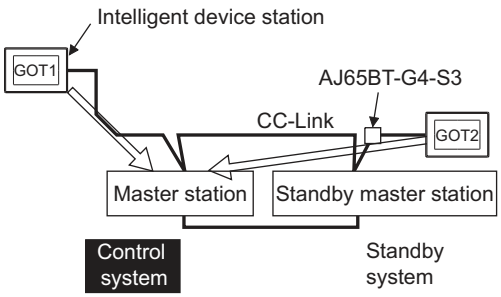
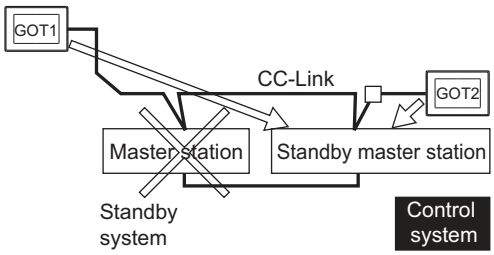
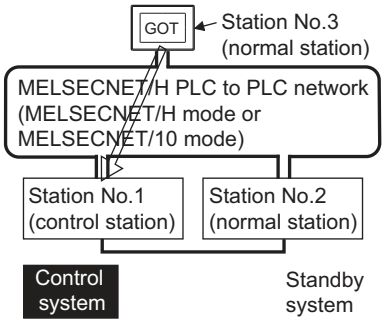
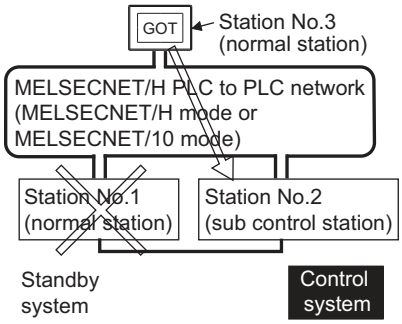
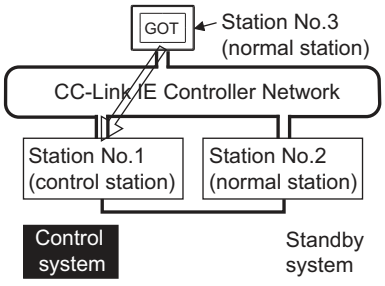
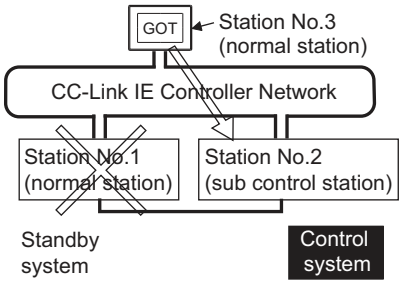
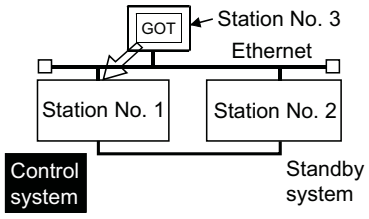
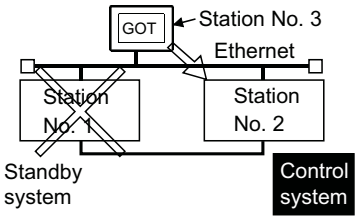
<table>
<tr><th>Connection type</th><th>Before system switching</th><th>After system switching</th></tr>
<tr><td>• Direct CPU connection (Remote I/O station of MELSECNET/H network system)
• Computer link connection (Serial communication module mounted on the remote I/O station on MELSECNET/H network system)
• Ethernet connection (Ethernet module mounted on the remote I/O station of the MELSECNET/H network system)</td><td> 
</td><td> 

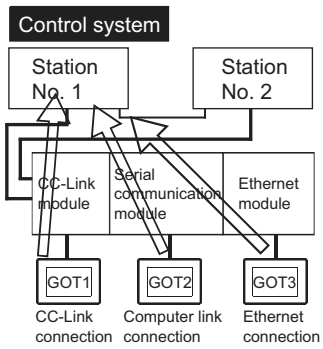
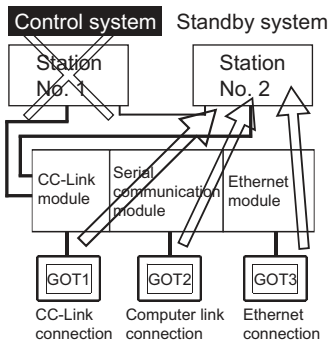
The monitoring target is automatically changed to the control system PLC CPU.</td></tr>
<tr><td rowspan="2">• Direct CPU connection</td><td> 
</td><td> 

By the Q redundant setting, the GOT automatically changes the monitoring target to the PLC CPU in the control system.*1</td></tr>
<tr><td> 

Monitor the PLC CPU of the control system by GOT1.</td><td> 

Monitor the PLC CPU of the control system by GOT2.</td></tr>
</table>

Connection type	Before system switching	After system switching
• CC-Link connection (intelligent device station) • CC-Link connection (Via G4)		 The monitoring target is automatically changed to the control system PLC CPU.
• MELSECNET/H connection, MELSECNET/10 connection (Network system)		 By the Q redundant setting, the GOT automatically changes the monitoring target to the PLC CPU in the control system.*2
• CC-Link IE Controller Network connection (Network system)		 By the Q redundant setting, the GOT automatically changes the monitoring target to the PLC CPU in the control system.*2
• Ethernet connection		 By the Q redundant setting, the GOT automatically changes the monitoring target to the PLC CPU in the control system.*2

Connection type	Before system switching	After system switching
• Computer link connection (Serial communication module mounted on the redundant type extension base unit) • Ethernet connection (Ethernet module mounted on the redundant type extension base unit) • CC-Link connection (intelligent device station) (CC-Link module mounted on the redundant type extension base unit) • CC-Link connection (Via G4) (CC-Link module mounted on the redundant type extension base unit)		

*1 To monitor the control system after the system switching without the Q redundant setting, change the cable connection from the PLC CPU in the previous control system to the control system after system switching.

*2 To monitor the control system after the system switching without the Q redundancy setting, refer to the following.

4.10Switch the Monitor Target to the Control System Using the Script Function

POINT

Precautions for monitoring the QCPU redundant system

(1) A system alarm may be detected when the system is switched in a redundant system.
When Q redundant setting is made : "450 Path has changed or timeout occurred in redundant system."
When Q redundant setting is not made : "402 Communication timeout. Confirm communication pathway or modules."
However, even if the error occurs, the GOT automatically resumes monitoring and there are no problems in the monitoring operation.

(2) The system alarm is displayed when the system is switched due to cable disconnection etc. (when the path is changed).
The system alarm is not displayed when the system is switched by the user.

(3) When connected to the remote I/O station, the GOT can monitor only the following GOT functions.
▪ Monitoring function ▪ System monitoring function

(4) When connected to the remote I/O station, the GOT does not allow the PLC CPU clock of the master station to be set in the clock setting of the utility.
The master station clock will not change even if the clock setting is made.
Use GX Developer or a similar software to set the PLC CPU clock of the master station.

(5) When the Q redundant setting is not made, the GOT does not automatically change the monitoring target even if system switching occurs in the redundant system. When the GOT is connected to the standby system, data written to a device are overwritten by the data of the control system, failing to be reflected.
In this case, when data are written to a device in the standby system normally, the system alarm "315 Device writing error. Correct device." is not detected.

(6) For monitoring the QCPU redundant system when connecting to MELSECNET/H, use QCPU of function version D or later, with the upper five digits later than "07102".
Also, use GX Developer of Version 8.29F or later.

(7) A message "Unable to communicate with CPU." is displayed when the system switching occurs while an option function such as the ladder monitor is used.

(8) In the MELSECNET/H connection or MELSECNET/10 connection, when the control station of the MELSECNET/H network or MELSECNET/10 network fails and is taken over by a station outside the QCPU redundant system, the timeout is detected as the system alarm.
If this occurs, the monitor display speed may slow down.

(9) In the direct CPU connection, the GOT fails to automatically change the monitoring target in the following cases.

- When the power supply to the CPU where the GOT is connected is OFF
- When the cable connecting the GOT with the CPU is broken
- When the tracking is disabled

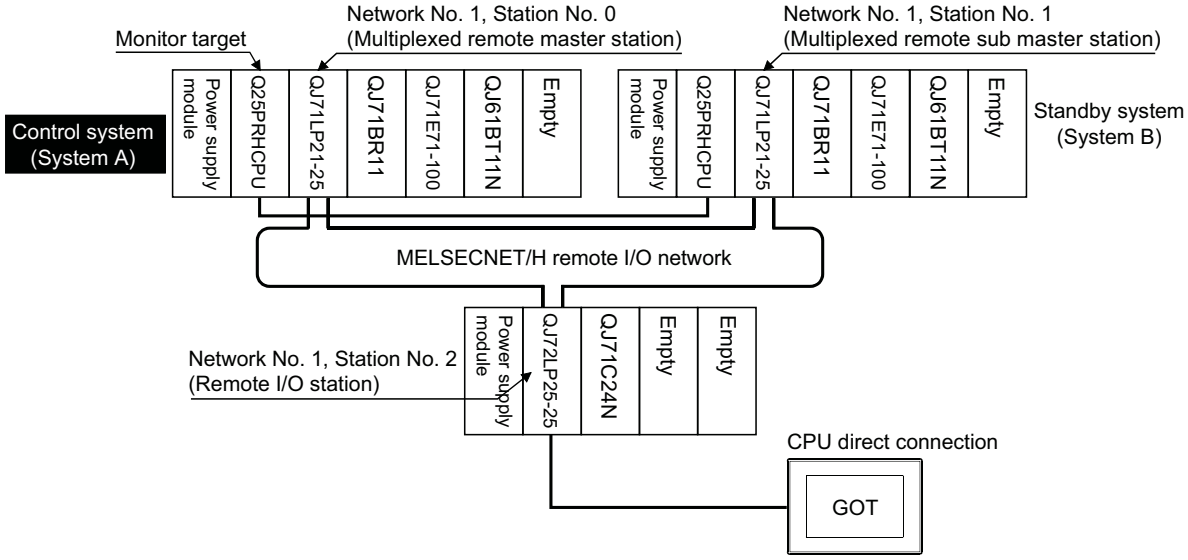
(10) If the Q redundant setting is made for a system that is not a QCPU redundant system, no error occurs at the start up of the GOT and the GOT operates normally.
In this case, if an abnormality (such as powering OFF, or communication timeout error) occurs at the PLC CPU for which the Q redundant setting has been made, the PLC CPU may operate in a different way from the monitoring target change mode that was set in the Q redundant setting.

(11) If the QCPU redundant system is in the debug mode, do not make the Q redundant system setting for the GOT side when connecting the GOT.

4.1 Connection to Remote I/O Station in MELSECNET/H Network System

4.1.1 Direct CPU connection (Direct CPU connection to the remote I/O station)

This section explains the direct CPU connection that connects the GOT to the remote I/O station of the MELSECNET/H network system.
The following shows an example of connecting the GOT to the remote I/O station of the MELSECNET/H network system.



(1) Connection method
Connect the GOT to the RS-232 interface of the network module (QJ72LP25-25, QJ72LP25G, QJ72BR15) on the remote I/O station of the MELSECNET/H network system.
For details, refer to the following.

☞ 6. DIRECT CONNECTION TO CPU

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings		Model
Controller Type	MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700		GT27 GT23 GS
Device setting (Network setting)	Other	NW No.: Network No. of MELSECNET/H remote I/O network	
		Station No.: 0 (Master station)	
Q Redundant Setting	Do not set the item.		

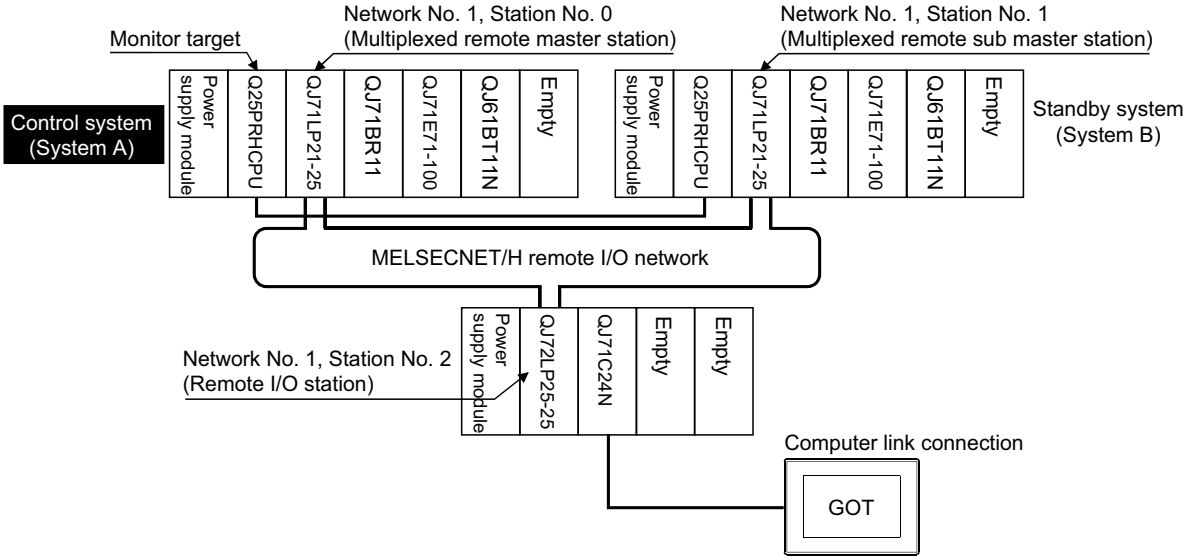
In this case, the GOT monitoring is performed by transient transmission of the MELSECNET/H network system. Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, set the device for link devices B and W of the host station set in the MELSECNET/H network and execute the cyclic transmission.
For details, refer to the following manual.

☞ Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/Q network)

(3) Monitoring target change when system switching occurs in a redundant system
When the system switching occurs, the multiplexed remote sub master station switched to the control system takes over the master operation of MELSECNET/H.
Since the GOT monitors the master station, the monitoring target is automatically changed to the PLC CPU that is operating as the master.

4.1.2 Computer link connection (Connection to serial communication module mounted on remote I/O station)

This section explains the computer link connection that connects the GOT to the serial communication module mounted on the remote I/O station of the MELSECNET/H network system.
The following shows an example of connecting the GOT to the serial communication module mounted on the remote I/O station of the MELSECNET/H network system.



(1) Connection method
Connect the GOT to the serial communication module (QJ71C24, QJ71C24-R2, QJ71C24N, QJ71C24N-R2, QJ71C24N-R4) or modem interface module (QJ71CM0) mounted on the remote I/ O station of the MELSECNET/H network system.
For details, refer to the following.

☞ 7. COMPUTER LINK CONNECTION

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings		Model
Controller Type	MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700		GT27 GT23 GS
Device setting (Network setting)	Other	NW No.: Network No. of MELSECNET/H remote I/O network	
		Station No.: 0 (Master station)	
Q Redundant Setting	Do not set the item.		

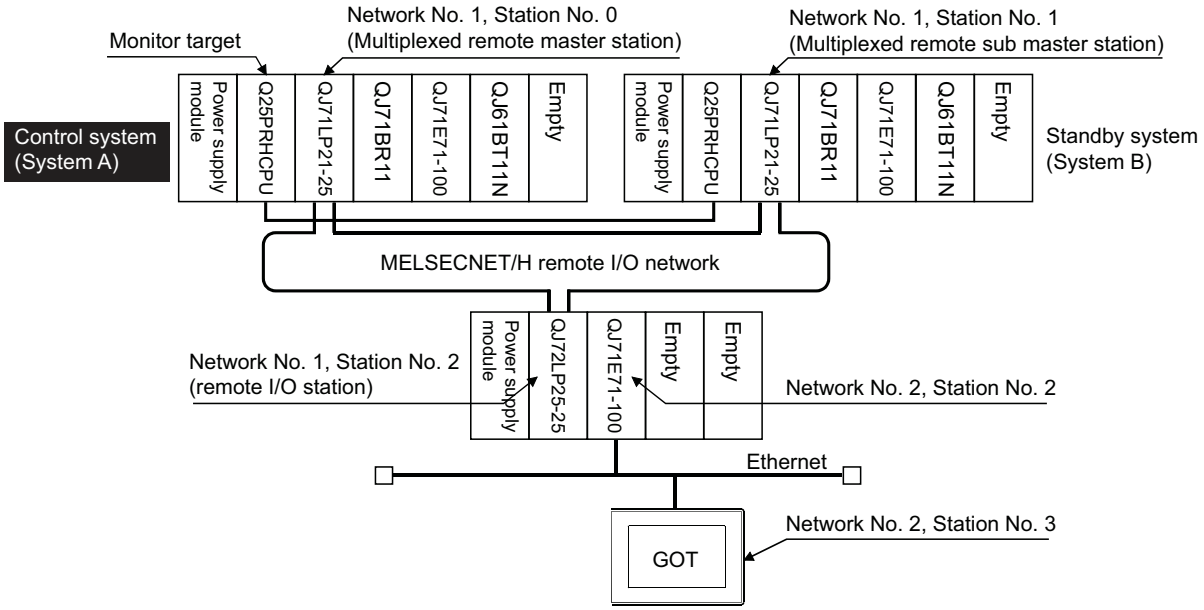
In this case, the GOT monitoring is performed by transient transmission of the MELSECNET/H network system. Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, set the device for link devices B and W of the host station set in the MELSECNET/H network and execute the cyclic transmission.
For details, refer to the following manual.

☞ Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/Q network)

(3) Monitoring target change when system switching occurs in a redundant system
When the system switching occurs, the multiplexed remote sub master station switched to the control system takes over the master operation of MELSECNET/H.
Since the GOT monitors the master station, the monitoring target is automatically changed to the PLC CPU that is operating as the master.

4.1.3 Ethernet connection (Connection to Ethernet module mounted on remote I/O station)

This section explains the Ethernet connection for connecting the GOT to the Ethernet module mounted on the remote I/O station of the MELSECNET/H network system.
The following shows an example of connecting the GOT to the Ethernet module mounted on the I/O station of the MELESCNET/H network system.



(1) Connection method
Connect the GOT to the Ethernet module (QJ71E71-100, QJ71E71-B5, QJ71E71-B2, QJ71E71) mounted on the remote I/O station of the MELSECNET/H network system.
For details, refer to the following.

☞ 5. ETHERNET CONNECTION

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings		Model
Controller Type	MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700		GT27 GT23 GS
Device setting (Network setting)	Other	NW No.: Network No. of MELSECNET/H remote I/O network	
		Station No.: 0 (Master station)	
Q Redundant Setting	Do not set the item.		
Routing Information Setting	☞ 5. ETHERNET CONNECTION		

In this case, the GOT monitoring is performed by transient transmission of the MELSECNET/H network system. Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, set the device for link devices B and W of the host station set in the MELSECNET/H network and execute the cyclic transmission.
For details, refer to the following manual.

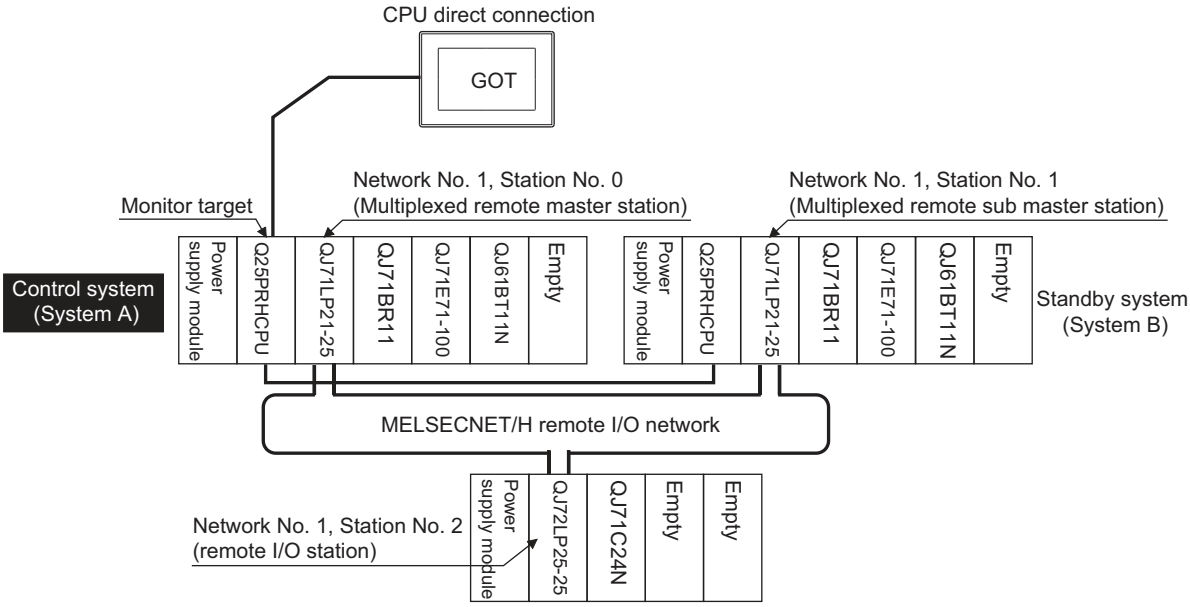
☞ Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/Q network)

(3) Monitoring target change when system switching occurs in a redundant system
When the system switching occurs, the multiplexed remote sub master station switched to the control system takes over the master operation of MELSECNET/H.
Since the GOT monitors the master station, the monitoring target is automatically changed to the PLC CPU that is operating as the master.

4.2 Direct CPU Connection

This section describes the direct CPU connection by which a GOT is connected to a PLC CPU in the redundant system.
Two methods for the CPU direct connection, using one or two GOTs, are available.

4.2.1 When using one GOT



(1) Connection method

Connect the GOT to the RS-232 interface of the control system CPU module (Q12PRHCPU, Q25PRHCPU) of the redundant system.
For details, refer to the following.

☞ 6. DIRECT CONNECTION TO CPU

(2) GT Designer3 setting

Set GT Designer3 as follows.

Setting item	Settings	Model
Controller Type	MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700	GT27 GT23 GS
Device setting (Network setting)	Host	
Q Redundant Setting	☞ 4.9 Q Redundant Setting	

(3) Monitoring target change when system switching occurs in a redundant system

When the system switching occurs, the PLC CPU (other station) of the control system after system switching takes over the host station operation.
Since the GOT monitors the control system, the monitoring target is automatically changed to other station.

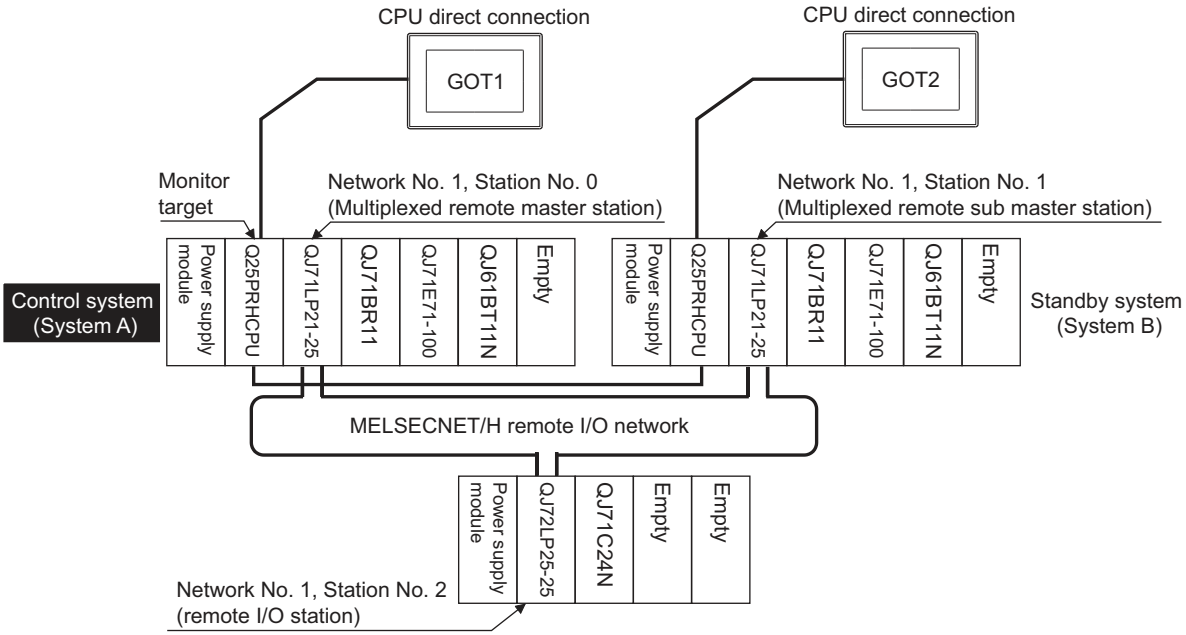
POINT

To monitor the control system without Q redundant setting

If the system switching occurs when the Q redundant setting is not made, the GOT cannot change the monitoring target at the occurrence of system switching since it monitors the connected PLC CPU (host station).
As a countermeasure, change the cable connection from the PLC CPU in the previous control system to the control system after system switching.

4.2.2 When using two GOTs

Connect a GOT to each PLC CPU to respond to the system switching.



(1) Connection method

Connect GOTs to the RS-232 interface of the control system and standby system CPU modules (Q12PRHCPU, Q25PRHCPU) of the redundant system.

For details, refer to the following.

☞ 6. DIRECT CONNECTION TO CPU

(2) GT Designer3 setting

Set GT Designer3 as follows.

Setting item	Settings	Model
Controller Type	MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700	GT27 GT23 GS
Device setting (Network setting)	Host	
Q Redundant Setting	☞ 4.9 Q Redundant Setting	

(3) Monitoring target change when system switching occurs in a redundant system

When the system switching occurs, the GOT cannot change the monitor target automatically in response to the system switching.

The GOT that is connected to the control system CPU module after system switching continues the monitoring.

Different from the case using one GOT, no cable reconnection is required.

POINT

To automatically change the monitoring target after system switching using one GOT, make the Q redundant settings.

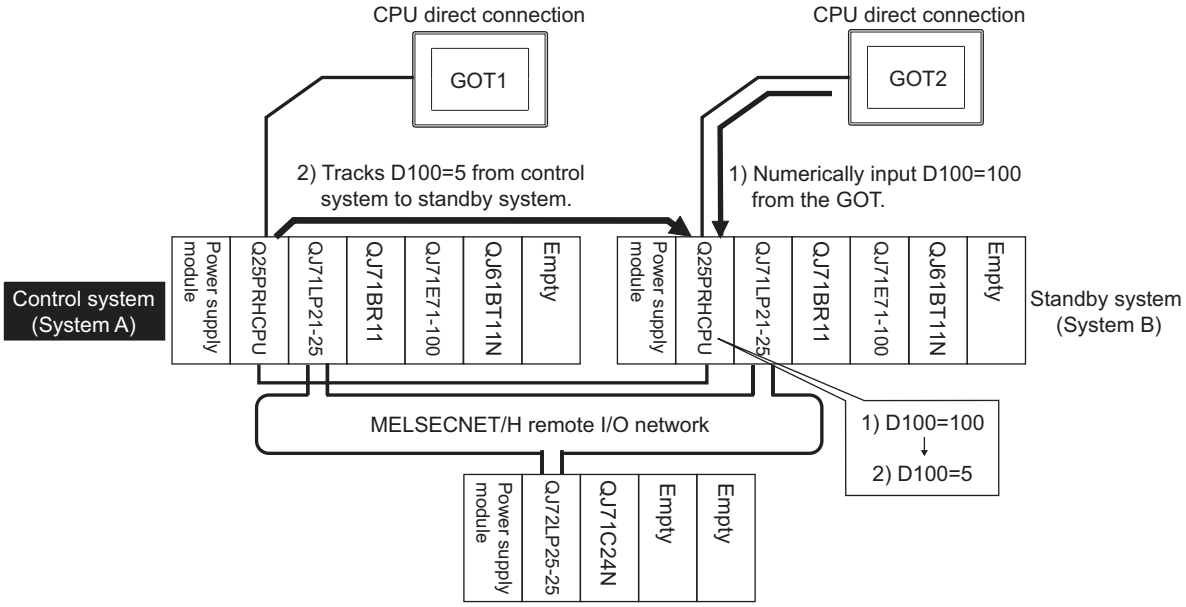
☞ 4.9 Q Redundant Setting

4.2.3 Precautions when connecting a GOT directly to a PLC CPU in the redundant system without making Q redundant setting

(1) As the GOT monitors exclusively the PLC CPU that is directly connected to, the monitor target cannot be changed in response to the system switching of the redundant system.
To change the target monitor in response to the system switching, change the target of the connection cable between the GOT and PLC CPU to the other PLC CPU, or configure the system using GOTs connected to each PLC CPU.

(2) In CPU direct connection, when monitoring a PLC CPU in the redundant system, only the PLC CPU that is directly connected to the GOT can be monitored.

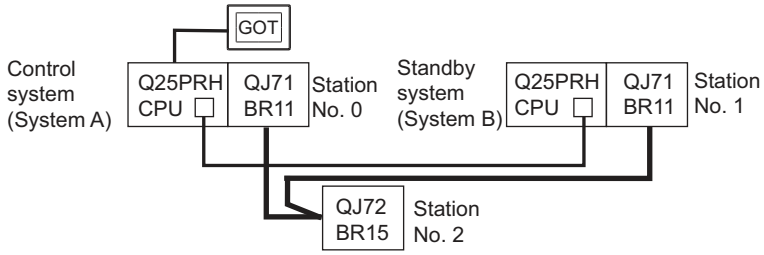
(3) When connected to the standby system PLC CPU, the writing of the GOT to a device in the connected PLC CPU is not reflected. Design a monitor screen that disables writing to the standby system.
In the redundant system, the tracking function transfers device data from control system to standby system. When the tracking function is enabled, the device value of the standby system PLC CPU is overwritten by the device value transferred from the control system to the standby system even if the GOT writes to the standby system PLC CPU (Numerical input, Ascii input, Script, Recipe, or others).



As countermeasures to the above, perform the following.

- Display a monitor screen which indicates that "the connected PLC CPU is the standby system" on a GOT when connecting the GOT to the standby system PLC CPU.
- To display the specified monitor screen when connecting the GOT to the standby system PLC CPU, use the special relay SM1515 (Control status identification flag) of the PLC CPU.
  (When the SM1515 is OFF, the connected PLC CPU is the standby system)
- Control the operation of each object by the SM1515, which is set for the operation condition.
- For the screen switching device, use a GOT internal device.
  If a device of the PLC CPU is used, the trigger action operation of the GOT may be disabled since the device data of the PLC CPU will is overwritten by the device value transferred with the redundant system tracking function.

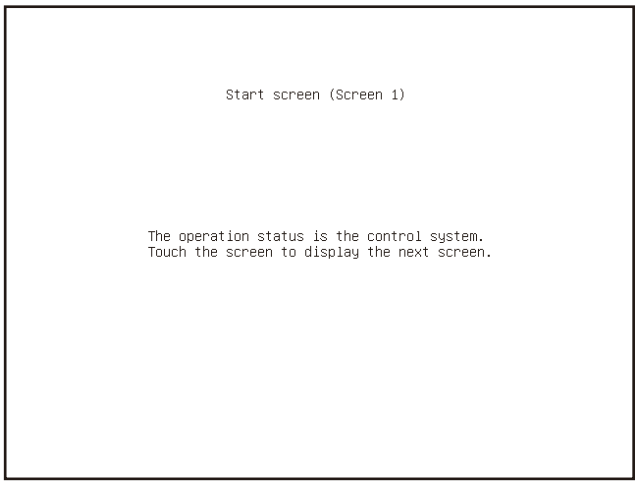
The following diagram shows an example of screen setting using SM1515.
System configuration example: when using one GOT



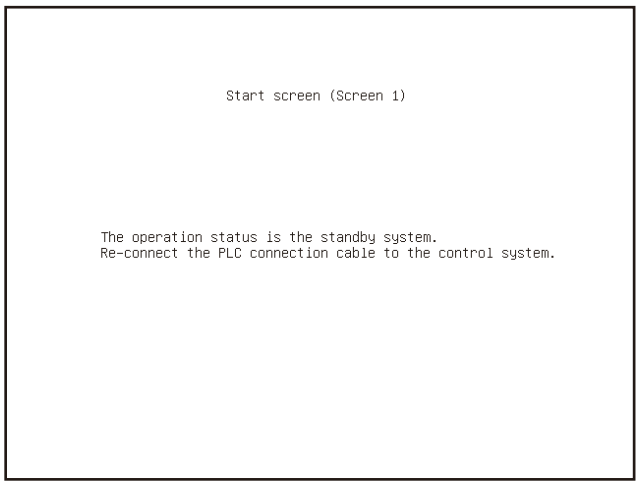
Create a monitor screen on the base screen 1 that performs the following operations for when connecting a GOT to control system and standby system.

1) When connecting to the control system, the monitor screen displays a message calling a touch switch operation, by which the screen switches to the next screen.
2) When connecting to the standby system, the monitor screen displays a message calling the reconnection of the connection cable.

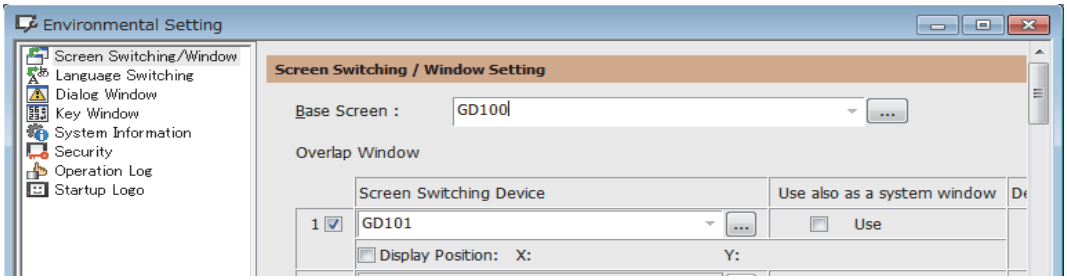
1) When connecting to the control system



2) When connecting to the standby system



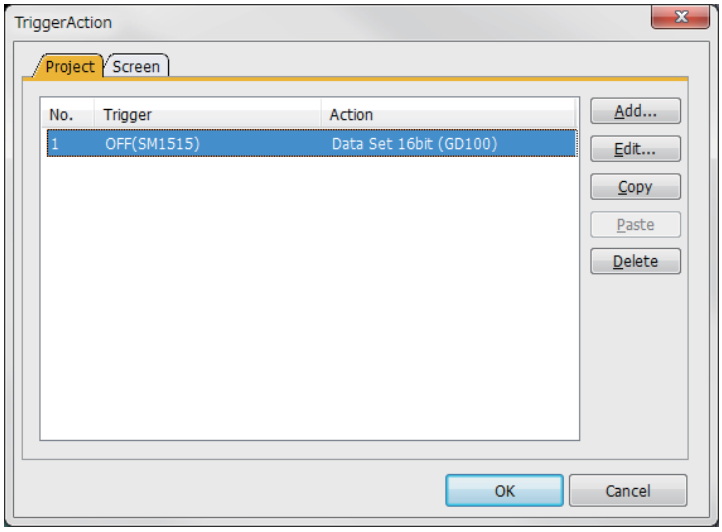
1. Set the screen switching device of the base screen.
Choose [Common] → [GOT Environmental Setting] → [Screen Switching/Window], and set the internal device GD100 as the base screen switching device.
(Do not use PLC CPU devices for the screen switching device. If used, the Trigger Action operation of the GOT may be disabled since the device data of the PLC CPU is overwritten by the device value transferred with the redundant system tracking function)



2. Set the trigger action.
Make the setting so that the base screen 1 is displayed when the connected PLC CPU is the standby system (SM1515 is OFF) in the project specified by selecting [Common] → [Trigger Action].

Condition 1 : SM1515 (while OFF)	←	When the SM1515 is OFF, the connected PLC CPU is the standby system.
Operation : GD100=1	←	The screen switches to the base screen 1.

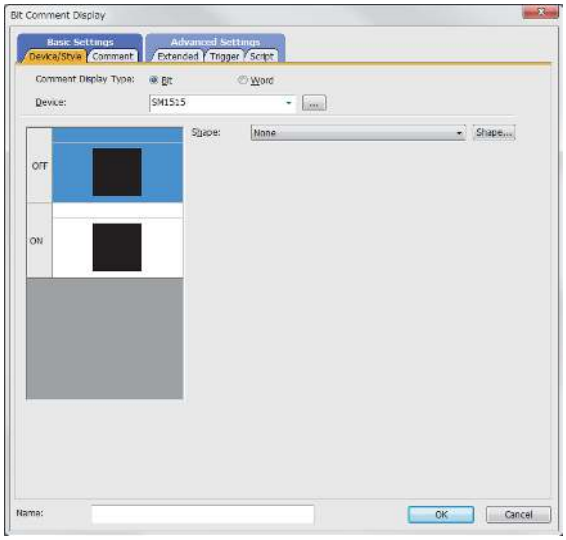
Create the trigger action in the project on the Project tab.



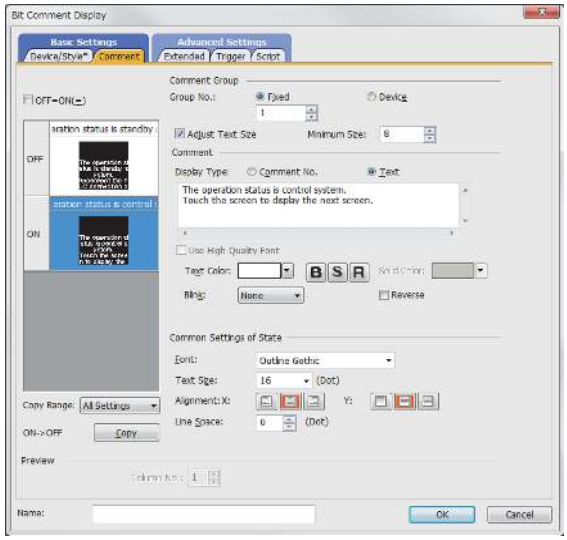
3. Set the comment display on the base screen 1.
Set a comment to be displayed on the base screen 1 depending on the system status (ON/OFF of the SM1515) of the connected PLC CPU using the Comment Display (Bit).
Select [Object] → [Comment Display] → [Bit Comment] and set Comment Display (Bit).

Device/Style tab		
Device	:	SM1515
Shape	:	None
Comment tab	:	Basic Comment
Comment Display Type Text (ON)	:	The operation status is control system. Touch the screen to display the next screen.
Comment Display Type Text (OFF)	:	The operation status is standby system. Reconnect the PLC connection cable to the control system CPU.

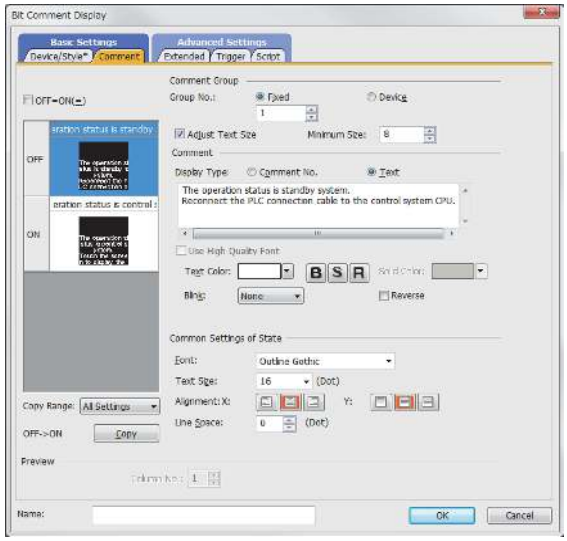
1) Device/Style tab screen



2) Comment tab screen (ON status)



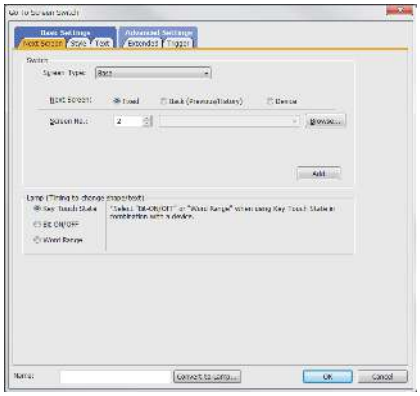
3) Comment tab screen (OFF status)



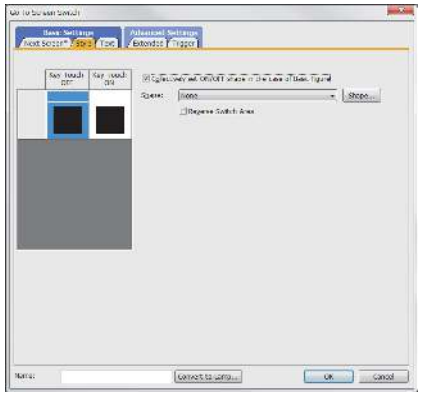
4. Set the touch switches on the base screen 1.
By using the go to screen switch function, set a touch switch for shifting the screen to the next screen with a screen touch, when the connected PLC CPU is the control system (SM1515 is ON).
Select [Object] → [Switch] → [Go To Screen Switch] and set the screen switching function.
Set the same size for the touch switch as the base screen size so that touching any place of the screen enables the switch operation.

Next Screen tab	
Screen Type	: Base
Go To Screen	: Fixed 2
Style tab	
Display Style	: None (Shape)
Trigger tab	
Trigger Type	: ON
Trigger Device	: SM1515

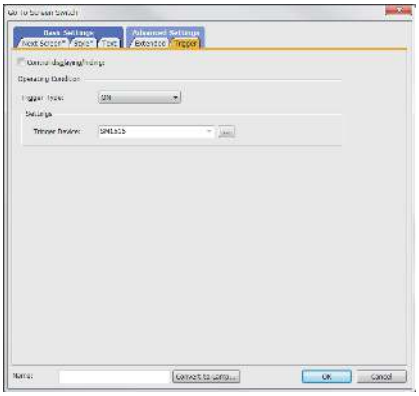
1) Next Screen tab



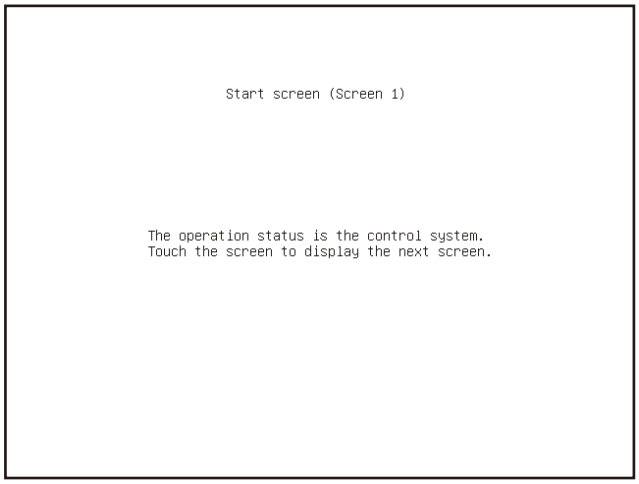
2) Style tab screen



3) Trigger tab screen

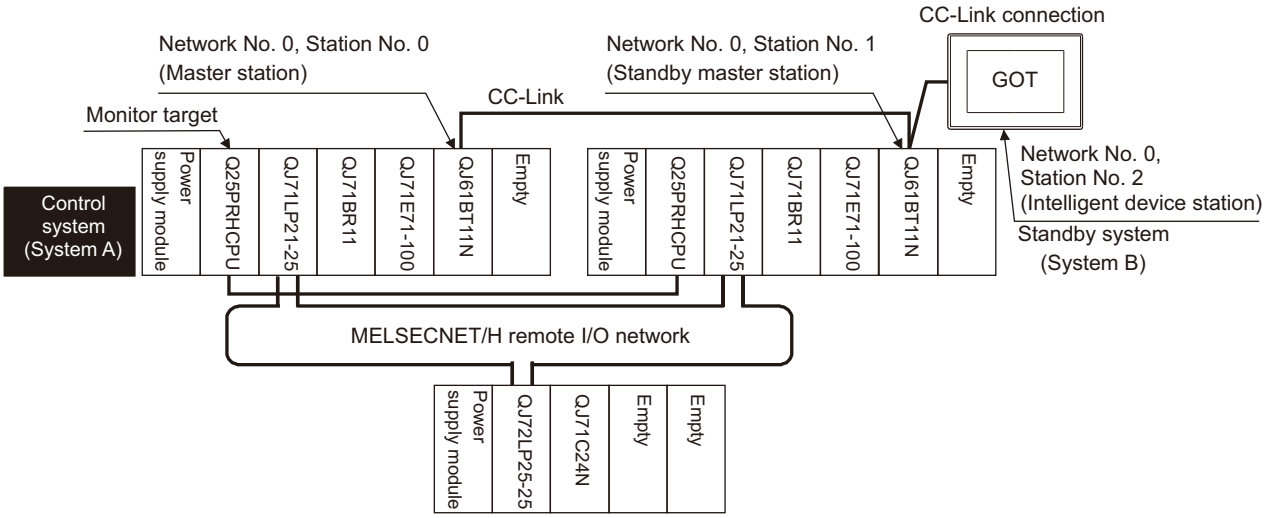


The following shows the created base screen 1.



4.3 CC-Link Connection (Intelligent Device Station)

This section describes the CC-Link connection (intelligent device station) that connects the GOT set as the intelligent device station to the CC-Link network.
The following shows an example of connecting the GOT set as the intelligent device station to the CC-Link network.



(1) Connection method
Connect the CC-Link network system to the GOT.
For details, refer to the following.

☞ 12. CC-Link CONNECTION (INTELLIGENT DEVICE STATION)

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings		Model
Controller Type	MELSEC-QnA, MELDAS C6*		GT27 GT23 GS
Device setting (Network setting)	Other	NW No.: 0 (fixed)	
		Station No.: 0 (Master station)	
Q Redundant Setting	Do not set the item.		

In this case, the GOT monitoring is performed by transient transmission of the CC-Link network system.
Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, set the device for RX, RY, RWw, RWr of the host station set in the CC-Link network and execute the cyclic transmission.
For details, refer to the following.

☞ 3.3 CC-Link System Access Range for Monitoring

(3) Monitoring target change when system switching occurs in a redundant system

(a) System switching due to an alarm occurred in the control system
When system switching occurs, the CC-Link switches the station No. 0 of the master station and the station No. 1 of the standby master station on the network.
The CC-Link module of the new control system after system switching takes over the control as the master station.
Since the GOT monitors the master station, the monitoring target is automatically changed to the new control system after system switching.

(b) System switching due to a network communication error occurred in other than the CC-Link of the control system, or due to switching by the user
When system switching occurs, the CC-Link does not switch the station No. 0 of the master station and the station No. 1 of the standby master station on the network.
The CC-Link module of the new control system after system switching takes over the control as the standby master station.
Since the GOT monitors the master station, the monitoring target is not automatically changed to the new control system after system switching.
To automatically change the monitoring target of the GOT to the new control system after system switching, switch the data link control from the standby master station to the master station by the sequence program of the new control system.
For details of the sequence program, refer to the following manual.

☞ QnPRHCPU User's Manual (Redundant System)
(Sample Programs when Using CC-Link)

POINT

CC-Link network setting

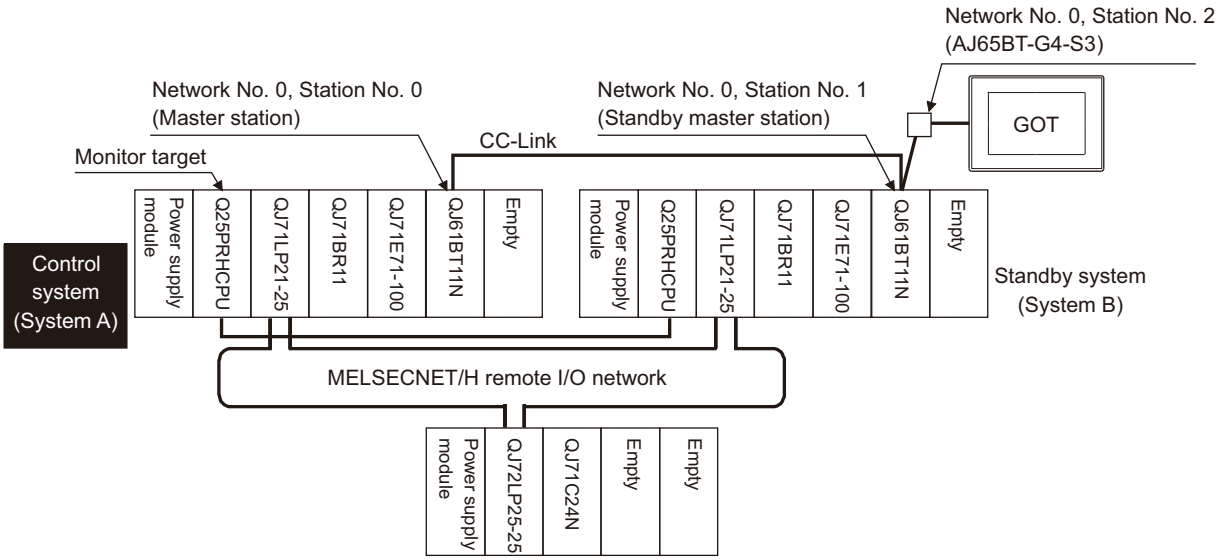
To automatically change the monitoring target in the QCPU redundant system when using the CC-Link connection, set the CC-Link master station as System A and the standby master station as System B.
For details of using the CC-Link network in the redundant system, refer to the following manual.

☞ CC-Link System Master/Local Module User's Manual

☞ QnPRHCPU User's Manual (Redundant System)

4.4 CC-Link Connection (Via G4)

This section explains the CC-Link connection (via G4) that connects the GOT to the AJ65BT-G4-S3 of the CC-Link network.
The following shows an example of connecting the GOT to the AJ65BT-G4-S3 of the CC-Link network.



(1) Connection method
Connect the AJ65BT-G4-S3 of the CC-Link network to the GOT.
For details, refer to the following.

13. CC-Link CONNECTION (Via G4)

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings	Model
Controller Type	MELSEC-QnA, MELDAS C6*	GT27 GT23 GS
Device setting (Network setting)	Host	
Q Redundant Setting	Do not set the item.	

(3) Monitoring target change when system switching occurs in a redundant system

(a) System switching due to an alarm occurred in the control system
When system switching occurs, the CC-Link switches the station No. 0 of the master station and the station No. 1 of the standby master station on the network.
The CC-Link module of the new control system after system switching takes over the control as the master station.
Since the GOT monitors the master station, the monitoring target is automatically changed to the new control system after system switching.

(b) System switching due to a network communication error occurred in other than the CC-Link of the control system, or due to switching by the user
When system switching occurs, the CC-Link does not switch the station No. 0 of the master station and the station No. 1 of the standby master station on the network.
The CC-Link module of the new control system after system switching takes over the control as the standby master station.
Since the GOT monitors the master station, the monitoring target is not automatically changed to the new control system after system switching.
To automatically change the monitoring target of the GOT to the new control system after system switching, switch the data link control from the standby master station to the master station by the sequence program of the new control system.
For details of the sequence program, refer to the following manual.

☞ QnPRHCPU User's Manual (Redundant System)
(Sample Programs when Using CC-Link)

POINT

CC-Link network setting

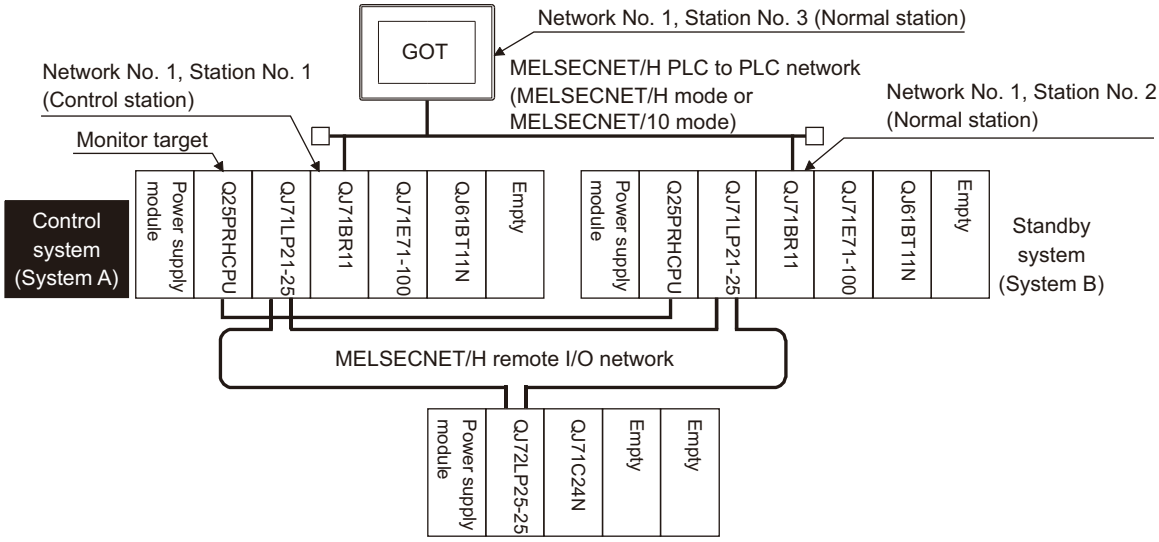
To automatically change the monitoring target in the QCPU redundant system when using the CC-Link connection, set the CC-Link master station as System A and the standby master station as System B.
For details of using the CC-Link network in the redundant system, refer to the following manual.

☞ CC-Link System Master/Local Module User's Manual

☞ QnPRHCPU User's Manual (Redundant System)

4.5 MELSECNET/H and MELSECNET/10 Connections (Network Systems)

This section explains the MELSECNET/H and MELSECNET/10 connections (network systems) that connect the GOT to the MELSECNET/H and MELSECNET/10 network system.
The following provides an example of connecting the GOT set as a normal station to the MELSECNET/ H network system.



(1) Connection method
Connect the MELSECNET/H network system to the GOT.
For details, refer to the following.

☞ 9. MELSECNET/H CONNECTION (PLC TO PLC NETWORK), MELSECNET/10 CONNECTION (PLC TO PLC NETWORK)

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings		Model
Controller Type	MELSEC-QnA, MELDAS C6*		GT27 GT23 GS
Device setting (Network setting)	Other	NW No.: Network No. of MELSECNET/H PLC to PLC network	
		Station No.: Station number of the control system	
Q Redundant Setting	☞ 4.9 Q Redundant Setting		

(3) Monitoring target change when system switching occurs in a redundant system
When system switching occurs, the network module station No. 2 changes from the normal station to the sub control station and takes over the control of the MELSECNET/H network system.
Since the GOT monitors the control system, the monitoring target is automatically changed to the network module station No. 2.

POINT

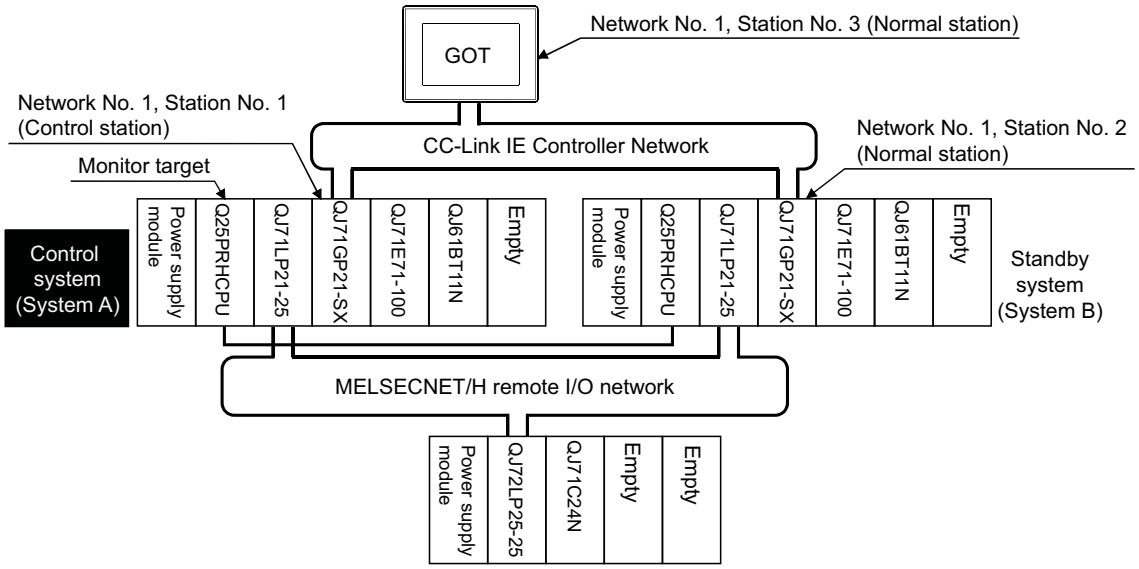
To monitor the control system without Q redundant setting

When system switching occurs, the network module station No. 2 changes from the normal station to the sub control station and takes over the control of the MELSECNET/H network system.
Since the GOT monitors the station of the specified station number, the monitoring target cannot be changed to the station No. 2 in response to the system switching.
As a countermeasure, create a screen to monitor the PLC CPU of the control system by switching the station numbers between System A and System B using the script function.

☞ 4.10 Switch the Monitor Target to the Control System Using the Script Function

4.6 CC-Link IE Controller Network Connection (Network System)

This section explains the CC-Link IE Controller Network connection (network system) that connects the GOT to the CC-Link IE controller network.
The following shows an example of connecting the GOT set as a normal station to the CC-Link IE Controller Network.



(1) Connection method
Connect the GOT to the CC-Link IE Controller Network.
For details, refer to the following.

10. CC-Link IE CONTROLLER NETWORK CONNECTION

(2) GT Designer3 setting
Set GT Designer3 as described below.

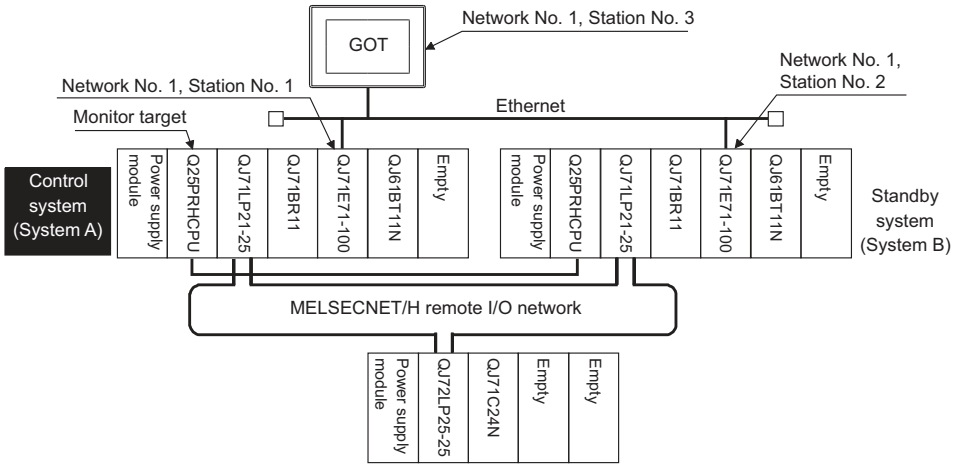
Setting item	Settings		Model
Controller Type	MELSEC-QnA, MELDAS C6*		GT27 GT23 GS
Device setting (Network setting)	Other	NW No.: Network No. of CC-Link IE Controller Network	
		Station No.: Station number of the control system	
Q Redundant Setting	4.9 Q Redundant Setting		

To specify the station number which was set in the Q redundant setting in the device setting, set the station number as the other station.

(3) Monitoring target change when system switching occurs in a redundant system
When system switching occurs, the network module station No.2 changes from a normal station to the sub control station, and the system with the module takes over the control of the CC-Link IE Controller Network as the control system.
Since the GOT monitors the control system, the monitoring target is automatically changed to the network module station No. 2.

4.7 Ethernet Connection

This section explains the Ethernet connection that connects the GOT to the Ethernet network system.
The following shows an example of connecting the GOT to the Ethernet network.



(1) Connection method

Connect the Ethernet network system to the GOT.
Set the Ethernet modules of System A and System B (including NW No., station No, and IP address) to the Ethernet setting of the GOT side.
For details, refer to the following.

☞ 5. ETHERNET CONNECTION

(2) GT Designer3 setting

Set GT Designer3 as follows.

Setting item	Settings		Model
Controller Type	MELSEC-QnA, MELDAS C6*		GT27 GT23 GS
Device setting (Network setting)	Host	Host (The control system is monitored.)	
	Other	NW No.: Network No. of Ethernet	
		Station No.: Station number of the control system	
Q Redundant Setting	☞ 4.9 Q Redundant Setting		

To specify the station number which was set in the Q redundant setting in the device setting, set the station number as the other station.

(3) Monitoring target change when system switching occurs in a redundant system

When system switching occurs, Ethernet module station No. 2 takes over the control of the Ethernet network system as the control system.
Since the GOT monitors the control system, he monitoring target is automatically changed to the Ethernet module station No. 2.

POINT

When monitoring control system without Q redundant setting

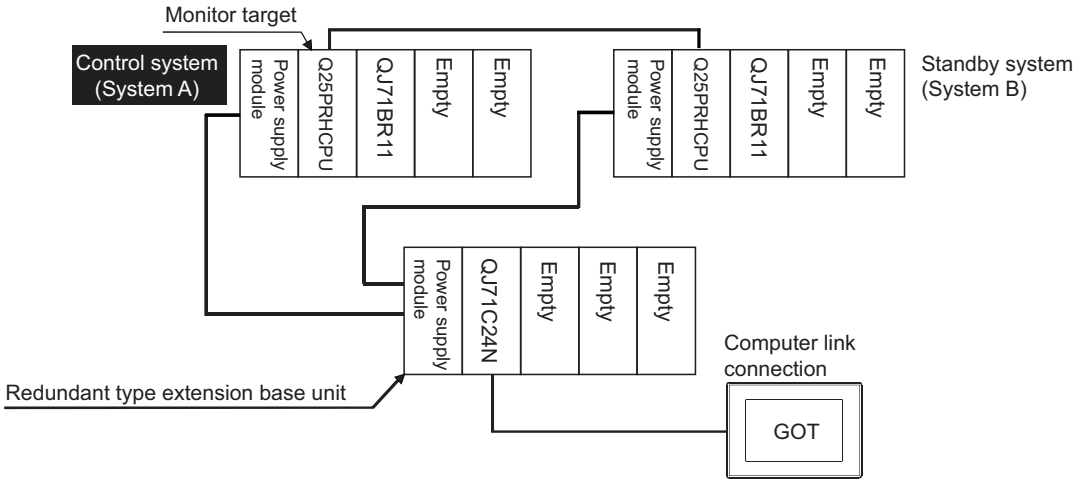
When system switching occurs, Ethernet module station No. 2 takes over the control of the Ethernet network system as the control system.
Since the GOT monitors the station of the specified station number, the monitoring target cannot be changed to the station No. 2 in response to the system switching.
As a countermeasure, create a screen to monitor the PLC CPU of the control system by switching the station numbers between System A and System B using the script function.

☞ 4.10 Switch the Monitor Target to the Control System Using the Script Function

4.8 Connection to the Redundant Type Extension Base Unit

4.8.1 Computer link connection (Connection to the Serial communication module mounted on the redundant type extension base unit)

This section explains the computer link connection for connecting the GOT to the serial communication module mounted on the redundant type extension base unit.
The following shows an example of connecting the GOT to the serial communication module mounted on the redundant type extension base unit.



(1) Connection method
Connect the GOT to the serial communication module (QJ71C24N) mounted on the redundant type extension base unit.
For details, refer to the following.

☞ 7. COMPUTER LINK CONNECTION

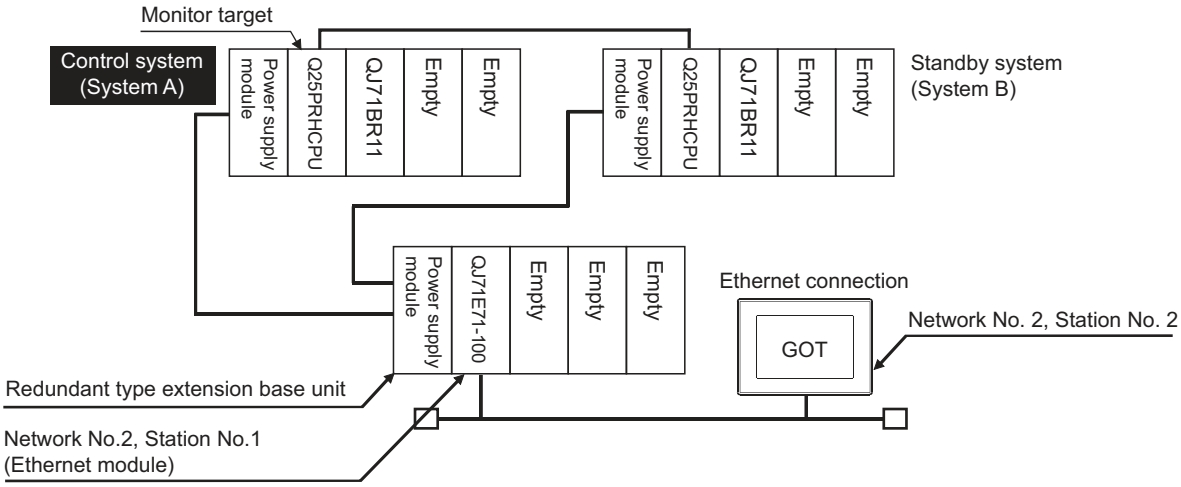
(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings	Model
Controller Type	MELSEC-QnA, MELDAS C6*	GT27 GT23 GS
Device setting (Network setting)	Host	
Q Redundant Setting	Do not set the item.	

(3) Monitoring target change when system switching occurs in a redundant system
When the system switching occurs, the GOT automatically changes the monitoring target to the PLC CPU switched to the control system.

4.8.2 Ethernet connection (Connection to the Ethernet module mounted on redundant type extension base unit)

This section explains the Ethernet connection for connecting the GOT to the Ethernet module mounted on the redundant type extension base unit.
The following shows an example of connecting the GOT to the Ethernet module mounted on the redundant type extension base unit.



(1) Connection method
Connect the GOT to the Ethernet module (QJ71E71-100, QJ71E71-B5, QJ71E71-B2) mounted on the redundant type extension base unit.
For details, refer to the following.

☞ 5. ETHERNET CONNECTION

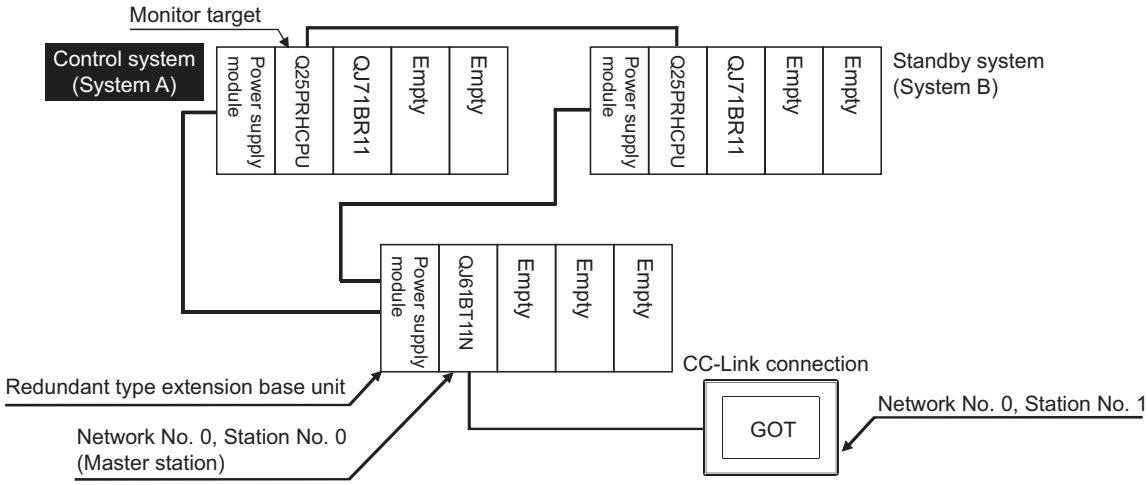
(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings	Model
Controller Type	MELSEC-QnA, MELDAS C6*	GT27 GT23 GS
Device setting (Network setting)	Host	
Q Redundant Setting	Do not set the item.	

(3) Monitoring target change when system switching occurs in a redundant system
When the system switching occurs, the GOT automatically changes the monitoring target to the PLC CPU switched to the control system.

4.8.3 CC-Link connection (intelligent device station) (Connection to the CC-Link module mounted on redundant type extension base unit)

This section explains the CC-Link connection for connecting the GOT to the CC-Link module mounted on the redundant type extension base unit.
The following shows an example of connecting the GOT to the CC-Link module mounted on the redundant type extension base unit.



(1) Connection method
Connect the GOT to the CC-Link module (QJ61BT11N) mounted on the redundant type extension base unit.
For details, refer to the following.

☞ 12. CC-Link CONNECTION (INTELLIGENT DEVICE STATION)

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings		Model
Controller Type	MELSEC-QnA, MELDAS C6*		GT27 GT23 GS
Device setting (Network setting)	Other	NW No.: 0 (fixed)	
		Station No.: 0 (Master station)	
Q Redundant Setting	Do not set the item.		

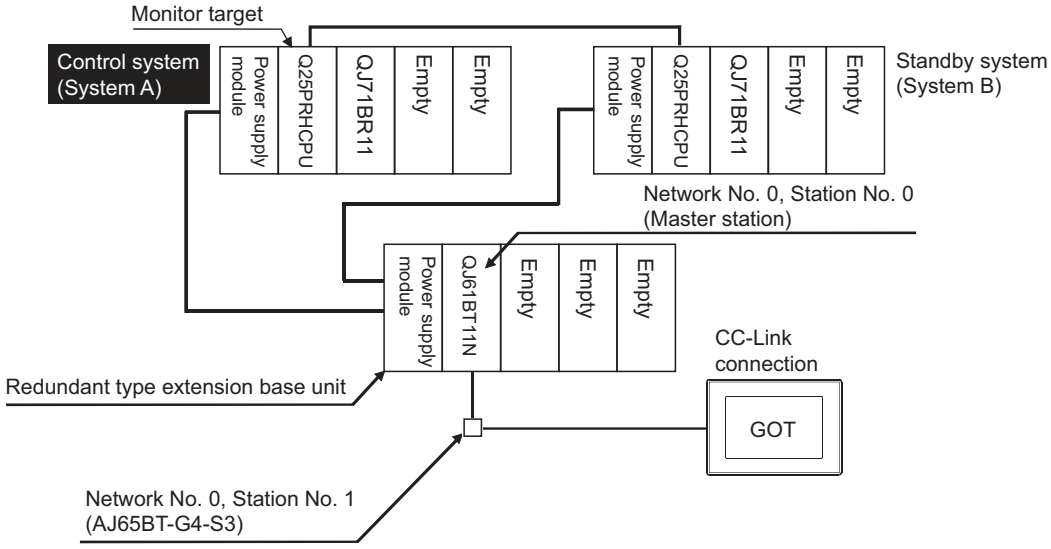
In this case, the GOT monitoring is performed by transient transmission of the CC-Link network system.
Therefore, a longer time-lag occurs for displaying objects compared with directly monitoring the PLC CPU.
For displaying objects with a shorter time-lag, set the device for RX, RY, RWw, RWr of the host station set in the CC-Link network and execute the cyclic transmission.
For details, refer to the following.

☞ 3.3 CC-Link System Access Range for Monitoring

(3) Monitoring target change when system switching occurs in a redundant system
When the system switching occurs, the GOT automatically changes the monitoring target to the PLC CPU switched to the control system.

4.8.4 CC-Link connection (Via G4) (Connection to the CC-Link module mounted on redundant type extension base unit)

This section explains the CC-Link connection (Via G4) for connecting the GOT to the CC-Link module mounted on the redundant type extension base unit via the AJ65BT-G4-S3.
The following shows an example of connecting the GOT to the AJ65BT-G4-S3 of the CC-Link network.



(1) Connection method
Connect the AJ65BT-G4-S3 of the CC-Link network to the GOT.
For details, refer to the following.

13. CC-Link CONNECTION (Via G4)

(2) GT Designer3 setting
Set GT Designer3 as follows.

Setting item	Settings	Model
Controller Type	MELSEC-QnA, MELDAS C6*	GT27 GT23 GS
Device setting (Network setting)	Host	
Q Redundant Setting	Do not set the item.	

(3) Monitoring target change when system switching occurs in a redundant system
When the system switching occurs, the GOT automatically changes the monitoring target to the PLC CPU switched to the control system.

4.9 Q Redundant Setting

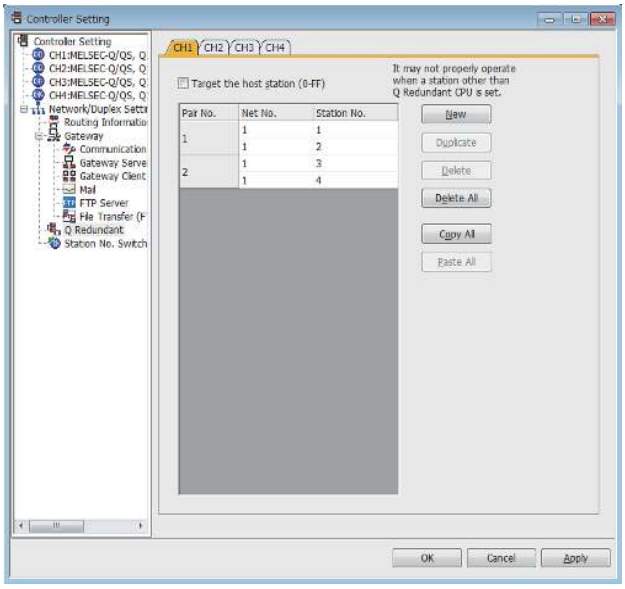
The following explains the setting for automatically change the monitoring target of the GOT when monitoring a QCPU redundant system.

POINT

Before making the Q redundant setting

In the Q redundant setting, do not set stations other than redundant CPUs.

1. Select [Common] → [Controller Setting] → [Q Redundant] from the menu.
2. The setting dialog box appears. Make the settings with reference to the following explanation.
3. Make the settings for the Q redundant setting.
   In the Q Redundant Setting dialog box, settings can be made for each channel of the controller.



(Example: Ethernet connection (Station No. 5), redundant CPU pair No. 1 and No. 2, redundant CPU station No. 1 to 4)

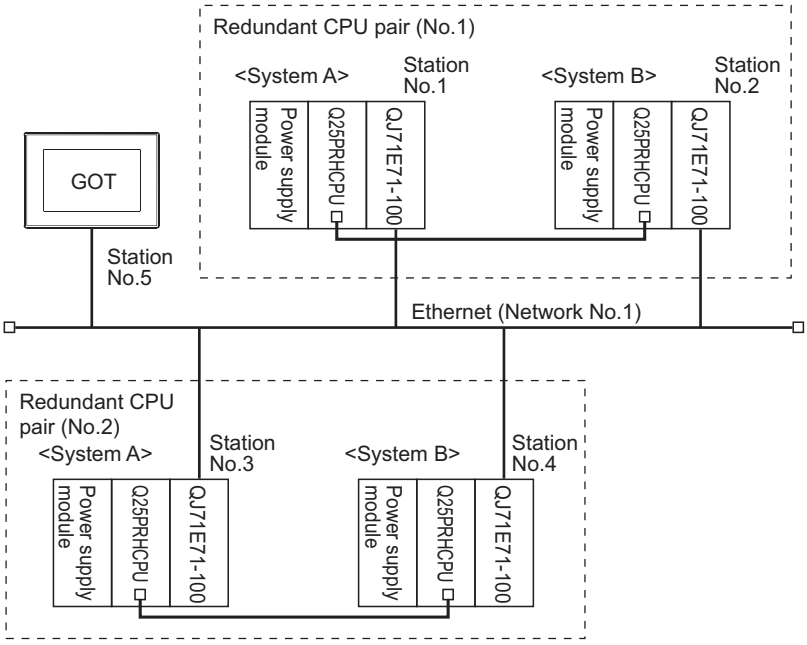
Item		Contents	Model
CH1 to CH4		Select a tab of the CH No. for the Q redundant setting.	GT27 GT23 GS
Target at its own Station (0-FF)		Select this item to monitor the control system as a host station. (In Ethernet connection, not available even when selected)	
Pair No.*1	NW No.	Set the network No. (1 to 225) for each of pair numbers (1 to 64). Upper row: Setting for the first redundant CPU. Lower row: Setting for the second redundant CPU. (The same value as the value set for the first redundant CPU is displayed)	
	Station No.	Set the station No. (1 to 63) of the redundant CPU for each of pair numbers (1 to 64). Upper row: Setting for the first redundant CPU. Lower row: Setting for the second redundant CPU. (The value of "Setting for the first redundant CPU" + 1 is displayed)	
New		Create a new pair No.	
Duplicate		Copies one setting of the selected pair number to append it at the last line.	
Delete		Deletes one setting of the selected pair. After deletion, the succeeding pair numbers are renumbered to fill the deleted pair number.	
Delete All		Deletes the setting of all pair numbers.	
Copy All		Copies the Q redundant setting on the selected CH No. tab.	
Paste All		Pastes the copied Q redundant setting in the selected CH No. tab.	

For details of *1, refer to the explanation below.

*1 Pair number

Redundant CPU pair means the redundant CPUs (System A / System B) in the redundant system configuration. Pair number is the number assigned to each redundant CPU pair.

Example: Ethernet connection (Pair No. 1 and Pair No. 2)



POINT

Precautions for making Q redundant setting

Pay attention to the following items when making the Q redundant setting.

- In the setting, station Nos. of the System A CPU and System B CPU must be adjacent numbers to be set as a pair.
  As long as adjacent numbers are used, allocation of them to the System A CPU and System B CPU may be determined as desired.
- Pairing of the last station No. and station No. 1 (Example: Station No. 64 and station No. 1) is not allowed.
- Make sure that the QCPU in the station for which Q redundant setting is made is a redundant CPU.
  If any of the QCPUs to which the Q redundant setting is made is not a redundant CPU, the GOT fails to automatically change the monitoring target to the control system when the system is switched.
- When making the Q redundant setting for MELSECNET/H, MELSECNET/10, or Ethernet connections, check the station Nos. of network modules before the setting. If the settings of the Q redundant setting and the actual network module station Nos. are not matched, the GOT fails to automatically change the monitoring target to the control system when the system is switched.
- The redundant pair number setting is necessary in the Q redundant setting when the monitoring target changes automatically at the system switching with the host station specified in Ethernet connection. (The "Target at its own Station (0-FF)" function of the Q redundant setting is not valid in Ethernet connection.)
- GOT supports the backup mode (separate mode), which is the operation mode of the QCPU redundant system, and does not support the debug mode.

4.10 Switch the Monitor Target to the Control System Using the Script Function

The following explains how to create a script screen, to be used for the MELSECNET/H or MELSECNET/10 connection (network system), or Ethernet connection, that automatically changes the monitoring target (Station No.) at the occurrence of system switching even if the Q redundant setting is not made.
The script executes the station number switching function or screen switching function.
The following shows the advantages and disadvantages of the station number switching function and screen switching function.

Function	Advantage	Disadvantage
Station number switching function	The monitor screens for Station No. 1 (control system) and Station No. 2 (standby system) can be created on one screen.	Some objects do not allow the station number to be switched.
Screen switching function	All objects can be used since monitor screens are created for each station number.	Monitor screens must be created separately for Station No. 1 (control system) and Station No. 2 (standby system).

The following explains how to use each function.

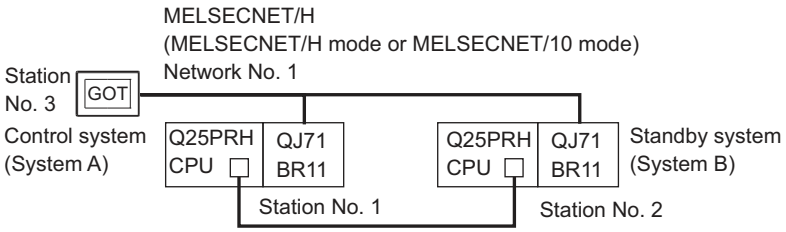
4.10.1 Method for using the station number switching function

- As a feature of this function, monitor screens for Station No. 1 (control system) and Station No. 2 (standby system) can be created on one screen.
- If the system switching occurs, the GOT can change the monitoring target to the control system PLC CPU on the same monitor screen.
- To achieve this, the script of the GOT monitors the special relay SM1515 (Control system identification flag) of the PLC CPU and stores the station number of the latest control system into the station number switching device.
- Restrictions: Some objects do not allow the station number to be switched.

GT Designer3 (GOT2000) Help

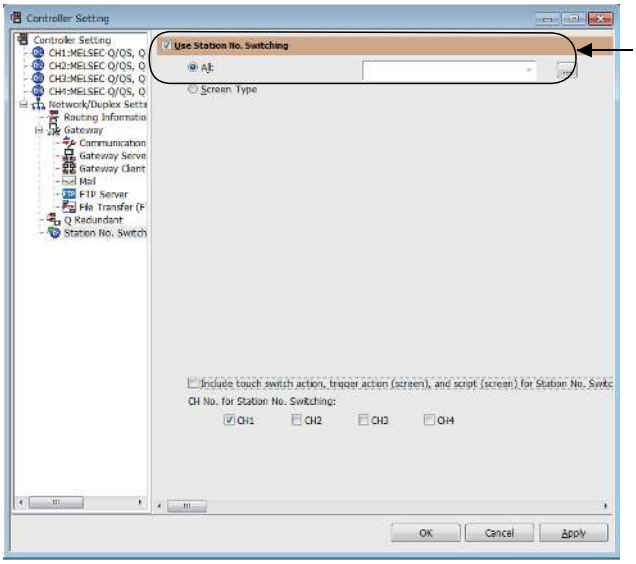
■ Setting method (For MELSECNET/H connection, MELSECNET/10 connection)

System configuration example 1: MELSECNET/H connection, MELSECNET/10 connection



Connected module	Network No.	Station No.
MELSECNET/H network module of control system	1	1
MELSECNET/H network module of standby system		2
GOT connected to MELSECNET/H network or MELSECNET/10 network		3

1. Set the station number switching device.
Select [Common] → [Controller Setting] → [Station No. Switching], and set the internal device GD100 as the station number switching device.
Do not use a device of PLC CPU as a screen switching device. Since the device information is transferred by the tracking transfer function of the redundant system, the trigger action may be disabled.

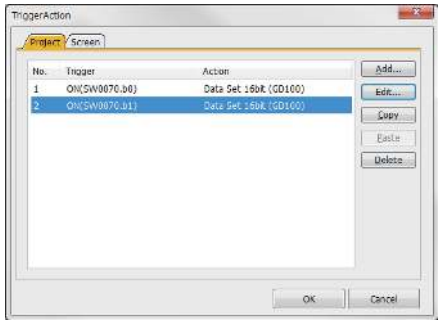


2. Set the trigger action.
Make the settings so that the station number is switched when the faulty station information (SW70) of MELSECNET/H turns ON in the project specified by selecting [Common] → [trigger action].

Condition 1	: SW70.b0 (while ON)	← When b0 is ON, Station No. 1 is abnormal.
Operation	: GD100=2	← Station No. is changed to 2.

Condition 1	: SW70.b1 (while ON)	← When b1 is ON, Station No. 2 is abnormal.
Operation	: GD100=1	← Station No. is changed to 1.

Create the trigger action in the project on the Project tab.



POINT

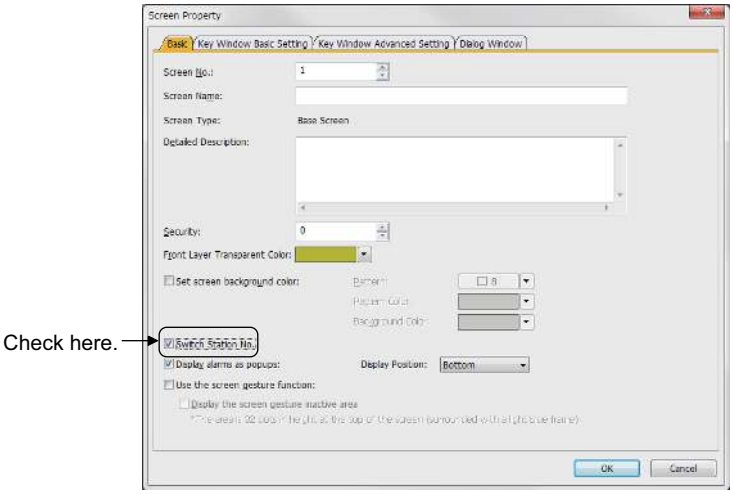
Setting for the trigger action function

For the trigger action function, hexadecimals cannot be used.
To use the trigger action function, set the N/W No. and the station No. of the PLC CPU in [Unsigned BIN].
(For the trigger action function, set [Unsigned BIN] for [Storing Device])

Example:
When N/W No.: 1 and Station No.: 1 (0101H)
Set "257".
When N/W No.: 10 and Station No.: 10 (0A0AH)
Set "2570".

3. Create a monitor screen.
For MELSECNET/H connection, MELSECNET/10 connection or Ethernet connection: (Common)
In the device setting (network setting) of each object, set Network No. 1 and Station No. 1 of the control system.

4. Validate the station number switching function.
On the Basic tab screen specified by selecting [Screen] → [Screen Property], select the item [Switch Station No.] to validate the station number changing function.
Make this setting for each monitor screen.

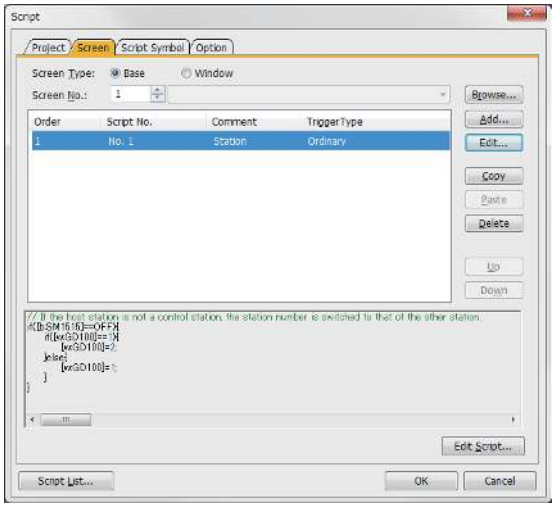


5. Change the station number switching device value in the script.
By selecting [Common] → [Script] → [Script], create a script for each monitor screen that checks the SM1515 status of the current monitor station, and if it is OFF (standby system), changes the station number switching device value.
Set the trigger type of the script as [Ordinary] or [Sampling(about 3s)].

- Screen script for MELSECNET/H connection and MELSECNET/10 connection:

```
// If the host station is not a control station, the station number is switched to that of the other station.
if([b:SM1515]==OFF){
        if([w:GD100]==1){
                [w:GD100]=2;
        }else{
                [w:GD100]=1;
        }
}
```

Set the created script for each screen on the Screen tab.

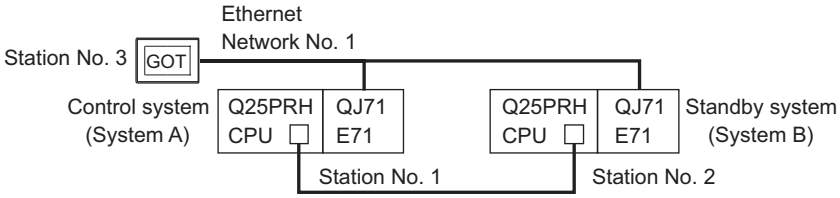


HINT

When the MELSECNET/H network is connected to the redundant system only, SW56 (current control station) can be set as the station number switching device.
In this case, even if the system switching occurs, the GOT always monitors the station number that is currently the control station.

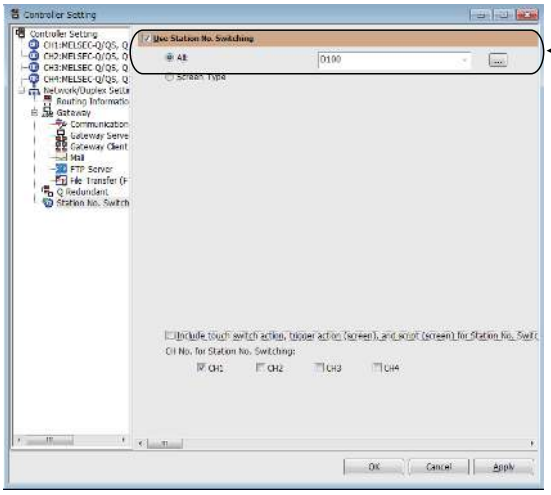
■ Setting method (Ethernet connection)

System configuration example 2: Ethernet connection



Connected module	Network No.	Station No.
Ethernet module of control system	1	1
Ethernet module of standby system		2
GOT connected to the Ethernet network		3

1. Set the station number switching device.
Select [Common] → [Controller Setting] → [Station No. Switching], and set the internal device GD100 as the station number switching device.
Do not use a device of PLC CPU as a screen switching device. Since the device information is transferred by the tracking transfer function of the redundant system, the trigger action may be disabled.



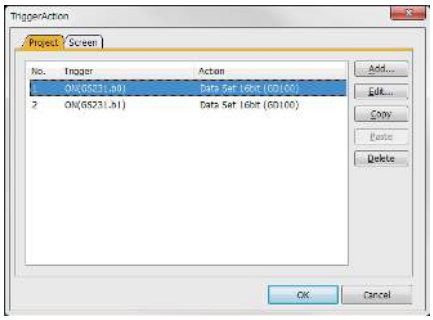
Set here.

2. Set the trigger action.
Make the setting so that the station number is switched when the faulty station information (GS231) from the station monitoring specified by selecting [Common] → [trigger action] turns ON.
(For Network No. 1 and Station No. 2, set "258"(0102H))

Condition 1	: GS231.b0 (while ON)	← When b0 is ON, Station No. 1 is abnormal.
Operation	: GD100=258(0102H)	← Station No. is changed to 2.

Condition 1	: GS231.b1 (while ON)	← When b1 is ON, Station No. 2 is abnormal.
Operation	: GD100=257(0101H)	← Station No. is changed to 1.

Create the trigger action in the project on the Project tab.



POINT

Setting for the trigger action function

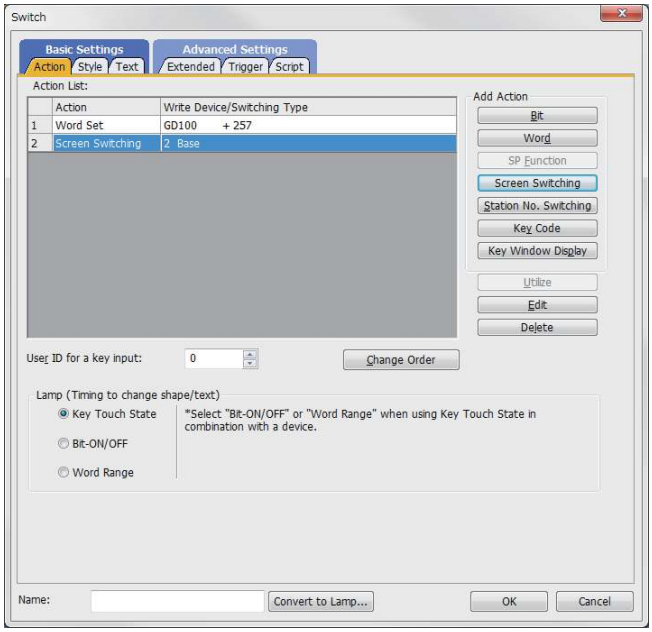
For the trigger action function, hexadecimals cannot be used.
To use the trigger action function, set the N/W No. and the station No. of the PLC CPU in [Unsigned BIN].
(For the trigger action function, set [Unsigned BIN] for [Storing Device])

Example:
When N/W No.: 1 and Station No.: 1 (0101H)
Set "257".
When N/W No.: 10 and Station No.: 10 (0A0AH)
Set "2570".

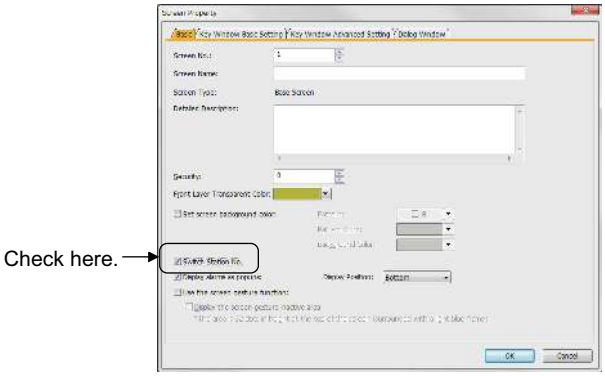
3. Create a monitor screen.
For MELSECNET/H connection, MELSECNET/10 connection or Ethernet connection: (Common)
In the device setting (network setting) of each object, set Network No. 1 and Station No. 1 of the control system.

4. On the screen 1, set the switch for writing the station No. 1 to the station number switching device.
After the GOT is started up, the station number switching device value of the GOT is "0".
For Ethernet connection, the monitor becomes abnormal when the station number switching device value is "0".
Therefore, set the switch for writing the station number to the station number switching device and the switch for shifting to the monitor screen on the screen 1.
To make this setting, select [Object] → [Switch] → [Switch].

The following shows an example of setting GD100=257 (0101H: Network No. 1, Station No. 1) and base screen=2 to one switch.(Base screen 2 is the actually monitoring screen)



5. Validate the station number switching function.
On the Basic tab screen specified by selecting [Screen] → [Property], select the item [Switch Station No.] to validate the station number changing function.
Make this setting for each monitor screen.
However, do not make this setting on the screen 1 created in the item 4. above.



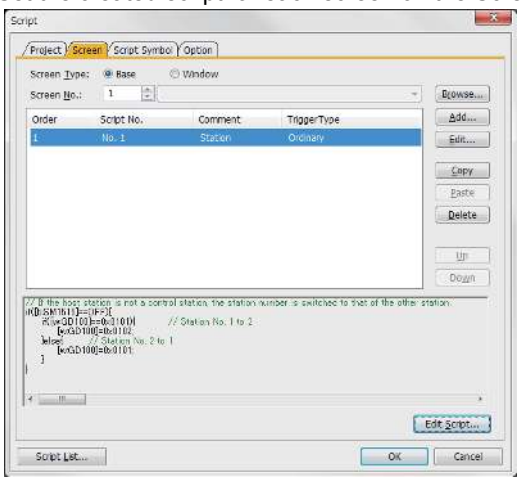
6. Change the station number switching device value in the script.
By selecting [Common] → [Script] → [Script], create a script for each monitor screen that checks the SM1515 status of the current monitor station, and if it is OFF (standby system), changes the station number switching device value.
Set the trigger type of the script as [Ordinary] or [Sampling(about 3s)].

- Screen script for Ethernet connection:

```
// If the host station is not a control station, the station number is switched to that of the other station.
if([b:SM1515]==OFF){
        if([w:GD100]==0x0101){                    // Station No. 1 to 2
                [w:GD100]=0x0102;
        }else{                                    // Station No. 2 to 1
                [w:GD100]=0x0101;
        }
}
```

For the Ethernet connection, create a script so that the network No. and station number are set to the station switching device.
For Network No. 1 and Station No. 2, create "[w:GD100]=0x0102".

Set the created script for each screen on the Screen tab.



4.10.2 Method for using the screen changing function

- As a feature of this function, monitor screens are created for each station number.
  When the system switching occurs, the GOT can change the monitoring target to the control system PLC CPU on the other monitor screen.
- To achieve this, the script of the GOT monitors the special relay SM1515 (Control system identification flag) of the PLC CPU and stores the screen number corresponding to the latest station number of the control system into the screen switching devices.
- Precautions:
  There are the following 8 different screen switching devices.Set the screen switching devices for all screens to be used.

  (1) Base screen switching device

  (2) Overlap window 1 switching device

  (3) Overlap window 2 switching device

  (4) Overlap window 3 switching device

  (5) Overlap window 4 switching device

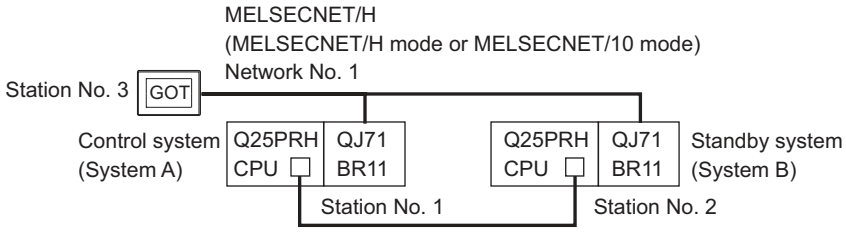
  (6) Overlap window 5 switching device

  (7) Superimpose window 1 switching device

  (8) Superimpose window 2 switching device

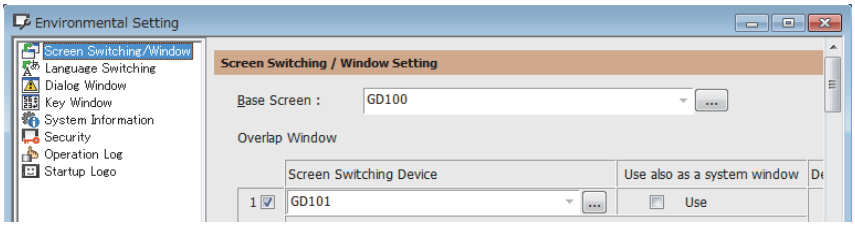
■ Setting method (For MELSECNET/H connection, MELSECNET/10 connection)

System configuration example 1: MELSECNET/H connection, MELSECNET/10 connection



Connected module	Network No.	Station No.
MELSECNET/H network module of control system	1	1
MELSECNET/H network module of standby system		2
GOT connected to MELSECNET/H network or MELSECNET/10 network		3

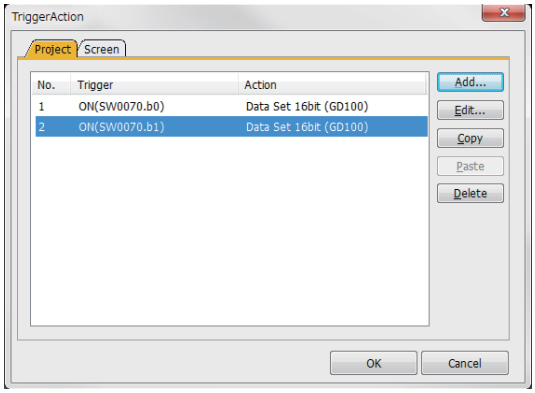
1. Set the screen switching device of the base screen.
   Select [Common] → [GOT Environmental Setting] → [Screen Switching/Window], and set the internal device GD100 as the base screen switching device.



2. Set the trigger action.
Set the trigger action so that the station number is switched when the faulty station information (SW70) of MELSECNET/H turns ON in the project specified by choosing [Common] → [trigger action].

Condition 1	: SW70.b0 (while ON)	← When b0 is ON, Station No. 1 is abnormal.
Operation	: GD100=2	← Screen No. is changed to 2.

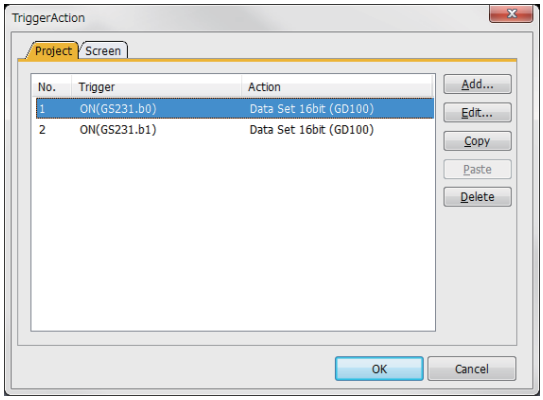
Condition 1	: SW70.b1 (while ON)	← When b1 is ON, Station No. 2 is abnormal.
Operation	: GD100=1	← Screen No. is changed to 1.



Make the setting so that the station number is switched when the faulty station information (GS231) from the station monitoring specified by selecting [Common] → [trigger action] turns ON.

Condition 1	: GS231.b0 (while ON)	← When b0 is ON, Station No. 1 is abnormal.
Operation	: GD100=2	← Screen No. is changed to 2.

Condition 1	: GS231.b1 (while ON)	← When b1 is ON, Station No. 2 is abnormal.
Operation	: GD100=1	← Screen No. is changed to 1.



3. Set monitor screens.
For MELSECNET/H connection, MELSECNET/10 connection or Ethernet connection: (Common)
- Create a monitor screen with each object whose network setting is Station No. 1 on Screen No. 1 (1-1).
- Create a monitor screen with each object whose network setting is Station No. 2 on Screen No. 2 (1-2).

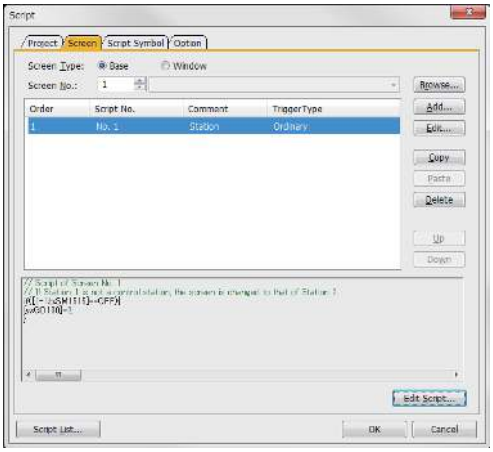
4. Change the screen switching device value in the script.
By selecting [Common] → [Script] → [Script], create a script for each monitor screen that checks the SM1515 status of the current monitor station, and if it is OFF (standby system), changes the station number switching device value.
Set the trigger type of the script as [Ordinary] or [Sampling(about 3s)].

Screen scripts for MELSECNET/H connection and MELSECNET/10 connection:
The same script can be used for MELSECNET/H connection, MELSECNET/10 connection and Ethernet connection.

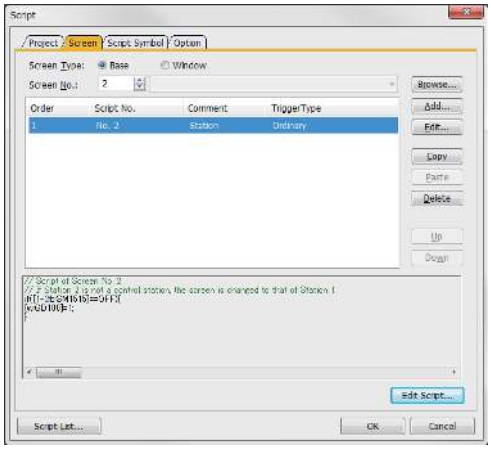
```
// Script of Screen No. 1
// If Station 1 is not a control station, the screen is changed to that of Station 2.
if([1-1:b:SM1515]==OFF){
[w:GD100]=2;
}
```

```
// Script of Screen No. 2
// If Station 2 is not a control station, the screen is changed to that of Station 1.
if([1-2:b:SM1515]==OFF){
[w:GD100]=1;
}
```

Script screen of Screen No. 1



Script screen of Screen No. 2

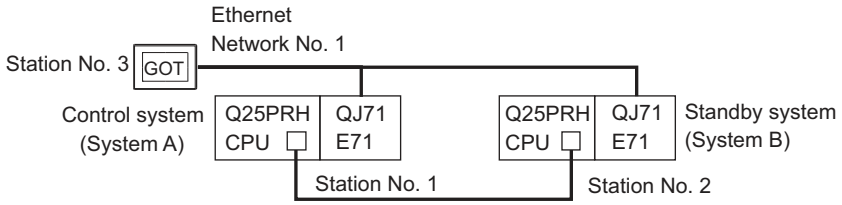


HINT

When the MELSECNET/H network is connected to the redundant system only, SW56 (current control station) can be set as the screen switching device.
In this case, even if the system switching occurs, the GOT always monitors the station number that is currently the control station.

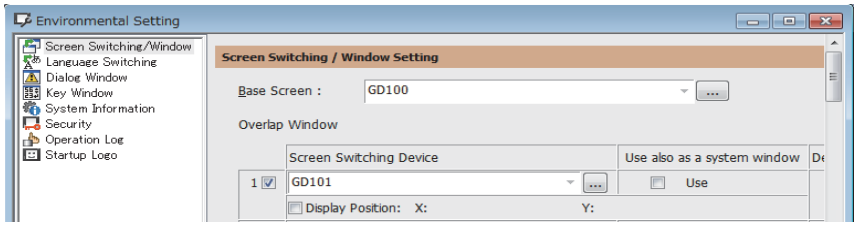
■ Setting method (Ethernet connection)

System configuration example 2: Ethernet connection



Connected module	Network No.	Station No.
Ethernet module of control system	1	1
Ethernet module of standby system		2
GOT connected to the Ethernet network		3

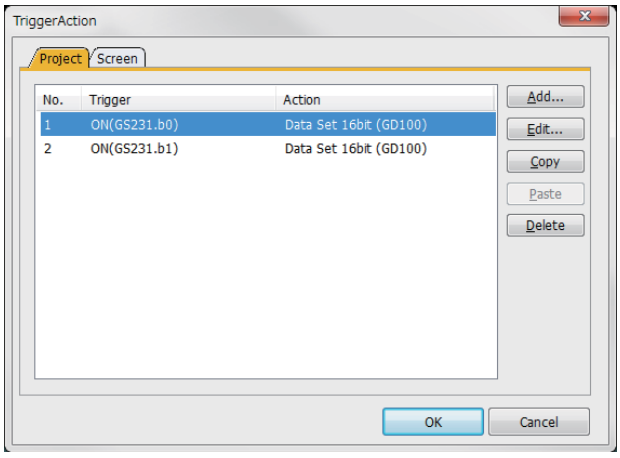
1. Set the screen switching device of the base screen.
Select [Common] → [GOT Environmental Setting] → [Screen Switching/Window], and set the internal device GD100 as the base screen switching device.



2. Set the trigger action.
Make the setting so that the station number is switched when the faulty station information (GS231) from the station monitoring specified by selecting [Common] → [trigger action] turns ON.

Condition 1	: GS231.b0 (while ON)	← When b0 is ON, Station No. 1 is abnormal.
Operation	: GD100=2	← Screen No. is changed to 2.

Condition 1	: GS231.b1 (while ON)	← When b1 is ON, Station No. 2 is abnormal.
Operation	: GD100=1	← Screen No. is changed to 1.



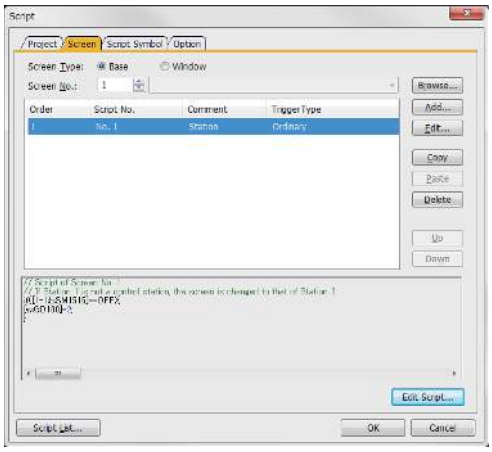
3. Set monitor screens.
For MELSECNET/H connection, MELSECNET/10 connection or Ethernet connection: (Common)
- Create a monitor screen with each object whose network setting is Station No. 1 on Screen No. 1 (1-1).
- Create a monitor screen with each object whose network setting is Station No. 2 on Screen No. 2 (1-2).

4. Change the screen switching device value in the script.
By selecting [Common] → [Script] → [Script], create a script for each monitor screen that checks the SM1515 status of the current monitor station, and if it is OFF (standby system), changes the station number switching device value.
Set the trigger type of the script as [Ordinary] or [Sampling(about 3s)].
Screen script for Ethernet connection:
The same script can be used for MELSECNET/H connection, MELSECNET/10 connection and Ethernet connection.

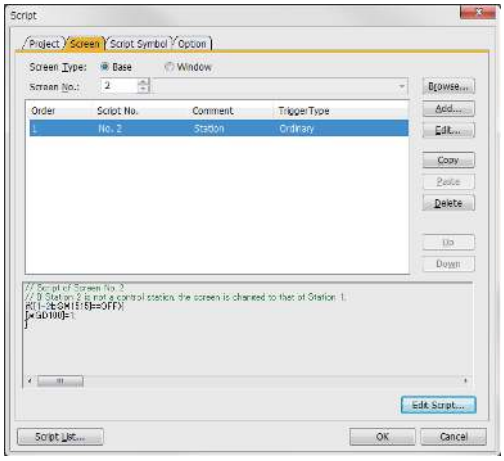
```
// Script of Screen No. 1
// If Station 1 is not a control station, the screen is changed to that of Station 2.
if([1-1:b:SM1515]==OFF){
[w:GD100]=2;
}
```

```
// Script of Screen No. 2
// If Station 2 is not a control station, the screen is changed to that of Station 1.
if([1-2:b:SM1515]==OFF){
[w:GD100]=1;
}
```

Script screen of Screen No. 1



Script screen of Screen No. 2



5

ETHERNET CONNECTION

5. ETHERNET CONNECTION

5.1 Connectable Model List

5.1.1 PLC/Motion controller CPU

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU Q00CPU*1 Q01CPU*1 Q02CPU*1 Q02HCPU*1 Q06HCPU*1 Q12HCPU*1 Q25HCPU*1	○	Ethernet	GT27 GT23 GS	5.2.1
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU Q12PRHCPU (Main base) Q25PRHCPU (Main base) Q12PRHCPU (Extension base) Q25PRHCPU (Extension base)	○	Ethernet	GT27 GT23 GS	5.2.1
	Q00UJCPU Q00UCPU Q01UCPU Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU	○	Ethernet	GT27 GT23 GS	5.2.1
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	○	Ethernet	GT27 GT23 GS	5.2.1 5.2.2
C Controller module	Q12DCCPU-V*2 Q24DHCCPU-V Q24DHCCPU-LS	○	Ethernet	GT27 GT23 GS	5.2.2

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.
*2 Use a module with the upper five digits later than 12042.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-QS	QS001CPU	○	Ethernet	GT27 GT23 GS	5.2.1
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P	○	Ethernet	GT27 GT23 GS	5.2.2 5.2.1
MELSEC-Q (A mode)	Q02CPU-A*2 Q02HCPU-A*2 Q06HCPU-A*2	○	Ethernet	GT27 GT23 GS	5.2.1
MELSEC-QnA (QnACPU)	Q2ACPU*2 Q2ACPU-S1*2 Q3ACPU*2 Q4ACPU*2 Q4ARCPU*2	○	Ethernet	GT27 GT23 GS *1	5.2.1
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	Ethernet	GT27 GT23 GS *1	5.2.1
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU A2NCPUP21 A2NCPUR21 A2NCPU-S1 A2NCPUP21-S1 A2NCPUR21-S1 A3NCPU A3NCPUP21 A3NCPUR21	○	Ethernet	GT27 GT23 GS	5.2.1

(Continued to next page)

*1 If the A series Ethernet module is applied to the QnACPU, the GOT can monitor the devices as the same as the case of AnACPU. However, the following devices cannot be monitored.
- Devices added to QnACPU
- Latch relays (L) and step relays (S)
  (In case of QnACPU, the latch relay (L) and step relay (S) are different from the internal relay. However, whichever is specified, an access is made to the internal relay.)
- File register (R)

*2 Combination with the Ethernet module is restricted. 5.1.2 Ethernet module

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A (AnSCPU)	A2USCPU	○	Ethernet	GT27 GT23 GS	5.2.1
	A2USCPU-S1				
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU				
	A2SCPU-S1				
	A2SHCPU				
	A2SHCPU-S1				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A	A0J2HCPU	×	Ethernet	GT27 GT23 GS	5.2.1
	A0J2HCPUP21				
	A0J2HCPUR21				
	A0J2HCPU-DC24				
MELSEC-A	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*1*2	○	Ethernet	GT27 GT23 GS	5.2.1
	Q173CPU*1*2				
	Q172CPUN*1				
	Q173CPUN*1				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1	○	Ethernet	GT27 GT23 GS	5.2.1 5.2.5
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*3				
	Q170MSCPU*4				
	Q170MSCPU-S1*4				
	MR-MQ100				

(Continued to next page)

*1 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00H or later
- SW6RN-SV22Q□: 00H or later
- SW6RN-SV43Q□: 00B or later

*2 Use main modules with the following product numbers.
- Q172CPU: Product number N******* or later
- Q173CPU: Product number M******* or later

*3 When using Ethernet module, only the first step can be used on the extension base unit (Q52B/Q55B).

*4 When using Ethernet module, the extension base unit (Q5□B/Q6□B) can be used.

Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	Ethernet	GT27 GT23 GS	5.2.1
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU				
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	-	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	Ethernet	GT27 GT23 GS	5.2.1
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	GT27 GT23 GS	-
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	CC-Link IE	GT27 GT23 GS	5.2.4
		×	Ethernet	GT27 GT23 GS	
CNC C70	Q173NCCPU	○	Ethernet	GT27 GT23 GS	5.2.3
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	Ethernet*2	GT27 GT23 GS	5.2.1
MELSEC-FX	FX_0	×	-	GT27 GT23 GS	-
	FX_{0S}				
	FX_{0N}				
	FX_1				
	FX_2	×			
	FX_{2C}				
	FX_{1S}	○			
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	×			
	FX_{3S}*1	○	Ethernet	GT27 GT23 GS	5.2.1
	FX_{3G}*1				
	FX_{3GC}*1				
	FX_{3GE}				
	FX_{3U}*1				
	FX_{3UC}*1				

*1 The supported version of the main units varies depending on the Ethernet module to be used as shown below.

Ethernet module	$FX_{3U(C)}$	$FX_{3G(C)}$	FX_{3S}
FX_{3U}-ENET-L	Ver. 2.21 or later	FX_{3U}-ENET-L is not supported.	
FX_{3U}-ENET-ADP	Ver. 3.10 or later	Ver. 2.00 or later	Ver. 1.00 or later

*2 Ethernet connections can be established only via the Ethernet module (QJ71E71) or the built-in Ethernet port of QnUDE.

5.1.2 Ethernet module

CPU series	Ethernet module[*1]			
MELSEC-Q (Q mode) MELSEC-QS Motion controller CPU (Q Series) CNC C70 Robot controller (CRnQ-700)	QJ71E71-100	QJ71E71-B5	QJ71E71-B2	QJ71E71
MELSEC-QnA	AJ71QE71N3-T[*2] AJ71QE71N-B5T[*2] A1SJ71QE71N-B5[*2] A1SJ71QE71-B5	AJ71QE71N-B5[*2] AJ71QE71 A1SJ71QE71N-B2[*2] A1SJ71QE71-B2	AJ71QE71N-B2[*2] AJ71QE71-B5 A1SJ71QE71N-T[*2]	AJ71QE71N-T[*2] A1SJ71QE71N3-T[*2] A1SJ71QE71N-B5T[*2]
MELSEC-Q (A mode) MELSEC-A Motion Controller CPU (A Series)	AJ71E71N3-T AJ71E71N-B5T A1SJ71E71N-B2 A1SJ71E71-B2-S3	AJ71E71N-B5 AJ71E71-S3 A1SJ71E71N-T	AJ71E71N-B2 A1SJ71E71N3-T A1SJ71E71N-B5T	AJ71E71N-T A1SJ71E71N-B5 A1SJ71E71-B5-S3
MELSEC-FX	FX3U-ENET-L	FX3U-ENET-ADP		
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB			
MELSEC-L	LJ71E71-100			

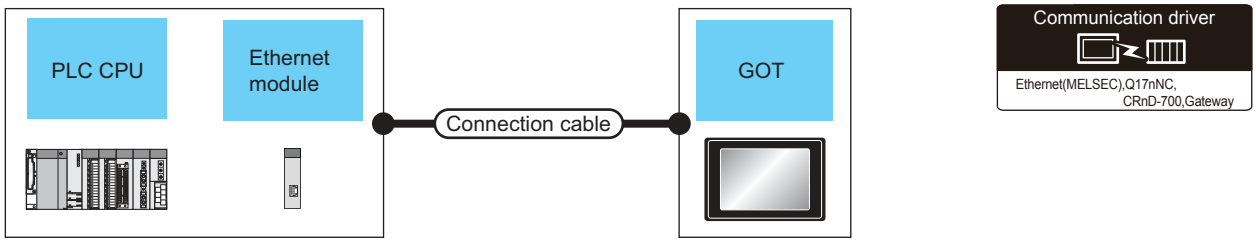
*1 If the A series Ethernet module is applied to the QnACPU, the GOT can monitor the devices as the same as the case of AnACPU. However, the following devices cannot be monitored.
- Devices added to QnACPU
- Latch relays (L) and step relays (S)
  (In case of QnACPU, the latch relay (L) and step relay (S) are different from the internal relay. However, whichever is specified, an access is made to the internal relay.)
- File register (R)

*2 Use B or a later function version of Ethernet module and PLC CPU.

5.2 System Configuration

5.2.1 Connection to Ethernet module

■ When connecting to MELSEC-Q, QS, QnA, A or motion controller



PLC			Connection cable*1	Maximum segment length*3	GOT		Number of connectable equipment
Model name	Ethernet module *3*4	Communication type	Cable model		Option device	Model	
MELSEC-Q (Q mode) MELSEC-QS Motion controller CPU (Q Series)*5	QJ71E71-100 QJ71E71-B5 QJ71E71-B2 QJ71E71	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	128 GOTs*6 (recommended to 16 units or less)
MELSEC-QnA	AJ71QE71N3-T AJ71QE71N-B5 AJ71QE71N-B2 AJ71QE71N-T AJ71QE71N-B5T AJ71QE71 AJ71QE71-B5 A1SJ71QE71N3-T A1SJ71QE71N-B5 A1SJ71QE71N-B2 A1SJ71QE71N-T A1SJ71QE71N-B5T A1SJ71QE71-B5 A1SJ71QE71-B2	Ethernet					
MELSEC-A MELSEC-Q (A mode) Motion controller CPU (A Series)	AJ71E71N3-T AJ71E71N-B5 AJ71E71N-B2 AJ71E71N-T AJ71E71N-B5T AJ71E71-S3 A1SJ71E71N3-T A1SJ71E71N-B5 A1SJ71E71N-B2 A1SJ71E71N-T A1SJ71E71N-B5T A1SJ71E71-B5-S3 A1SJ71E71-B2-S3	Ethernet					
MELSEC-L	LJ71E71-100	Ethernet					

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system. Connect to the Ethernet module, hub, transceiver, or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.
A cross cable is available for connecting the GOT to the Ethernet module.

*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

*3 For the system configuration of the Ethernet module, refer to the following manuals.

☞ Q Corresponding Ethernet Interface Module User's Manual (Basic)

☞ For QnA Ethernet Interface Module User's Manual

☞ For A Ethernet Interface Module User's Manual

*4 Select one of the following [Controller Type] in [Ethernet] of GT Designer3.
- Ethernet module (Q Series): QJ71E71
- Ethernet module (QnA Series): AJ71QE71
- Ethernet module (A Series): AJ71QE71

For [Ethernet] of GT Designer3, refer to the following.

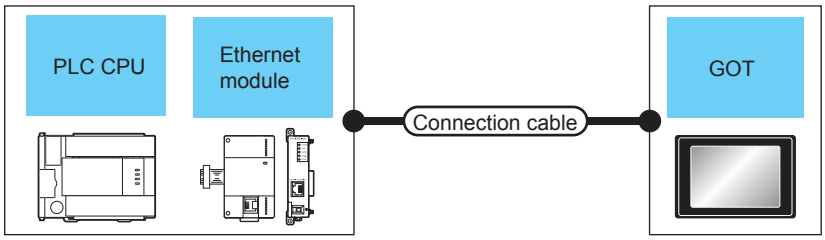
☞ 5.3.4 Ethernet setting

*5 When using the peripheral I/F of Q170MCPU, Q17nDCPU-S1 or MR-MQ100, refer to the following.

☞ 5.2.5 Connecting to PERIPHERAL I/F (Built-in Ethernet port Motion Controller CPU)

*6 The number of connectable GOTs for one network is 63 units (at most).

■ When connecting to MELSEC-FX



PLC			Connection cable*1	Maximum segment length*2	GOT		Number of connectable equipment
Model name	Ethernet module *3*4	Communication type	Cable model		Option device	Model	
MELSEC-FX (FX3U, FX3G)	FX3U-ENET-L	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	2 GOTs
MELSEC-FX (FX3UC, FX3GC)	FX3UC-1PS-5V, FX2NC-CNV-IF + FX3U-ENET-L*5	Ethernet					
MELSEC-FX (FX3U)	FX3U-CNV-BD, FX3U-422-BD, FX3U-232-BD, + FX3U-ENET-ADP*6*7	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	4 GOTs
MELSEC-FX (FX3UC)	FX3U-ENET-ADP	Ethernet					
MELSEC-FX (FX3G)	FX3G-CNV-ADP, + FX3U-ENET-ADP*7	Ethernet					
MELSEC-FX (FX3GC)	FX3U-ENET-ADP*7	Ethernet					
MELSEC-FX (FX3S)	FX3S-CNV-ADP + FX3U-ENET-ADP*7	Ethernet					

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system.
Connect to the Ethernet module, hub, transceiver or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.
A cross cable is available for connecting the GOT to the Ethernet module.

*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

*3 For the system configuration of the Ethernet module, refer to the following manuals.

For FX Ethernet Interface Module User's Manual

*4 Select one of the following [Controller Type] in [Ethernet] of GT Designer3.
- Ethernet module (FX Series): FX

For [Ethernet] of GT Designer3, refer to the following.

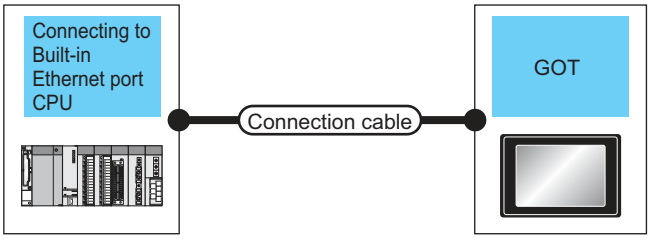
5.3.4 Ethernet setting

*5 When using an Ethernet module with the FX3UC series, FX2NC-CNV-IF or FX3UC-1PS-5V is required.

*6 When using an Ethernet module with the FX3U series, FX3U-CNV-BD, FX3U-422-BD, or FX3U-232-BD is required.

*7 FX3U-ENET-ADP occupies one extension communication adapter CH (Max. 2 CHs) of the FX3U(C) or FX3G(C) and one extension communication adapter CH (Max. 1 CH) of the FX3S. One CPU allows the connection of only one FX3U-ENET-ADP.

5.2.2 Connection to Built-in Ethernet port CPU or C Controller module



PLC		Connection cable*1*2	Maximum segment length*4	GOT		Number of connectable equipment
Model name	Communication type			Option device	Model	
MELSEC-QnUDE(H) *4*5 MELSEC-QnUDV *4*5	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	16 GOTs
C Controller module	Ethernet					
MELSEC-L*6*7	Ethernet					
MELSEC-FX (FX3GE)	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	4 GOTs

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system.
Connect to the Ethernet module, hub, transceiver, or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.

*2 A straight cable is available.
When connecting QnUDE(H) and GOT directly with Ethernet cable, connection by cross cable is available.

GOT2000 Series User's Manual (Hardware)

*3 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

*4 For the system configuration of Built-in Ethernet port QCPU, refer to the following manual.

QCPU User's Manual (Hardware Design, Maintenance and Inspection)

*5 Select [QnUD(P)V/QnUDEH] for [Controller Type] in [Ethernet] of GT Designer3.
For [Ethernet] of GT Designer3, refer to the following.

5.3.4 Ethernet setting

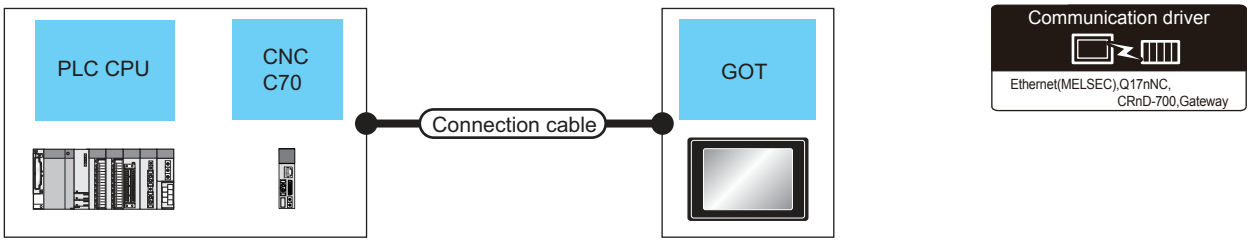
*6 For the system configuration of Built-in Ethernet port LCPU, refer to the following manual.

MELSEC-L CPU Module User's Manual (Built-In Ethernet Function)

*7 Select [LCPU] for [Controller Type] in [Ethernet] of GT Designer3.
For [Ethernet] of GT Designer3, refer to the following.

5.3.4 Ethernet setting

5.2.3 Connecting to Display I/F



PLC		Connection cable*1	Maximum segment length*3	GOT		Number of connectable equipment
Model name	Communication type			Option device	Model	
CNC C70 (Q173NCCPU) *3*4	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	16 GOTs for 1 network

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system.
Connect to the Ethernet module, hub, transceiver or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.

*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

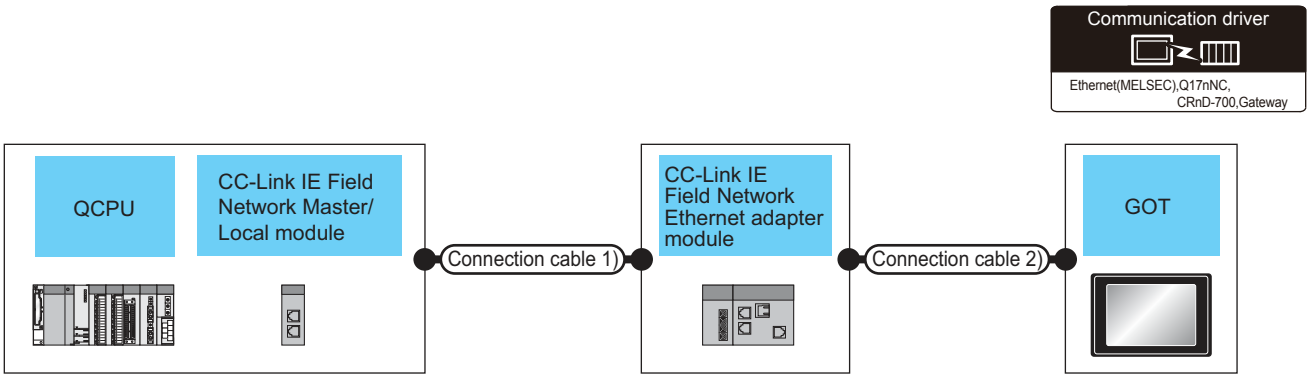
*3 For the system configuration of the CNC C70, refer to the following manual.

C70 Series SET UP MANUAL

*4 Select [Q17nNC] for [Controller Type] in [Ethernet] of GT Designer3.
For [Ethernet] of GT Designer3, refer to the following.

5.3.4 Ethernet setting

5.2.4 Connection to CC-Link IE Field Network Ethernet Adapter Module



PLC		Connection cable 1)*4		CC-Link IE Field Network Ethernet adapter module			Connection cable 2)*1		GOT		Number of connectable equipment
Model name	CC-Link IE Field Network Master/Local module	Cable model	Max. distance	Communication type	Model name	Communication type	Cable model Connection diagram number	Maximum segment length*3	Option device	Model	
MELSEC-Q (Q mode) Motion Controller CPU (Q Series)	QJ71GF11-T2*4	Double-shielded twisted pair cable*3	100m	CC-Link IE	NZ2GF-ETB	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	128 GOTs*5 (recommended to 16 units or less)

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system. Connect to the Ethernet module, hub, transceiver, or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.
A cross cable is available for connecting the GOT to the Ethernet module.

*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

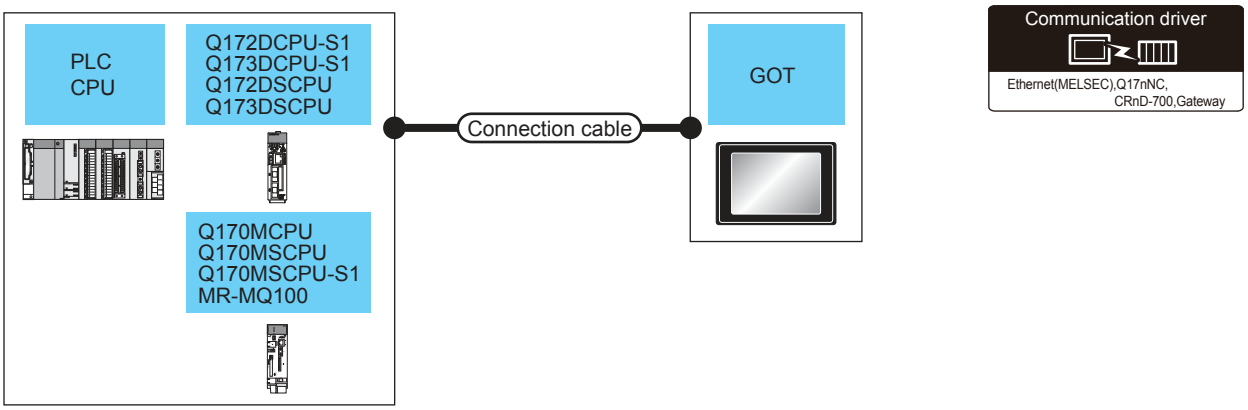
*3 Use cables with the following specifications.

Connector	Range
Category 5e or higher Shielded RJ-45	Cable that satisfies the following specifications: IEEE802.3 1000BASE-T ANSI/TIA/EIA-568-B(Category 5e)

*4 For the system configuration on the CC-Link IE Field Network module side, refer to the following manual.
CC-Link IE Field Network Ethernet Adapter Module User's Manual

*5 The number of connectable GOTs for one network is 63 units (at most).

5.2.5 Connecting to PERIPHERAL I/F (Built-in Ethernet port Motion Controller CPU)



PLC		Connection cable*1	Maximum segment length*3	GOT		Number of connectable equipment
Model name*2	Communication type			Option device	Model	
Motion controller CPU (Q Series) Q172DCPU-S1 Q173DCPU-S1 Q172DSCPU Q173DSCPU Q170MCPU Q170MSCPU Q170MSCPU-S1 MR-MQ100	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	30m	- (Built into GOT)	GT27 GT23 GS	16 GOTs for 1 network

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system.
Connect to the Ethernet module, hub, transceiver or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.

*2 When using the PERIPHERAL I/F, set as shown below.
- Use the GT Designer3 Version1.12N or later.
- Select [QnUDE(H)] for [Controller Type] in [Ethernet] of GT Designer3.
  For [Ethernet] of GT Designer3, refer to the following.

5.3.4 Ethernet setting

*3 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

HINT

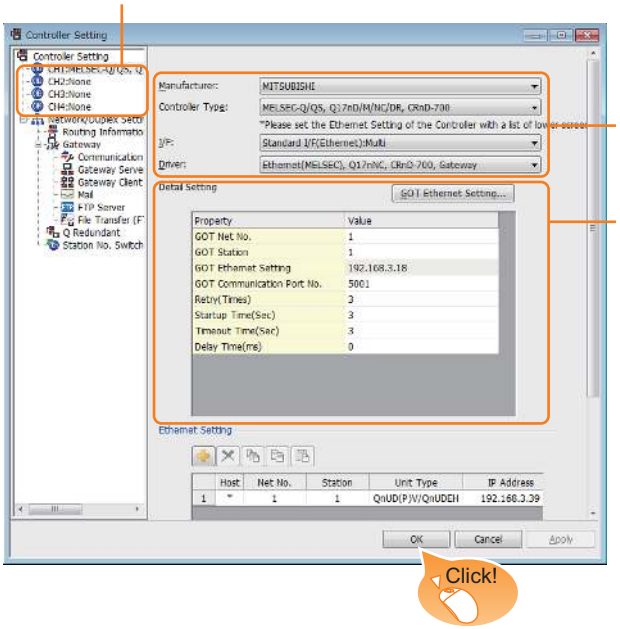
Direct connection between PERIPHERAL I/F and GOT

The PERIPHERAL I/F and GOT can be directly connected by using a cross cable for the Ethernet connection cable.

5.3 GOT Side Settings

5.3.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - @@@
   - Driver:
     Ethernet(MELSEC), Q17nNC, CRnD-700, Gateway
     Ethernet(FX), Gateway
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   5.3.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

5.3.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5001
Retry(Times)	3
Startup Time(Sec)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
GOT Net No.	Set the network No. of the GOT. (Default: 1)	1 to 239
GOT Station	Set the station No. of the GOT. (Default: 1)	1 to 64
GOT Ethernet Setting	Set the GOT IP address, subnet mask, default gateway, peripheral S/W communication port No., transparent port No.	5.3.3GOT Ethernet setting
GOT Communication Port No.	Set the GOT port No. for the connection with the Ethernet module. • For Ethernet (MELSEC), Q17nNC, and CRnD-700 (Default: 5001) • For Ethernet(FX), Gateway (Default: 5019)	1024 to 5010, 5014 to 65534 (Except for 5011 to 5013 and 49153)
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 3times)	0 to 5times
Startup Time	Specify the time period from the GOT startup until GOT starts the communication with the PLC CPU. (Default: 3sec)	3 to 255sec
Timeout Time *1	Set the time period for a communication to time out. (Default: 3sec)	1 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 10000 (× 10ms)

*1 To connect the GOT with the Ethernet module (Q Series) in the one-on-one relationship using a cross cable, set [Timeout Time] to 6sec. or longer.

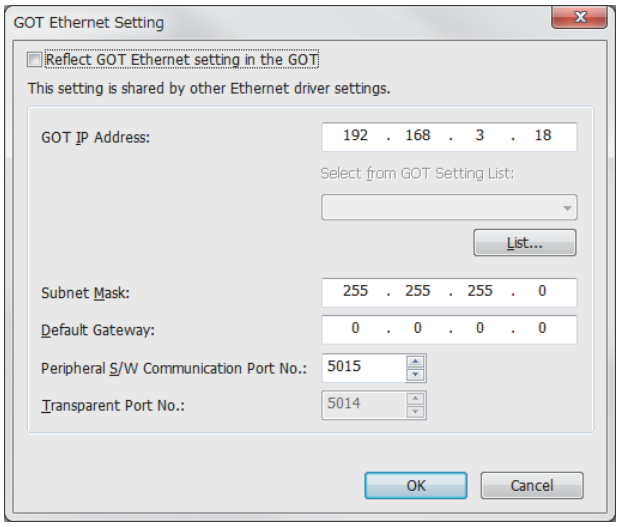
POINT

(1) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)

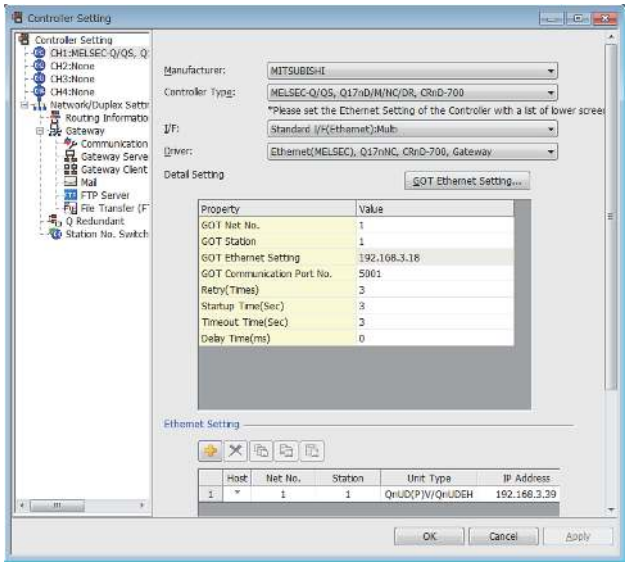
(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

5.3.3 GOT Ethernet setting



Item	Description	Range
GOT IP Address	Set the IP address of the GOT. (Default: 192.168.0.18)	0.0.0.0 to 255.255.255.255
Subnet Mask	Set the subnet mask for the sub network. (Only for connection via router) If the sub network is not used, the default value is set. (Default: 255.255.255.0)	0.0.0.0 to 255.255.255.255
Default Gateway	Set the router address of the default gateway where the GOT is connected. (Only for connection via router) (Default: 0.0.0.0)	0.0.0.0 to 255.255.255.255
Peripheral S/W Communication Port No.	Set the GOT port No. for the S/W communication. (Default: 5015)	1024 to 5010, 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)
Transparent Port No.	Set the GOT port No. for the transparent function. (Default: 5014)	1024 to 5010, 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)

5.3.4 Ethernet setting



Item	Description	Range
Host	The host is displayed.(The host is indicated with an asterisk (*).))	-
Net No.	Set the network No. of the connected Ethernet module. (Default: blank)	1 to 239
Station	Set the station No. of the connected Ethernet module. (Default: blank)	1 to 64
Unit Type*1	Set the type of the connected Ethernet module. (Default: QJ71E71/LJ71E71)	QnUD(P)V/QnUDEH, QnD(H)CCPU, LCPU, Q17nNC, QJ71E71/LJ71E71, AJ71QE71, AJ71E71 FX NZ2GF-ETB
IP Address	Set the IP address of the connected Ethernet module. (Default: blank)	0.0.0.0 to 255.255.255.255
Port No.*2	Set the port No. of the connected Ethernet module. (Default: 5001)	1024 to 65534
Communication*3	UDP	UDP, TCP

*1 Select one of the following [Controller Type].
- Connection to Built-in Ethernet port: QnUD(P)V/QnUDEH, QCPU, Q170MCPU, Q170MSCPU(-S1), Q173D(S)CPU/Q172D(S)CPU: QnUD(V/EH)
- C Controller module: QnD(H)CCPU
- Connection to Built-in Ethernet port LCPU: LCPU
- Ethernet module (NZ2GF-ETB): NZ2GF-ETB
- Q17nNCCPU: Q17nNC
- Ethernet module (Q, L Series): QJ71E71/LJ71E71
- Ethernet module (QnA Series): AJ71QE71
- Ethernet module (A Series): AJ71QE71
- Ethernet module (FX Series): FX
- Built-in Ethernet port FXCPU: FX

For the applicable Ethernet module, refer to the following.

☞ 5.2System Configuration

*2 Set only when selecting "AJ71E71" in [Controller Type]. When other than [AJ71E71] is selected, the port No. is as follows.
- [QnUDE(H)]:5006(fixed)
- [Q17nNC],[QJ71E71],[AJ71QE71]:5001(fixed)
- [FX]: 5551 (When using FX3U-ENET-L)
  5556 (When using FX3U-ENET-ADP)
  5556 (When using Built-in Ethernet port FXCPU)

*3 When selecting the FX in [Controller Type], the communication type is the TCP (fixed).

POINT

(1) Example of [Ethernet setting]
For examples of [Ethernet setting], refer to the following.

5.4 PLC Side Setting

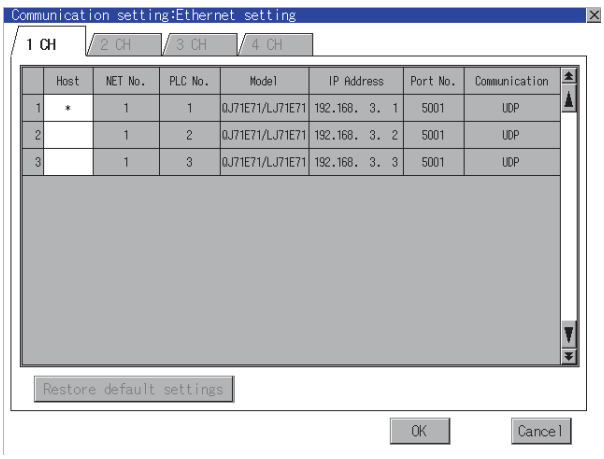
(2) Parameter reflection function of MELSOFT Navigator

(a) The color of the cells for the items which are reflected to GT Designer3 from MELSOFT Navigator changes to green. Set items, which are displayed in green cells, from the MELSOFT Navigator.

(b) When the settings of N/W No., PLC No., type or IP address are reflected to the parameter from the MELSOFT Navigator, those settings are added. Items set in advance are not deleted. However, if the combination of the N/W No. and the PLC No. or the IP address overlaps, the item set in advance is overwritten.

(3) Changing the host on the GOT main unit
The host can be changed by the utility function of the GOT main unit. For the detailed connection method, refer to the following manual.

GOT2000 Series User's Manual (Utility)



5.3.5 Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.

However, the same transfer network number cannot be set twice or more (multiple times).

Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.

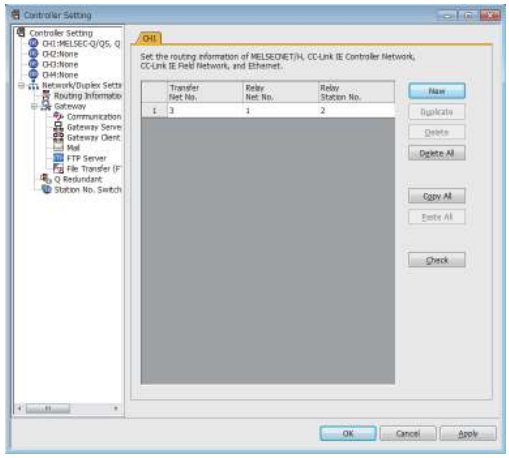
POINT

Routing parameter setting

When communicating within the host network, routing parameter setting is unnecessary.

For details of routing parameters, refer to the following manual.

Q Corresponding Ethernet Interface Module User's Manual (Application)



Item	Range
Transfer Network No.	1 to 239
Relay Network No.*1	1 to 239
Relay Station No.*1	1 to 64

*1 When accessing to other networks relaying a Build-in Ethernet port CPU, set the virtual network No. and PLC No. set in the Ethernet settings on GT Designer3.

POINT

(1) Routing parameter setting of relay station
Routing parameter setting may also be necessary for the relay station. For the setting, refer to the following.
☞ 5.4 PLC Side Setting

(2) Parameter reflection function of MELSOFT Navigator
   (a) The color of the cells for the items which are reflected to GT Designer3 from MELSOFT Navigator changes to green. Set items, which are displayed in green cells, from the MELSOFT Navigator.
   (b) When the settings of Transfer network No., Relay network No. or Relay station No. are reflected to the parameter from the MELSOFT Navigator, those settings are added. Items set in advance are not deleted.However, if the target network No. overlaps, the item set in advance is overwritten.
   (c) The routing information is used manually by the user when the data is created. Therefore, after changing the network configuration by MELSOFT Navigator, create a routing information again. For details of the creation of the routing information, refer to the MELSOFT Navigator help.

5.4 PLC Side Setting

Model		Reference
Built-in Ethernet port QCPU	Q03UDECPU, Q04UDEHCPU, Q06UDEHCPU, Q10UDEHCPU, Q13UDEHCPU, Q20UDEHCPU, Q26UDEHCPU, Q50UDEHCPU, Q100UDEHCPU, Q03UDVCPU, Q04UDVCPU, Q06UDVCPU, Q13UDVCPU, Q26UDVCPU, Q172DSCPU, Q173DSCPU, Q172DCPU-S1, Q173DCPU-S1, Q170MCPU, Q170MSCPU, Q170MSCPU-S1	5.4.1 5.4.2 5.4.11
C Controller module	Q12DCCPU-V Q24DHCCPU-V Q24DHCCPU-LS	5.4.4
Built-in Ethernet port LCPU	L02CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L06CPU	5.4.1 5.4.2
Ethernet module (Q Series)	QJ71E71-100, QJ71E71-B5, QJ71E71-B2, QJ71E71	5.4.3
Ethernet module (L Series)	LJ71E71-100	
Ethernet module (QnA Series)	AJ71QE71N3-T, AJ71QE71N-B5, AJ71QE71N-B2, AJ71QE71N-T, AJ71QE71N-B5T, AJ71QE71, AJ71QE71-B5, A1SJ71QE71N3-T, A1SJ71QE71N-B5, A1SJ71QE71N-B2, A1SJ71QE71N-T, A1SJ71QE71N-B5T, A1SJ71QE71-B5, A1SJ71QE71-B2	5.4.5
Ethernet module (A Series)	AJ71E71N3-T, AJ71E71N-B5, AJ71E71N-B2, AJ71E71N-T, AJ71E71N-B5T, AJ71E71-S3, A1SJ71E71N3-T, A1SJ71E71N-B5, A1SJ71E71N-B2, A1SJ71E71N-T, A1SJ71E71N-B5T, A1SJ71E71-B5-S3, A1SJ71E71-B2-S3	5.4.6
Ethernet module (FX Series)	FX3U-ENET-L, FX3U-ENET-ADP	5.4.7
Built-in Ethernet port FXCPU	FX3GE	5.4.8
CNC C70	Q173NCCPU	5.4.9
CC-Link IE Field Network Ethernet Adapter Module	QJ71GF11-T2	5.4.10

5.4.1 Connecting to Built-in Ethernet port CPU (one-to-one connection)

This section describes the settings of the GOT and Built-in Ethernet port CPU in the following case of system configuration.

POINT

Connecting to Built-in Ethernet port CPU

For details of Built-in Ethernet port CPU, refer to the following manual.

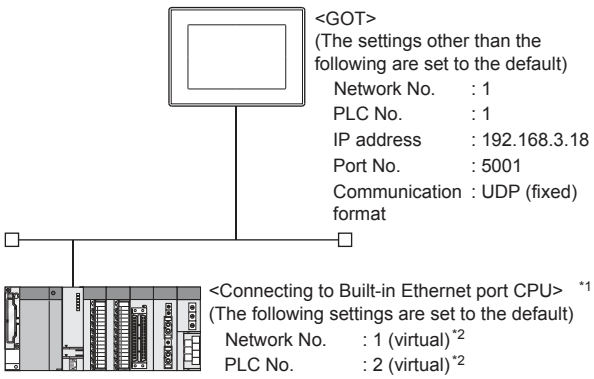
QnUCPU User's Manual (Communication via Built-in Ethernet Port)

MELSEC-L CPU Module User's Manual (Built-In Ethernet Function)

■ System configuration

For connecting one Built-in Ethernet port QCPU to one GOT, the PLC side settings are not required. Set [Ethernet] for [Controller Setting] on GT Designer3, and then connect Built-in Ethernet port QCPU to the GOT.

■ [Controller Setting] and [Ethernet] of GT Designer3



*1 For the settings when using system devices including a hub and a transceiver, refer to the following.

5.4.2 Connecting to Built-in Ethernet port CPU (multiple connection)

*2 These setting items do not exist at the PLC side. However, the virtual values must be set on the GOT side.

[Controller Setting] and [Ethernet] of GT Designer3

■ [Controller Setting] and [Ethernet] of GT Designer3

POINT

(1) [Controller Setting] and [Ethernet] of GT Designer3
For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

(2) Ethernet setting
When connecting Built-in Ethernet port QCPU or LCPU to a GOT, the settings items for the network No. and station No. do not exist at the PLC side. However, these virtual values must be set on the GOT side. Therefore, set the network No. and station No.
Therefore, set the network No. and station No. Set the network No. that is not existed on the network system and any station No..

(1) Controller setting

Item	Set value (Use default value)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5002
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value
Ethernet setting No.1	Host	*
	N/W No.	1*1
	PLC No.	2*2
	Type	QnUDE(H), LCPU
	IP address	192.168.3.39
	Port No.	5006 (fixed)
	Communication	UDP (fixed)

*1 Set the same value as that of GOT N/W No.
*2 Set a value different from that of GOT PLC No.

■ Checking communication state of Connecting to Built-in Ethernet port CPU

(1) When using the Command Prompt of Windows®.
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.39
Reply from 192.168.3.2: bytes=32 time <10ms TTL=32

(b) When abnormal communication
C:\>Ping 192.168.3.39
Request timed out.

(2) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.
- Cable connecting condition
- Confirmation of switch and network parameter setting
- Operation state of PLC CPU (faulty or not)
- The IP address of Built-in Ethernet port CPU specified in the ping command

POINT

Ethernet diagnostics of GX Developer
Ethernet diagnostics of GX Developer is available to a Ping test from the PLC.
For details of Ethernet diagnostics of GX Developer, refer to the following manual.

☞ QCPU User's Manual (Hardware Design, Maintenance and Inspection)
☞ MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)

5.4.2 Connecting to Built-in Ethernet port CPU (multiple connection)

This section describes the settings of the GOT and Built-in Ethernet port CPU in the following case of system configuration.

POINT

Connecting to Built-in Ethernet port CPU

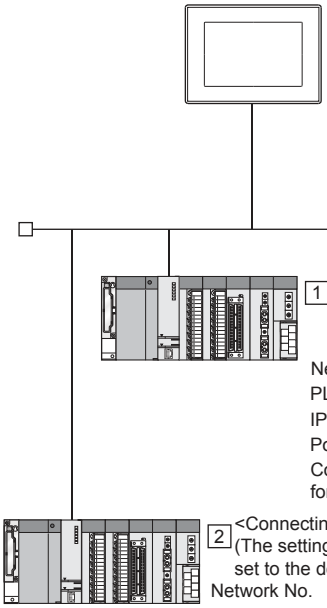
For details of Built-in Ethernet port CPU, refer to the following manual.

☞ QnUCPU User's Manual (Communication via Built-in Ethernet Port)

☞ MELSEC-L CPU Module User's Manual (Built-In Ethernet Function)

■ System configuration

☞ ■ [Controller Setting] and [Ethernet] of GT Designer3



<GOT>
(The settings other than the following are set to the default)
Network No. : 1
PLC No. : 1
IP address : 192.168.3.18
Port No. : 5001
Communication format : UDP(fixed)

1 <Connecting to Built-in Ethernet port CPU>
(The settings other than the following are set to the default)
Network No. : 1 (virtual) *1
PLC No. : 2 (virtual) *1
IP address : 192.168.3.1
Port No. : 5006(fixed)
Communication format : UDP(fixed)

2 <Connecting to Built-in Ethernet port CPU>
(The settings other than the following are set to the default)
Network No. : 1 (virtual) *1
PLC No. : 3 (virtual) *1
IP address : 192.168.3.2
Port No. : 5006(fixed)
Communication format : UDP(fixed)

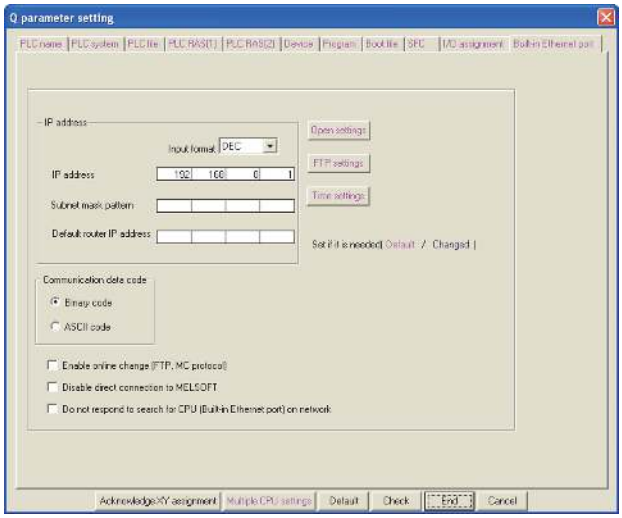
☞ ■ [Q parameter setting] or [L parameter setting] for GX Developer

*1 These setting items do not exist at the PLC side. However, the virtual values must be set on the GOT side.

☞ [Controller Setting] and [Ethernet] of GT Designer3

■ [Q parameter setting] or [L parameter setting] for GX Developer

(1) Built-in Ethernet port
Example: [Q parameter setting] screen

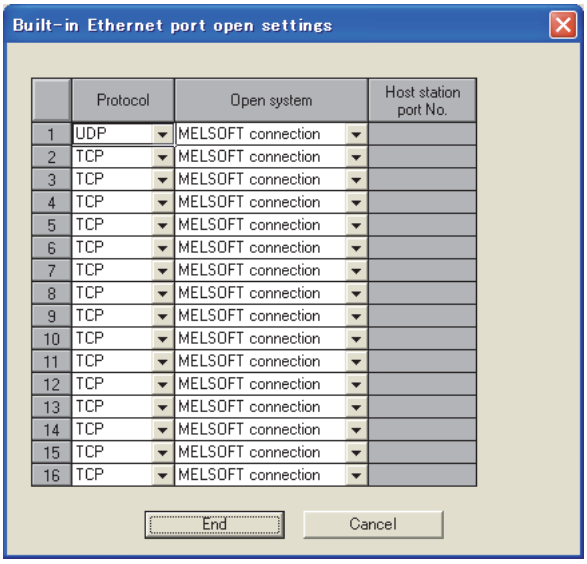


Item	Set value	Setting necessity at GOT connection
IP address	192.168.3.1	○
Subnet mask pattern	-	×
Default router IP address	-	×
Communication data code	(Use default value)	△
Enable online change (FTP, MC protocol)		△
Disable direct connection to MELSOFT		△
Do not respond to search for CPU (Built-in Ethernet port) on network		△
Open settings	Refer to (2).	○
FTP settings	(Use default value)	△
Time settings		△

○: Necessary △: As necessary ×: Not necessary

(2) Open settings

The setting is required for all the connected GOTs.



Item	Set value
Protocol	UDP (fixed)
Open system	MELSOFT connection (fixed)
Host station port No.	(Use default value)

■ [Controller Setting] and [Ethernet] of GT Designer3

POINT

(3) [Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

(4) Ethernet setting

When connecting Built-in Ethernet port CPU to a GOT, the settings items for the network No. and station No. do not exist at the PLC side. However, these virtual values must be set on the GOT side. Therefore, set the network No. and station No. Set the network No. that is not existed on the network system and any station No..

(1) Controller setting

Item	Set value (Use default value)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5002
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value	
		1	2
Ethernet setting No.1	Host	*	-
	N/W No.	1*1	1*1
	PLC No.	2*2	3*2
	Type	QnUDE(H), LCPU	QnUDE(H), LCPU
	IP address	192.168.0.1	192.168.0.2
	Port No.	5006 (fixed)	5006 (fixed)
	Communication	UDP (fixed)	UDP (fixed)

*1 Set the same value as that of GOT N/W No.
*2 Set a value different from that of the GOT PLC No. and the PLC No. of other PLCs on the same network.

■ Checking communication state of Connecting to Built-in Ethernet port CPU

(1) When using the Command Prompt of Windows®.
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.1
Reply from 192.168.0.1: bytes=32 time <10ms TTL=32

(b) When abnormal communication
C:\>Ping 192.168.3.1
Request timed out.

(2) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.
- Cable connecting condition
- Confirmation of switch and network parameter setting
- Operation state of PLC CPU (faulty or not)
- The IP address of Built-in Ethernet port CPU specified in the ping command

POINT

Ethernet diagnostics of GX Developer

Ethernet diagnostics of GX Developer is available to a Ping test from the PLC.
For details of Ethernet diagnostics of GX Developer, refer to the following manual.

☞ QCPU User's Manual (Hardware Design, Maintenance and Inspection)

☞ MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)

5.4.3 Connecting to Ethernet module (Q/L Series)

This section describes the settings of the GOT and Ethernet module (Q Series) in the following case of the system configuration.

POINT

Ethernet module (Q/L Series)

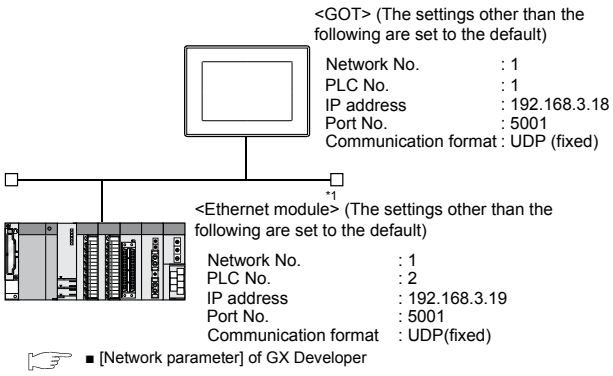
For details of the Ethernet module (Q/L Series), refer to the following manual.

☞ Q Corresponding Ethernet Interface Module User's Manual (Basic)

☞ MELSEC-L Ethernet Interface Module User's Manual (Basic)

■ System configuration (for Q series)

☞ ■ [Controller Setting] and [Ethernet] of GT Designer3



☞ ■ [Network parameter] of GX Developer

*1 The Ethernet module is mounted on the base unit slot 0.
The Start I/O No. of the Ethernet module is set to "0".

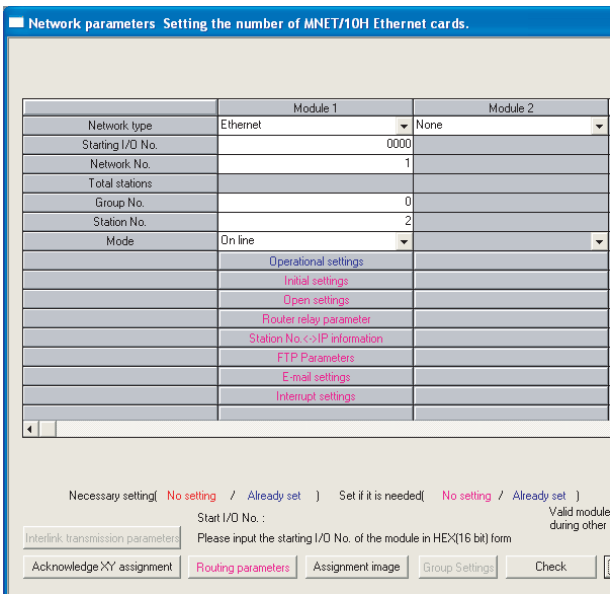
POINT

When connecting to Q170MCPU

When connected to Q170MCPU, the start I/O No. of the Ethernet module is set to "70".

■ [Network parameter] of GX Developer

(1) Network parameter

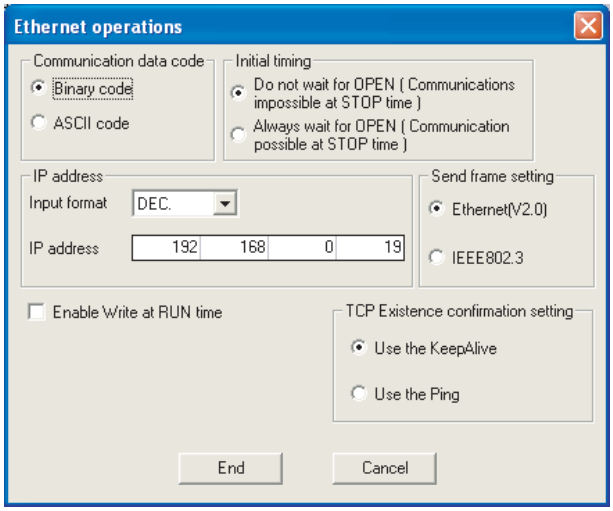


Item	Set value	Setting necessity at GOT connection
Network type	Ethernet (fixed)	○
Starting I/O No.*1	0000H	○
Network No.*2	1	○
Group No.	0 (fixed)	○
Station No.*3	2	○
Mode	Online (fixed)	○
Operation setting	Refer to (2)	○
Initial settings	(Use default value)	△
Open settings		×
Router relay parameter		×
Station No.<->IP information		×
FTP Parameters		×
E-mail settings		×
Interrupt settings		×
Redundant settings*4		△
Routing Parameters	Refer to (3)	△

○: Necessary △: As necessary ×: Not necessary

*1 When using Q170MCPU or Q170MSCPU(-S1), set the start I/O No. to 0070H.
*2 Specify the same network No. as that of the GOT.
*3 Do not set the same station No. as that of the GOT.
*4 Set when using Ethernet module in a redundant QnPRHCPU system.

(2) Operation setting



Item	Set value	Setting necessity at GOT connection
Communication data code*1	(Use default value)	×
IP address	192.168.3.39	○
Initial timing*1	(Use default value)	×
Send frame setting		×
Enable Write at RUN time*1		×
TCP Existence confirmation setting		×

○: Necessary △: As necessary ×: Not necessary

*1 Because port No. 5001 is fixed, these items operate at the following setting without relations to the setting given here.

- Communication date code : [Binary code]
- Initial timing : "Always wait for OPEN" (Communication is applicable while stopping the PLC CPU.)
- Enable Write at RUN time : [Enable Write at RUN time] (Writing Data is applicable while running the PLC CPU.)

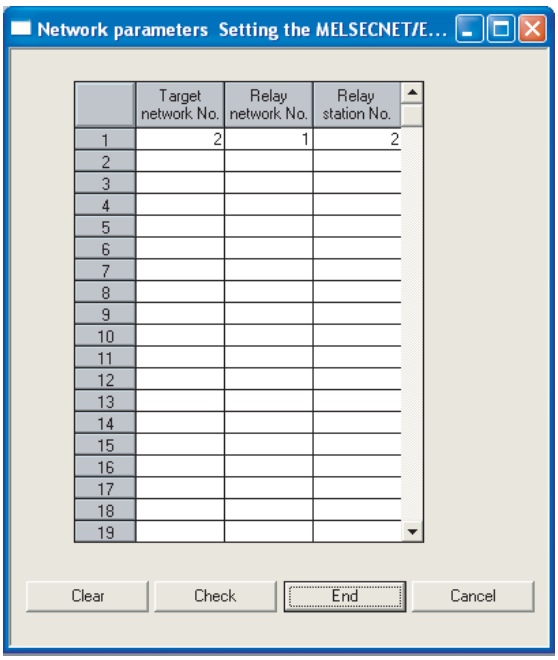
POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(3) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.
However, the same transfer network number cannot be set twice or more (multiple times).
Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Target network No.	1 to 239
Relay network No.	1 to239
Relay station No.	1 to 64

POINT

Routing parameter setting of request source

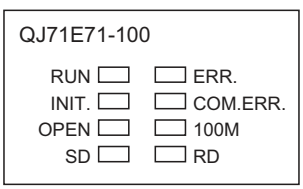
Routing parameter setting is also necessary for the request source GOT.
For the setting, refer to the following.

☞ 5.3.5 Routing parameter setting

(4) Communication confirmation

The INIT. LED on the Ethernet module turns on when the module is ready to communicate.
For confirming the communication state, refer to the following.

☞ ■Confirming the communication state of Ethernet module



*1

*1 The LEDs layout of QJ71E71-100.

■ [Controller Setting] and [Ethernet] of GT Designer3

(1) Controller setting

Item	Set value (Use default value)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5002
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value
Ethernet setting No.1	Host	*
	N/W No.	1
	PLC No.	2
	Type	QJ71E71
	IP address	192.168.3.39
	Port No.	5001 (fixed)
	Communication	UDP (fixed)

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

■ Confirming the communication state of Ethernet module

(1) When using the Command Prompt of Windows®.
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.19
Reply from 192.168.3.19: bytes=32 time<1ms
TTL=64

(b) When abnormal communication
C:\>Ping 192.168.3.19
Request timed out.

(2) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.
- Mounting condition of Ethernet communication unit
- Cable connecting condition
- Confirmation of switch and network parameter setting
- Operation state of PLC CPU (faulty or not)
- IP address of GOT specified by Ping command

POINT

Ethernet diagnostics of GX Developer

Ethernet diagnostics of GX Developer is available to a Ping test from the PLC.
For details of Ethernet diagnostics of GX Developer, refer to the following manual.

☞ User's manual of the Ethernet module

5.4.4 Connecting to C Controller module

This section describes the settings of the GOT and C Controller module in the following case of the system configuration.

POINT

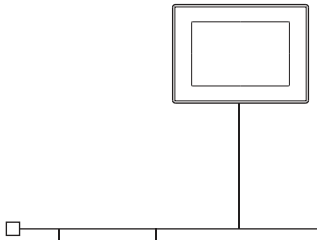
C Controller module

For details of C Controller module, refer to the following manual.

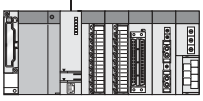
☞ C Controller Module User's Manual (Hardware Design, Function Explanation)

■ System configuration

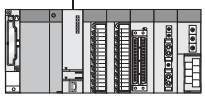
☞ ■ [Controller Setting] and [Ethernet] of GT Designer3



<GOT>
(The settings other than the following are set to the default)
Network No. : 1
PLC No. : 1
IP address : 192.168.3.18
Port No. : 5001
Communication format : UDP(fixed)



1 <C controller module>
(The settings other than the following are set to the default)
Network No. : 1 (virtual) *1
PLC No. : 2 (virtual) *1
IP address : 192.168.3.1
Port No. : 5006(fixed)
Communication format : UDP(fixed)



2 <C controller module>
(The settings other than the following are set to the default)
Network No. : 1 (virtual) *1
PLC No. : 3 (virtual) *1
IP address : 192.168.3.2
Port No. : 5006(fixed)
Communication format : UDP(fixed)

☞ ■ Utility setting for C Controller module

*1 These setting items do not exist at the PLC side. However, the virtual values must be set on the GOT side.

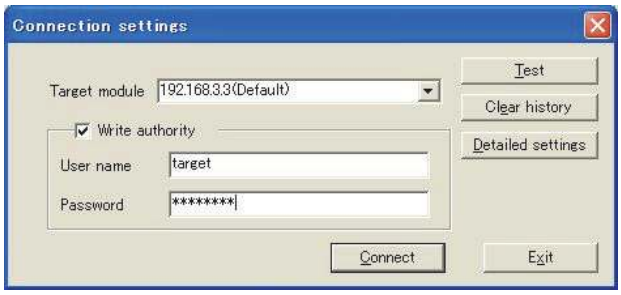
☞ ■ [Controller Setting] and [Ethernet] of GT Designer3

■ Utility setting for C Controller module

(1) Q12DCCPU-V

Use SW3PVC-CCPU-E Ver.3.05F or later for the C Controller setting utility.

(a) Connection settings



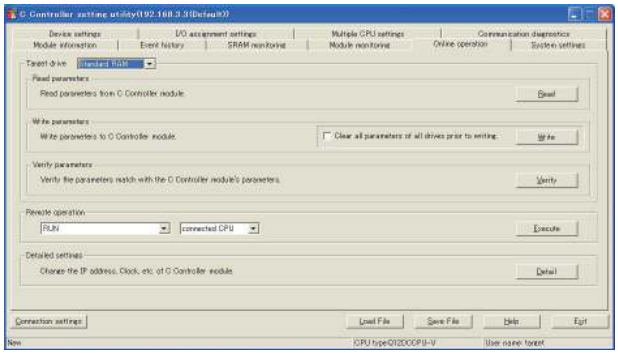
Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3 (Default)	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

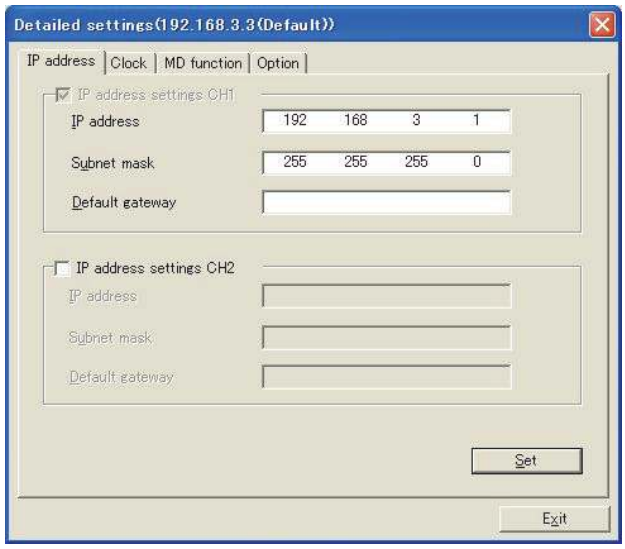
(b) Online operation



Item	Set value	Setting necessity at GOT connection
Detailed settings	Refer to (3)	○

○: Necessary △: As necessary ×: Not necessary

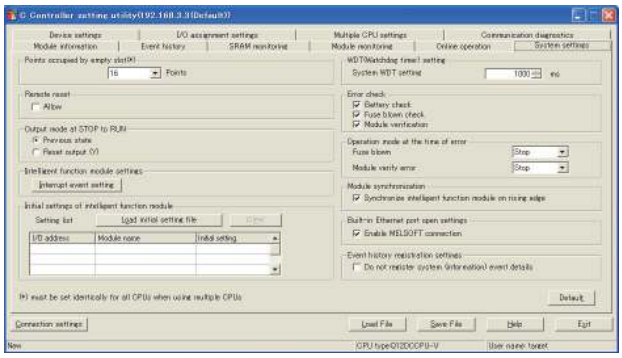
(c) Detail settings



Item	Set value	Setting necessity at GOT connection
IP address	192.168.3.1	○
Subnet mask	255.255.255.0	○
Default gateway	-	×
IP address settings CH2	-	×

○: Necessary △: As necessary ×: Not necessary

(d) System settings



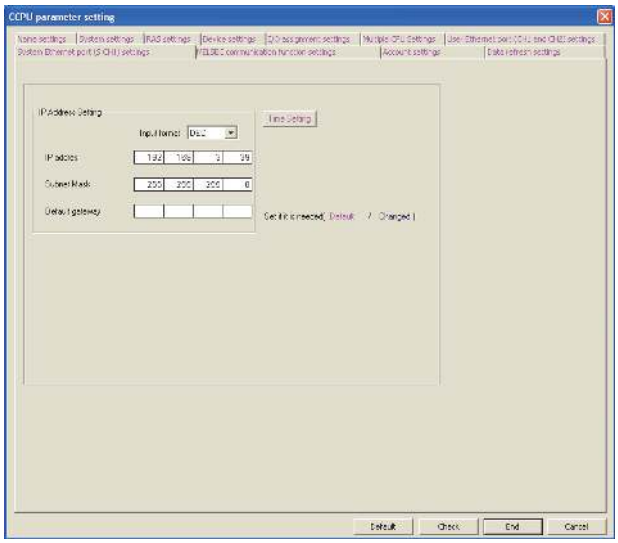
Item	Set value	Setting necessity at GOT connection
Points occupied by empty slot	(Use default value)	△
Remote reset		△
Output mode at STOP to RUN		△
Intelligent function module settings		△
Initial settings of intelligent function module		△
WDT (Watchdog timer) setting		△
Error check		△
Operation mode at the time of error		△
Module synchronization		△
Built-in Ethernet port open settings	Mark the checkbox	○
Event history registration settings	(Use default value)	△

○: Necessary △: As necessary ×: Not necessary

(2) Q24DHCCPU-V

Use SW4PVC-CCPU-E for the C Controller setting utility.

(a) Connection settings



Item	Set value	Setting necessity at GOT connection
IP Address*1	192.168.3.39 (Default)	○
Subnet Mask	255.255.255.0 (Default)	○
Default Gateway	-	×

○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address.

■ [Controller Setting] and [Ethernet] of GT Designer3

POINT

(1) [Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

5.3.1 Setting communication interface (Communication settings)

(2) Ethernet setting

When connecting C Controller module to a GOT, the setting items for the network No. and station No. do not exist at the PLC side. However, these virtual values must be set on the GOT side. Therefore, set the network No. and station No. Set the network No. that is not existed on the network system and any station No..

(1) Controller setting

Item	Set value (Use default value)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5001
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value	
		1	2
Ethernet setting No.1	Host	*	-
	N/W No.	1*1	1*1
	PLC No.	2*2	3*2
	Type	QnD(H)CCPU	QnD(H)CCPU
	IP address	192.168.3.1	192.168.3.2
	Port No.	5006 (fixed)	5006 (fixed)
	Communication	UDP (fixed)	UDP (fixed)

*1 Set the same value as that of GOT N/W No.
*2 Set a value different from that of the GOT PLC No. and the PLC No. of other PLCs on the same network.

■ Checking communication state of C Controller module

(1) When using the Command Prompt of Windows®.
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.1
Reply from 192.168.0.1: bytes=32 time <10ms TTL=32

(b) When abnormal communication
C:\>Ping 192.168.3.1
Request timed out.

(2) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.
- Cable connecting condition
- Confirmation of switch and network parameter setting
- Operation state of PLC CPU (faulty or not)
- The IP address of C Controller module specified in the ping command

5.4.5 Connecting to Ethernet module (QnA Series)

This section describes the settings of the GOT and Ethernet module (QnA Series) in the following case of the system configuration.

POINT

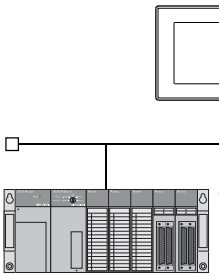
Ethernet module (QnA Series)

For details of the Ethernet module (QnA Series), refer to the following manual.

For QnA Ethernet Interface Module User's Manual

■ System configuration

■ [Controller Setting] and [Ethernet] of GT Designer3



<GOT>(The settings other than the following are set to the default)

Network No.	: 1
PLC No.	: 1
IP address	: 192.168.0.18
Port No.	: 5001
Communication format	: UDP(fixed)

<Ethernet module>*1 (The settings other than the following are set to the default)

Network No.	: 1
PLC No.	: 2
IP address	: 192.168.0.19
Port No.	: 5001
Communication format	: UDP(fixed)

■ Switch settings of Ethernet module

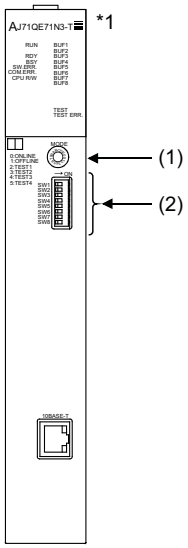
■ [Network parameter] of GX Developer

*1 The Ethernet module is mounted on the base unit slot 0. The Start I/O No. of the Ethernet module is set to "0".

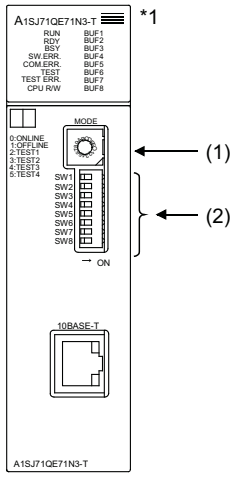
■ Switch settings of Ethernet module

Set the operation mode setting switch and exchange condition setting switch.

AJ71QE71N3-T, AJ71QE71N-B5, AJ71QE71N-B2, AJ71QE71N-T, AJ71QE71N-B5T, AJ71QE71, AJ71QE71-B5

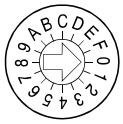


A1SJ71QE71N3-T, A1SJ71QE71N-B5, A1SJ71QE71N-B2, A1SJ71QE71N-T, A1SJ71QE71N-B5T, A1SJ71QE71-B5, A1SJ71QE71-B2



*1 The figure of AJ71QE71N3-T and A1SJ71QE71N3-T.

(1) Operation mode setting switch

Operation mode setting switch	Description	Set value	Setting necessity at GOT connection
	Online	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) Exchange condition setting switch

Exchange condition setting switch	Setting switch	Description	Set value	Setting necessity at GOT connection
OFF ON SW1 SW2 SW3 SW4 SW5 SW6 SW7 SW8	SW1	Selection of line processing at TCP timeout error	OFF	△
	SW2	Data code setting*2	OFF (fixed)	×
	SW3	Self start mode setting*3	ON	○
	SW4	(Must not to be used)	OFF (fixed)	×
	SW5			
	SW6			
	SW7	CPU exchange timing setting*2	OFF (fixed)	×
	SW8	Initial timing setting	OFF	△

○: Necessary △: As necessary ×: Not necessary

*2 Because port No. 5001 is fixed, these items operate at the following setting without relations to the setting given here.

- Data code setting : [Binary code]
- Enable Write at RUN time : [Enable Write at RUN time] (Writing Data is applicable while running the PLC CPU.)

*3 When SW3 is ON, the initial processing is executed regardless of the initial request signal (Y19).
In addition, communication is applicable while stopping the PLC CPU.
For the initial processing by using the initial request signal (Y19), refer to the following manual.

For QnA Ethernet Interface Module User's Manual

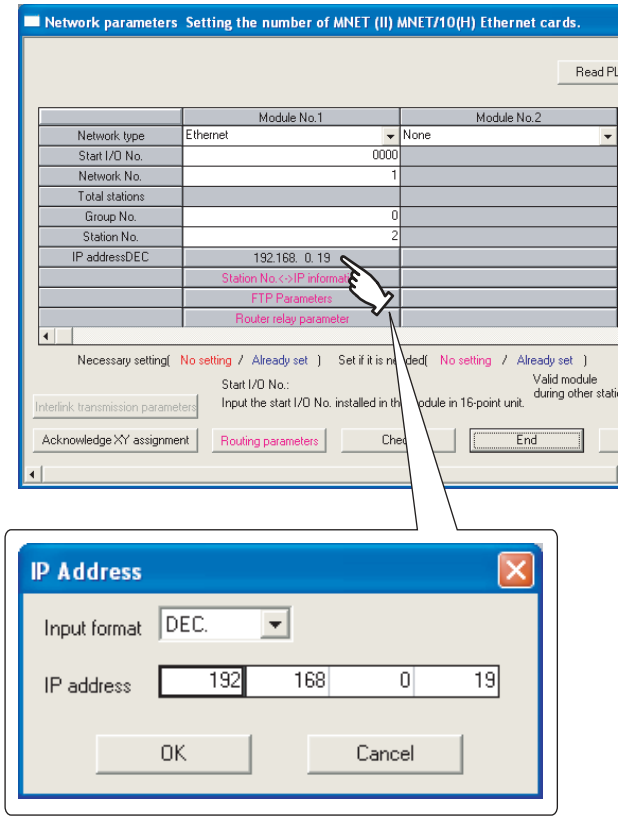
POINT

When the switch setting has been changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ [Network parameter] of GX Developer

(1) Network parameter



Item	Set value	Setting necessity at GOT connection
Network type	Ethernet (fixed)	○
Start I/O No.	0000H	○
Network No.*1	1	○
Group No.	0 (fixed)	○
Station No.*2	2	○
IP address	192.168.0.19	○
Station No.<->IP information	(Use default value)	×
FTP Parameters		×
Router relay parameter		×
Routing parameters	Refer to (2)	△

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same network No. as that of the GOT.
*2 Do not set the same station No. as that of the GOT.

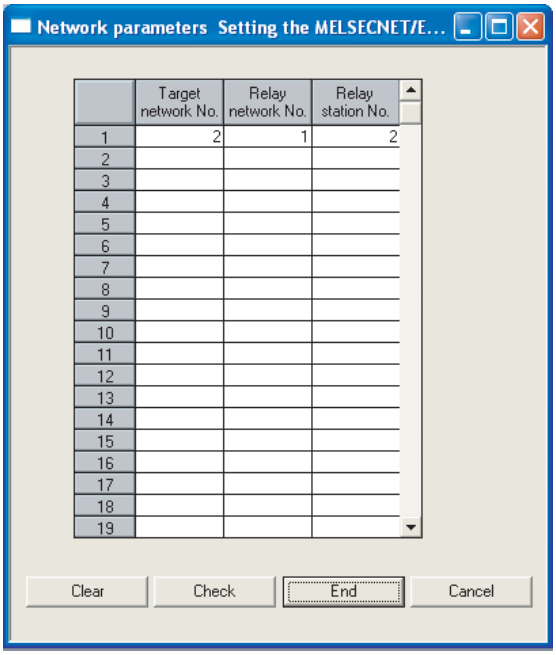
POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(2) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.
However, the same transfer network number cannot be set twice or more (multiple times).
Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 64

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.
For the setting, refer to the following.

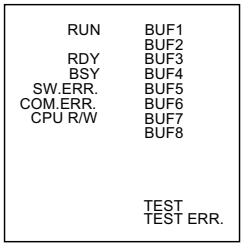
5.3.5 Routing parameter setting

(3) Communication confirmation

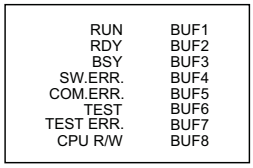
The RDY LED on the Ethernet module turn on when the module is ready to communicate.
For confirming the communication state, refer to the following.

5.3.5 ■Confirming the communication state of Ethernet module

AJ71QE71N3-T, AJ71QE71N-B5, AJ71QE71N-B2, AJ71QE71N-T, AJ71QE71N-B5T, AJ71QE71, AJ71QE71-B5



A1SJ71QE71N3-T, A1SJ71QE71N-B5, A1SJ71QE71N-B2, A1SJ71QE71N-T, A1SJ71QE71N-B5T,A1SJ71QE71-B5, A1SJ71QE71-B2



■ [Controller Setting] and [Ethernet] of GT Designer3

(1) Controller setting

GOT Net No.	Set value (Use default value)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5002
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value
Ethernet setting No.1	Host	*
	N/W No.	1
	PLC No.	2
	Type	AJ71QE71
	IP address	192.168.0.19
	Port No.	5001 (fixed)
	Communication	UDP (fixed)

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

5.3.1 Setting communication interface (Communication settings)

5.4.6 Connecting to Ethernet module (A Series)

This section describes the settings of the GOT and Ethernet module (A Series) in the following case of the system configuration.

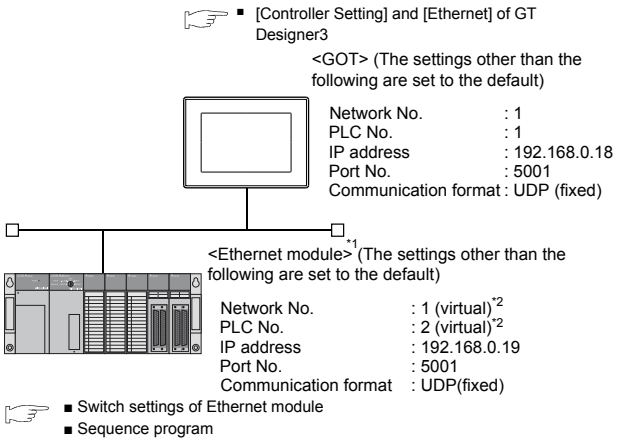
POINT

Ethernet module (A Series)

For details of the Ethernet module (A Series), refer to the following manual.

For A Ethernet Interface Module User's Manual

■ System configuration



*1 The Ethernet module is mounted on the base unit slot 0. The Start I/O No. of the Ethernet module is set to "0".

*2 These setting items do not exist at the PLC side. However, the virtual values must be set on the GOT side.

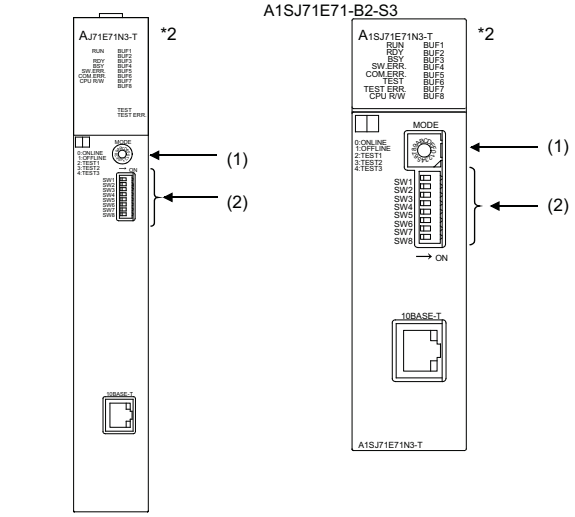
■ [Controller Setting] and [Ethernet] of GT Designer3

■ Switch settings of Ethernet module

Set the operation mode setting switch and exchange condition setting switch.

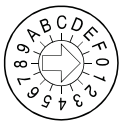
AJ71E71N3-T, AJ71E71N-B5, AJ71E71N-B2, AJ71E71N-T, AJ71E71N-B5T, AJ71E71-S3

A1SJ71E71N3-T, A1SJ71E71N-B5, A1SJ71E71N-B2, A1SJ71E71N-T, A1SJ71E71N-B5T, A1SJ71E71-B5-S3, A1SJ71E71-B2-S3



*2 The figure of AJ71E71N3-T and A1SJ71E71N3-T.

(1) Operation mode setting switch

Operation mode setting switch	Description	Set value	Setting necessity at GOT connection
	Online	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) Exchange condition setting switch*1

Exchange condition setting switch	Setting switch	Description	Set value	Setting necessity at GOT connection
	SW1	Selection of line processing at TCP timeout error	OFF	△
	SW2	Data code setting (binary code)	OFF (fixed)	○
	SW3	(Must not to be used)	OFF (fixed)	×
	SW4			
	SW5			
	SW6			
	SW7	CPU exchange timing setting (Enable write at RUN time)	ON (fixed)	○
	SW8	Initial timing setting	OFF	△

○: Necessary △: As necessary ×: Not necessary

*1 The exchange condition setting switches of A1SJ71E71-B5-S3 and A1SJ71E71-B2-S3 are specified as the below.

Exchange condition setting switch	Setting switch	Description	Set value	Setting necessity at GOT connection
	SW1	Selection of line processing at TCP timeout error	OFF	△
	SW2	Data code setting (binary code)	OFF (fixed)	○
	SW3	CPU exchange timing setting (Enable write at RUN time)	ON (fixed)	○
	SW4	Initial timing setting	OFF	△

○: Necessary △: As necessary ×: Not necessary

POINT

When the switch setting has been changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ Sequence program

The sequence program for initial processing and communication line opening processing are required.

(1) Programming condition

This program performs the initial processing of the Ethernet module and the opening processing of connection No. 1 when the stopping PLC CPU starts running.

(a) I/O signal of Ethernet module

☞ For A Ethernet Interface Module User's Manual

(b) Device used by user

Device	Application
M102	COM.ERR turned off command
D100	IP address of Ethernet module
D110	Application setting
D111	Port No. of Ethernet module
D112 to D113	IP address of GOT
D114	Port No. of GOT
D200	Initial fault code

(c) Buffer memory settings used in the present example

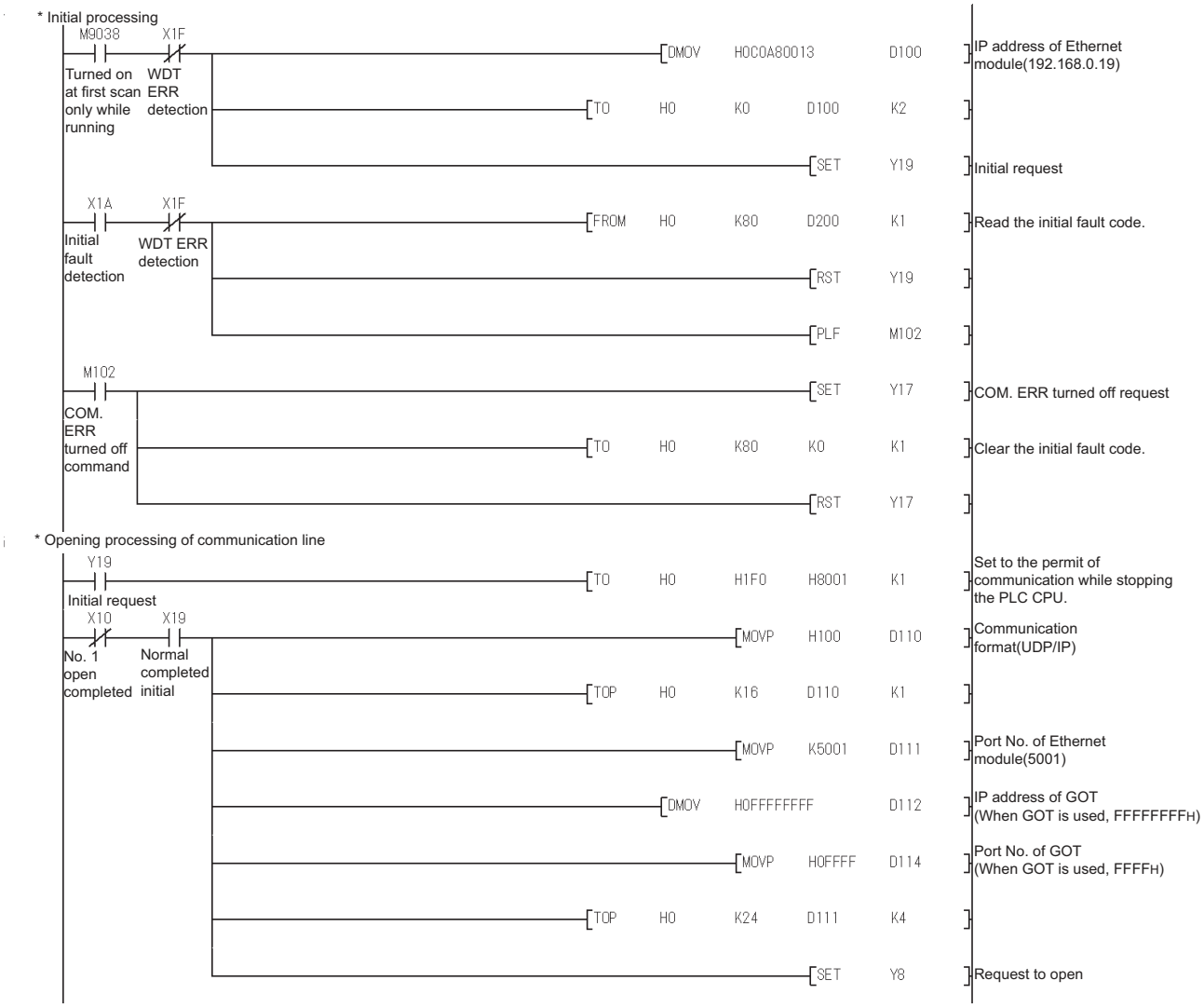
Buffer memory address Dec (Hex)	Item	Set value
0 to 1 (0 to 1H)	IP address of Ethernet module	C0A80013H (192.168.0.19)
16 (10H)	Application setting*1	100H
24 (18H)	Port No. of Ethernet module	5001
25 to 26 (19 to 1AH)	IP address of GOT	FFFFFFFFH
27 (1BH)	Port No. of GOT	FFFFH (fixed)
80 (50H)	Initial fault code	—

*1 The details of the application setting are shown below.
Settings 1), 2) and 3) can be changed by the user.
4), 5) and 6) are fixed.

b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6)						5)	4)	3)						2)	1)

1) Fixed buffer application
0: For sending; no exchange
1: For receiving
2) Existence check
0: No
1: Yes
3) Pairing open
0: No
1: Yes
4) Communication format (Set to "1" (UDP/IP).)
0: TCP/IP
1: UDP/IP
5) Fixed buffer exchange (Set to "0" (With procedure).)
0: With procedure
1: Without procedure
6) Open method (Set to "00" (Active, UDP/IP).
00: Active, UDP/IP
10: Unpassive
11: Fullpassive

(2) Example of sequence program



POINT

When changing the sequence program

After writing the sequence program to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(3) Communication confirmation

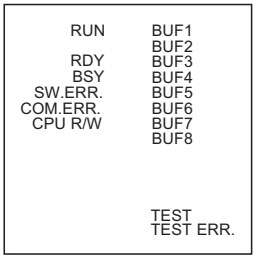
The RDY LED on the Ethernet module turn on when the module is ready to communicate.

For confirming the communication state, refer to the following.

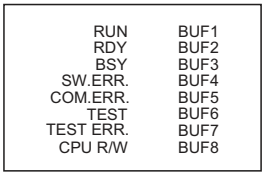
☞ 5.4.3 ■Confirming the communication state of Ethernet module

The BUF1 LED turns on when the opening processing of the connection No. 1 is completed in normal at executing of the sequence program example described at (2).

AJ71E71N3-T, AJ71E71N-B5, AJ71E71N-B2, AJ71E71N-T, AJ71E71N-B5T, AJ71E71-S3



A1SJ71E71N3-T, A1SJ71E71N-B5, A1SJ71E71N-B2, A1SJ71E71N-T, A1SJ71E71N-B5T, A1SJ71E71-B5-S3, A1SJ71E71-B2-S3



■ [Controller Setting] and [Ethernet] of GT Designer3

(1) Controller setting

Item	Set value (Use default value)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5002
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value
Ethernet setting No.1	Host	*
	N/W No.	1
	PLC No.	2
	Type	AJ71E71
	IP address	192.168.0.19
	Port No.	5001
	Communication	UDP (fixed)

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

5.4.7 Connecting to Ethernet module (FX Series)

This section describes the settings of the GOT and Ethernet module (FX Series) in the following case of the system configuration.

POINT

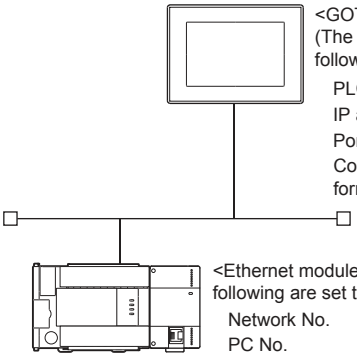
Ethernet module (FX Series)

For details of the Ethernet module (FX Series), refer to the following manual.

FX3U-ENET-L User's manual
FX3U-ENET-ADP User's manual

■ System configuration

■ [Controller Setting] and [Ethernet] of GT Designer3



<GOT>
(The settings other than the following are set to the default)
PLC No. : 1
IP address : 192.168.0.18
Port No. : 5019
Communication format : TCP (fixed)

<Ethernet module> (The settings other than the following are set to the default)
Network No. : 1 (virtual)*1
PC No. : 2 (virtual)*1
IP address : 192.168.0.19
Port No. : 5556 (fixed)
Communication format : TCP (fixed)

■ Ethernet parameter settings of FX3U-ENET-L Configuration tool

*1 These setting items do not exist at the PLC side. However, the virtual values must be set on the GOT side.

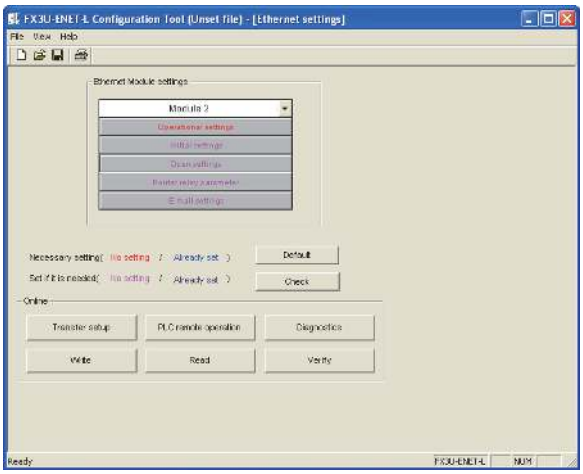
■ [Controller Setting] and [Ethernet] of GT Designer3

■ Ethernet parameter settings of FX3U-ENET-L Configuration tool

(1) Ethernet settings

Set the Ethernet parameter with FX3U-ENET-L Configuration tool.
For using FX3U-ENET-L Configuration tool, install GX Developer Ver. 8.88S or later on the personal computer.
For details on FX3U-ENET-L Configuration tool, refer to the following manual.

FX3U-ENET-L Configuration tool

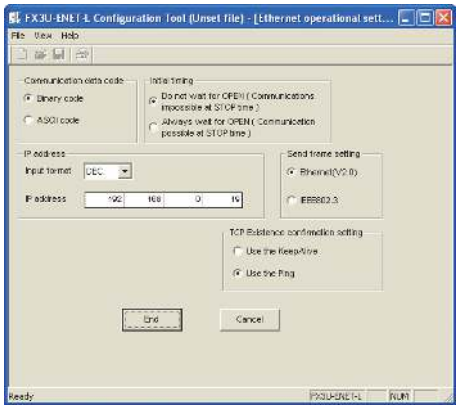


Item	Setting	Setting (with GOT connected)
Module	Module 0*1	○
Operational settings	Refer to (2)	○
Initial settings	(Use default value.)	×
Open settings	Refer to (3)	○
Router relay parameter	(Use default value.)	×
E-mail settings		×

○:Required △:Set if necessary ×:Not required

*1 Set the number of the Ethernet module.

(2) Operational settings



Item	Setting	Setting (with GOT connected)
Communication date code*1	(Use default value.)	×
IP address	192.168.3.19	○
Initial timing*1	(Use default value.)	×
Send frame setting		×
TCP Existence confirmation setting		×

○:Required △:Set if necessary ×:Not required

*1 Because the port No. 5551 is fixed, the GOT operates as follows, regardless of the setting for the item.
- Communication date code : [Binary code]
- Initial timing : [Always wait for OPEN] (Communications are enabled while the programmable controller CPU stops.)

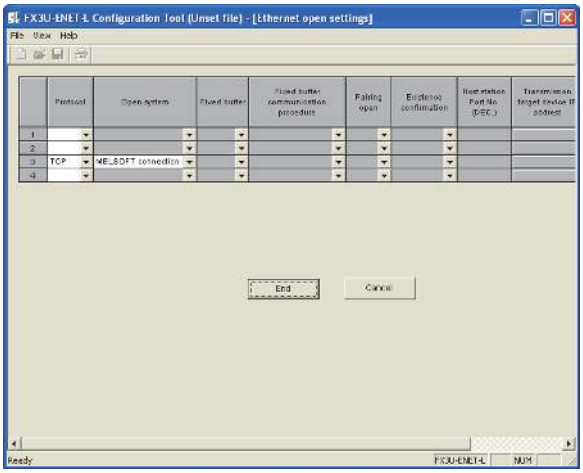
*2 The default value of IP address is 192.168.1.254. Set the IP address corresponding to the system configuration.

POINT

When changing Ethernet parameter

After writing the Ethernet parameter to the programmable controller CPU, turn off and then on, or reset the programmable controller CPU.

(3) Open settings



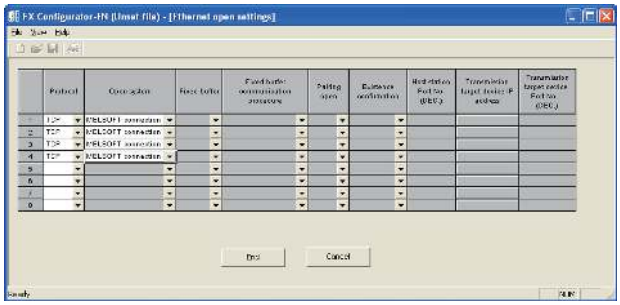
Item	Setting	Setting (with GOT connected)
Protocol	TCP	○
Open system	MELSOFT connection	○
Fixed buffer	(Use default value.)	×
Fixed buffer communication procedure		×
Pairing open		×
Existence confirmation		×
Host station Port No. (DEC.)		×
Transmission target device IP address		×
Transmission target device Port No. (DEC.)		×

○:Required △:Set if necessary ×:Not required

POINT

When connecting to multiple GOTs and peripheral devices

The number of protocols equivalent to that of the GOTs and devices must be set.



■ Ethernet parameter settings of FX3U-ENET-ADP

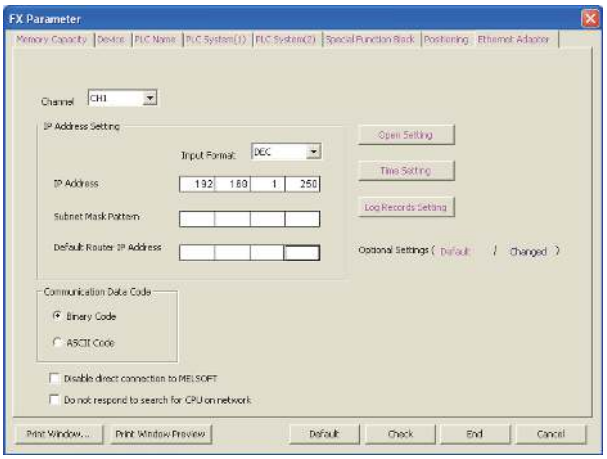
(1) Ethernet settings

Set the Ethernet parameter at [FX Parameter] on GX Works2.

To set FX3U-ENET-ADP, GX Works2 Ver.1.90U or later is required.

For details on the setting of FX3U-ENET-ADP, refer to the following manual.

☞ FX3U-ENET-ADP User's Manual



Item	Setting	Setting (with GOT connected)
Channel	CH1 or CH2*1	×
IP Address	192.168.1.250*2	○
Open Settings	Refer to (2).	○
Communication Data Code	(Use default value.)	×
Disable direct connection to MELSOFT		×
Do not respond to search for CPU on network		×

○:Required △:Set if necessary ×:Not required

*1 Set a channel according to the installation position of FX3U-ENET-ADP on the CPU body.

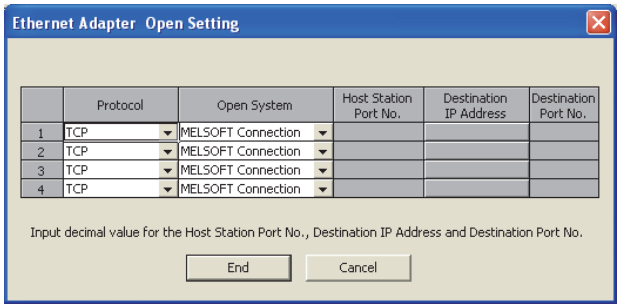
*2 The default value of IP address is 192.168.1.250. Set the IP address corresponding to the system configuration.

POINT

When changing Ethernet parameter

After writing Ethernet parameters to the PLC CPU, turn the PLC CPU OFF then back ON again.

(2) Open settings



Item	Setting	Setting (with GOT connected)
Protocol	TCP	○
Open System	MELSOFT connection	○

POINT

When connecting to multiple GOTs and peripheral devices

The number of protocols equivalent to that of the GOTs and devices must be set.

■ [Controller Setting] and [Ethernet] of GT Designer3

(1) Controller setting

Item	Setting (Use default value.)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5019
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Setting (Use default value.)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Setting
Ethernet setting No.1	Host	*
	N/W No.	1
	PLC No.	2
	Type	FX (fixed)
	IP address	192.168.0.19*1
	Port No.	5551*2
	Communication	TCP (fixed)

*1 Set the value according to the IP address of the connected PLC.

*2 Set the value according to the Port No. of the connected PLC.
For details, refer to the following.

☞ 5.3.4 Ethernet setting

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

■ Confirming the communication state of Ethernet module

(1) When using the Command Prompt of Windows®.
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.19
Reply from 192.168.3.19: bytes=32 time<1ms TTL=64

(b) When abnormal communication
C:\>Ping 192.168.3.19
Request timed out.

(2) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.

- Mounting condition of Ethernet communication unit
- Cable connecting condition
- Confirmation of switch and network parameter setting
- Operation state of PLC CPU (faulty or not)
- IP address of GOT specified by Ping command

POINT

Ethernet diagnostics of FX3U-ENET-L Configuration tool

Ethernet diagnostics of FX3U-ENET-L Configuration tool is available to a Ping test from the PLC.
For details of Ethernet diagnostics of FX3U-ENET-L Configuration tool, refer to the following manual.

☞ FX3U-ENET-L Configuration tool Operation manual

5.4.8 Connecting to Built-in Ethernet port FXCPU (FX3GE)

This section describes the settings of the GOT and Ethernet module (FX Series) in the following case of the system configuration.

POINT

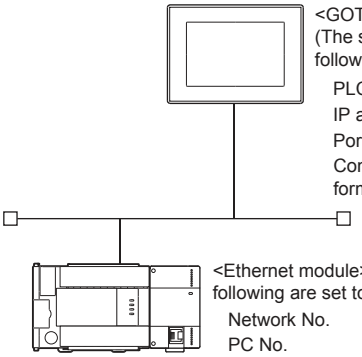
FX3GE

For details of FX3GE, refer to the following manual.

FX3GE SERIES PROGRAMMABLE CONTROLLERS HARDWARE MANUAL

■ System configuration

■ [Controller Setting] and [Ethernet] of GT Designer3



<GOT>
(The settings other than the following are set to the default)

PLC No. : 1
IP address : 192.168.0.18
Port No. : 5019
Communication format : TCP (fixed)

<Ethernet module> (The settings other than the following are set to the default)

Network No. : 1 (virtual)*1
PC No. : 2 (virtual)*1
IP address : 192.168.0.19
Port No. : 5556 (fixed)
Communication format : TCP (fixed)

*1 These setting items do not exist at the PLC side. However, the virtual values must be set on the GOT side.

■ [Controller Setting] and [Ethernet] of GT Designer3

■ Ethernet parameter settings of FX3GE

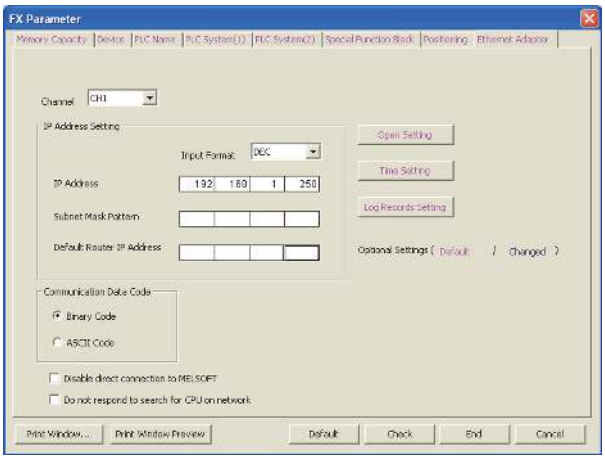
(1) Ethernet settings

Set the Ethernet parameter at [FX Parameter] on GX Works2.

To set FX3GE, GX Works2 Ver.1.91V or later is required.

For details on the setting of FX3GE, refer to the following manual.

FX3GE SERIES PROGRAMMABLE CONTROLLERS HARDWARE MANUAL



Item	Setting	Setting (with GOT connected)
Channel	CH1	×
IP Address	192.168.1.250*1	○
Open Settings	Refer to (2).	○
Communication Data Code	(Use default value.)	×
Disable direct connection to MELSOFT		×
Do not respond to search for CPU on network		×

○:Required △:Set if necessary ×:Not required

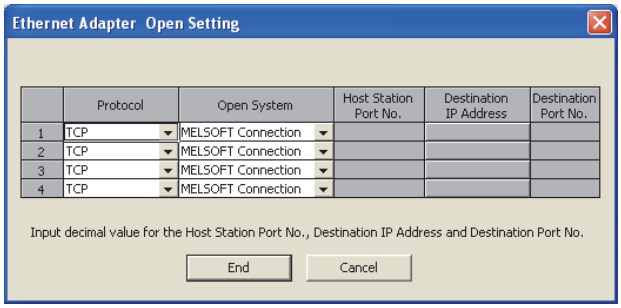
*1 The default value of IP address is 192.168.1.250. Set the IP address corresponding to the system configuration.

POINT

When changing Ethernet parameter

After writing Ethernet parameters to the PLC CPU, turn the PLC CPU OFF then back ON again.

(2) Open settings



Item	Setting	Setting (with GOT connected)
Protocol	TCP	○
Open System	MELSOFT connection	○

POINT

When connecting to multiple GOTs and peripheral devices

The number of protocols equivalent to that of the GOTs and devices must be set.

■ [Controller Setting] and [Ethernet] of GT Designer3

(1) Controller setting

Item	Setting (Use default value.)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5019
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Setting (Use default value.)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Setting
Ethernet setting No.1	Host	*
	N/W No.	1
	PLC No.	2
	Type	FX (fixed)
	IP address	192.168.0.19*1
	Port No.	5556*2
	Communication	TCP (fixed)

*1 Set the value according to the IP address of the connected PLC.

*2 Set the value according to the Port No. of the connected PLC.
For details, refer to the following.

☞ 5.3.4 Ethernet setting

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

■ Confirming the communication state of Ethernet module

(1) When using the Command Prompt of Windows®.
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.19
Reply from 192.168.3.19: bytes=32 time<1ms
TTL=64

(b) When abnormal communication
C:\>Ping 192.168.3.19
Request timed out.

(2) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.
- Mounting condition of Ethernet communication unit
- Cable connecting condition
- Confirmation of switch and network parameter setting
- Operation state of PLC CPU (faulty or not)
- IP address of GOT specified by Ping command

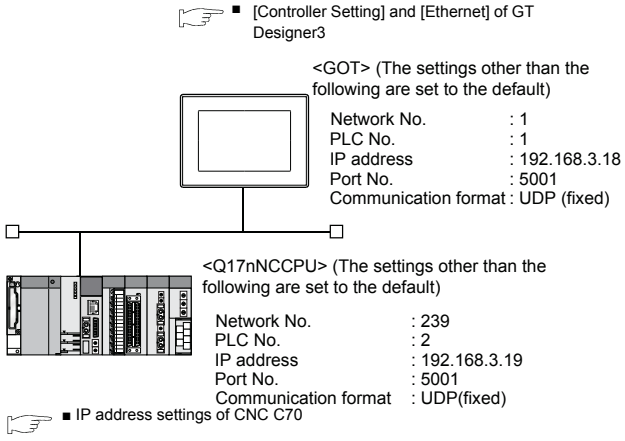
5.4.9 Connecting to Display I/F (CNC C70)

This section describes the settings of the GOT and Display I/F (CNC C70) in the following case of the system configuration.

POINT

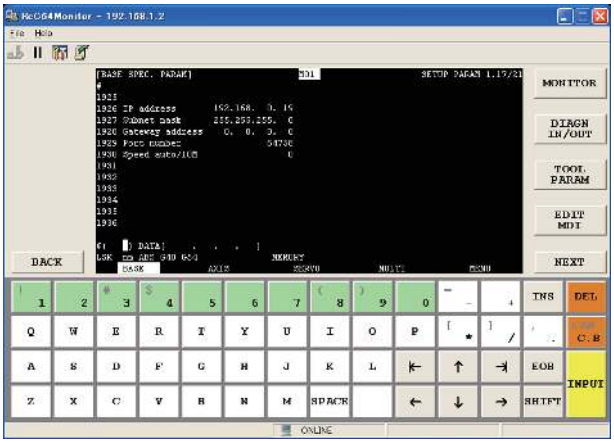
Display I/F (CNC C70)
For details of the Display I/F (CNC C70), refer to the following manual.
☞ C70 Series SET UP MANUAL

■ System configuration



■ IP address settings of CNC C70

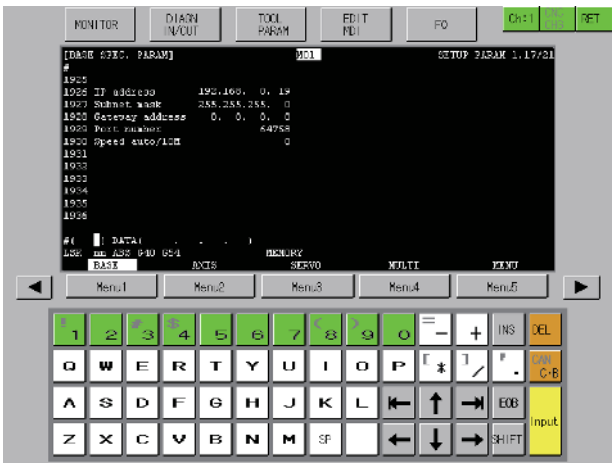
(1) Remote monitor tool



Item	Set value	Setting necessity at GOT connection
IP address	192.168.3.19	○
Subnet mask	255.255.255.0	○
Gateway address	0.0.0.0	○
Port number	64758 (fixed)	○
Speed auto/10M	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) CNC monitor



Item	Set value	Setting necessity at GOT connection
IP address	192.168.3.19	○
Subnet mask	255.255.255.0	○
Gateway address	0.0.0.0	○
Port number	64758 (fixed)	○
Speed auto/10M	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(3) Communication check

The CNC C70 can communicate with the GOT when INIT.LED of the CNC C70 is lit.

For confirming the communication state, refer to the following.

■Checking communication state of CNC C70

■ [Controller Setting] and [Ethernet] of GT Designer3

(1) Controller setting

Item	Set value (Use default value)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5019
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value
Ethernet setting No.1	Host	*
	N/W No.	1
	PLC No.	2
	Type	Q17nNC
	IP address	192.168.3.19
	Port No.	5001 (fixed)
	Communication	UDP (fixed)

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

5.3.1 Setting communication interface (Communication settings)

■ Checking communication state of CNC C70

(1) When using the Command Prompt of Windows®.
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.19
Reply from 192.168.3.19: bytes=32 time<1ms
TTL=64

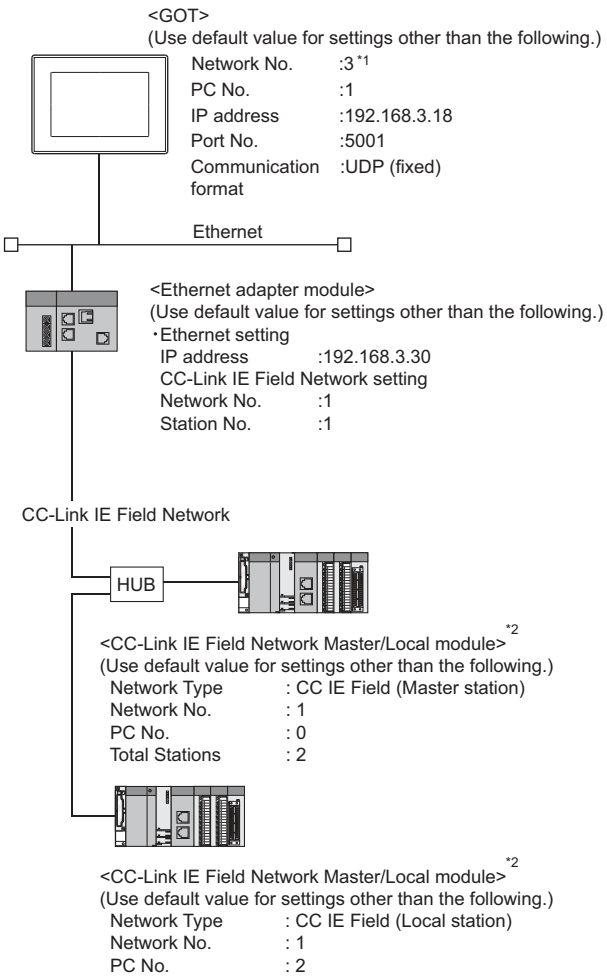
(b) When abnormal communication
C:\>Ping 192.168.3.19
Request timed out.

(2) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.
- Mounting condition of CNC C70
- Cable connecting condition
- Switch settings and network parameter settings
- Operation state of PLC CPU (faulty or not)
- IP address of the CNC C70 specified for the Ping command

5.4.10 Connecting to CC-Link IE Field Network Ethernet Adapter Module

This section describes the settings of the GOT, Ethernet adapter module and the PLC in the following system configuration.

■ System configuration



*1 Set the GOT network No. according to the third octet (network No.) of the Ethernet adapter module IP address.

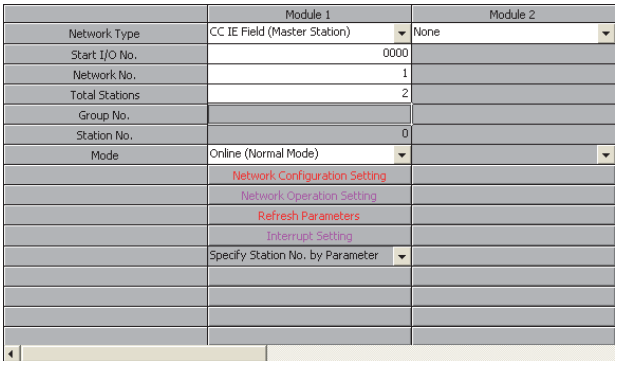
*2 The CC-Link IE Field Network Master/Local module is mounted on slot 0 of the base unit.
The start I/O No. of the CC-Link IE Field Network Master/Local module is set at [0].

■ GX Works2 network parameter Ethernet/CC IE/MELSECNET

For details of the setting contents of PLC side, refer to the following manual.

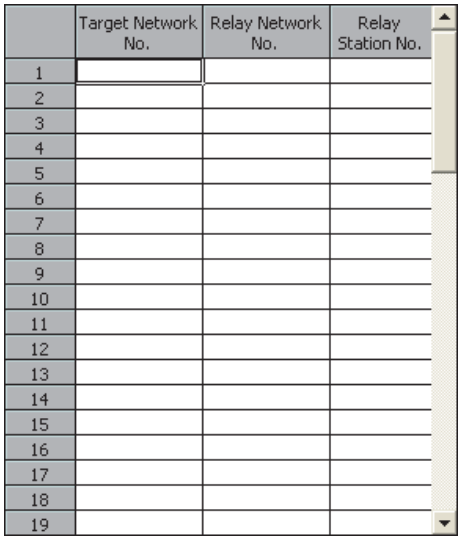
☞ MELSEC-Q CC-Link IE Field Network Master/ Local Module User's Manual

(1) Network Type, Network No., Total Stations setting
Example: Master station setting



Item	Set value	
	Master station	Local station
Network type	CC IE Field (Master station)	CC IE Field (Local station)
Network No.	1	1
Total Stations	2	-
Station No.	0 (fixed)	2

(2) Routing parameter setting
Set the followings as necessary.
Up to 64 [Transfer Network No.]s can be set.
However, the same transfer network number cannot be set twice or more (multiple times).
Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



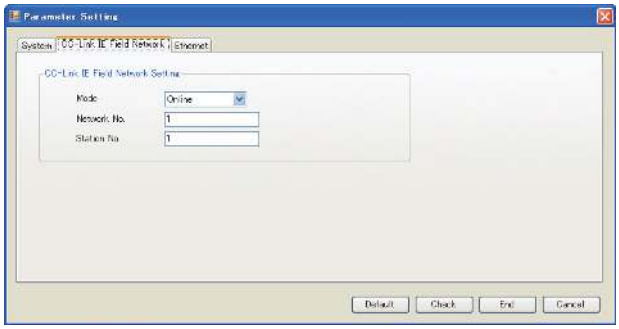
Item	Range
Transfer Network No.	1 to 239
Relay Network No.	1 to 239
Relay Station No.	1 to 64

■ Ethernet Adapter Module setting

Set the parameter with the Ethernet adapter module setting tool.
For details of the setting method, refer to the following manual.

☞ CC-Link IE Field Network Ethernet Adapter Module User's Manual

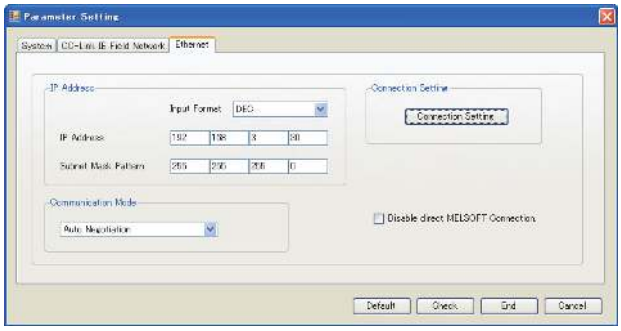
(1) CC-Link IE Field Network setting



Item	Set value
Network No.	1*1
Station No.	1*2

*1 Set the same value as the network No. set on the PLC side.
*2 Set a value other than the network No. set on the PLC side.

(2) Ethernet setting



Item	Set value
IP address	192.168.3.30*1

*1 Set the IP address within the following range.

192.168.3.30

Set the fourth octet within the range from 1 to 64.

Set the third octet within the range from 1 to 239.

■ [Controller Setting] and [Ethernet] of GT Designer3

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

(1) Controller setting

Item	Set value (Use default value)
GOT Net No.	3*1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5001
Retry	3 times
Startup Time	3 sec
Timeout Time	3 sec
Delay Time	0ms

*1 Set the GOT network No. according to the third octet (network No.) of the Ethernet adapter module IP address.

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value
Ethernet Setting No.1	Host	*
	N/W No.	3*1
	PC No.	30*2
	Type	NZ2GF-ETB
	IP address	192.168.3.30*3
	Port No.	5001(fixed)
	Communication	UDP(fixed)

*1 Set according to the third octet (network No.) of the Ethernet adapter module IP address.
*2 Set according to the fourth octet (PC No.) of the Ethernet adapter module IP address.
*3 Set according to the Ethernet adapter module IP address.

(4) Routing parameter setting

Item	Set value
Transfer Network No.	1*1
Relay Network No.	3*2
Relay Station No.	30*3

*1 Set the same value as the Ethernet adapter module network No.
*2 Set according to the third octet (network No.) of the Ethernet adapter module IP address.
*3 Set according to the fourth octet (PC No.) of the Ethernet adapter module IP address.

5.4.11 Connecting to PERIPHERAL I/F (Built-in Ethernet port Motion Controller CPU)

This section describes the settings of the GOT and Built-in Ethernet port Motion Controller CPU in the following case of system configuration.

POINT

(1) GOT type setting
For details, refer to the following.

1.1.1 Setting connected equipment (Channel setting)
(2) Setting [Controller Type]

(2) CPU No. specification of Q170MCPU and Q170MSCPU(-S1)
Set whether to monitor the PLC CPU area or the Motion CPU area of Q170MCPU or Q170MSCPU(-S1), in the CPU No. specification.
For details, refer to the following.

5.5 Precautions

(3) PLC type of GX Works2/GX Developer
When creating a program, set the following PLC type:
- For Q173D(S)CPU/Q172D(S)CPU
  QnUD(E)(H)CPU
- For Q170MCPU and Q170MSCPU(-S1)
  Q03UDCPU
  Q03UDCPU

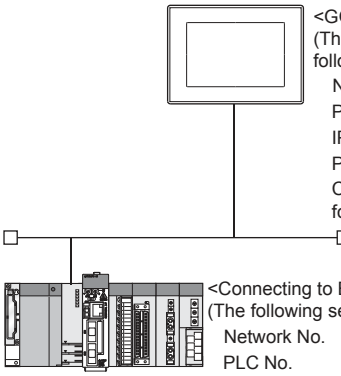
(4) Built-in Ethernet port CPU
For details of Built-in Ethernet port CPU, refer to the following manual.

User's Manual of Q173D(S)CPU/ Q172D(S)CPU , Q170MCPU, and Q170MS(-S1)CPU

■ System configuration

Leave the Built-in Ethernet port Motion Controller CPU settings as default in the following system configuration.

■ [Controller Setting] and [Ethernet] of GT Designer3



<GOT>
(The settings other than the following are set to the default)
Network No. : 1
PLC No. : 1
IP address : 192.168.3.1
Port No. : 5001
Communication format : UDP (fixed)

<Connecting to Built-in Ethernet port CPU> *1
(The following settings are set to the default)
Network No. : 1 (virtual) *2
PLC No. : 2 (virtual) *2
IP address : 192.168.3.39
Open system : MELSOFT connection (fixed)

*1 For the settings when using system devices including a hub and a transceiver, refer to the following.

5.4.2 Connecting to Built-in Ethernet port CPU (multiple connection)

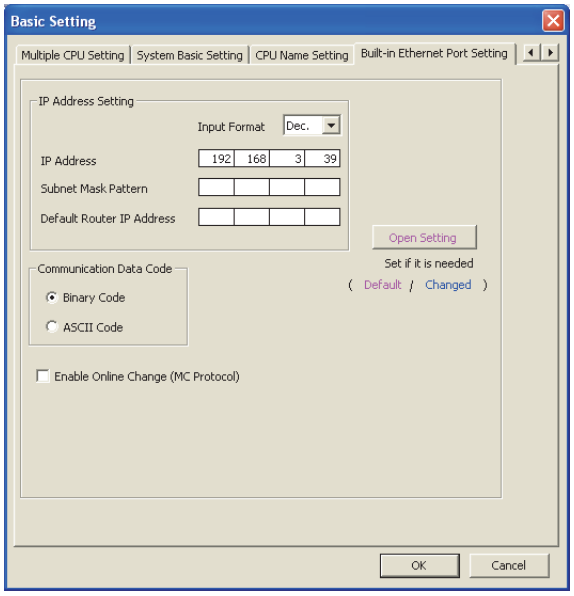
*2 These setting items do not exist at the PLC side. However, the virtual values must be set on the GOT side.

■[Controller Setting] and [Ethernet] of GT Designer3

■ Basic setting of MT Works2

Use the default values of the basic setting for the system configuration above.

(5) Built-in Ethernet port

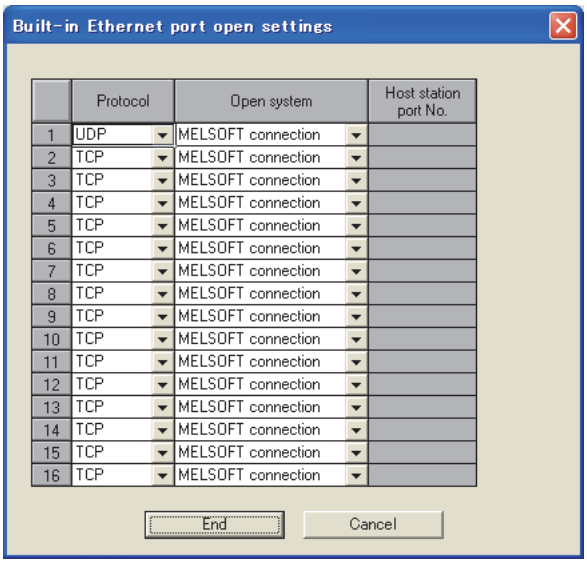


Item	Set value	Setting necessity at GOT connection
IP address	192.168.3.39 (Default)	○
Subnet mask pattern	-	×
Default router IP address	-	×
Communication data code	(Use default value)	△
Enable online change (MC protocol)		△
Open settings	Refer to (2)	○

○: Necessary △: As necessary ×: Not necessary

(6) Open settings

The setting is required for all the connected GOTs.



Item	Set value
Protocol	UDP (fixed)
Open system	MELSOFT connection (fixed)
Host station port No.	-

■ [Controller Setting] and [Ethernet] of GT Designer3

POINT

(1) [Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 5.3.1 Setting communication interface (Communication settings)

(2) Ethernet setting

The settings items for the network No. and station No. do not exist at the Built-in Ethernet port Motion Controller CPU side. However, these virtual values must be set on the GOT side. Therefore, set the network No. and station No. on the GOT side. Set the network No. that is not existed on the network system and any station No..

(1) Controller setting

Item	Setting (Use default value.)
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.1
GOT Communication Port No.	5002
Retry	3times
Startup Time	3 sec
Timeout Time	3 sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Setting (Use default value.)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Peripheral Communication Port No.	5015
Transparent Port No.	5014

(3) Ethernet setting

Item		Set value
Ethernet setting No.1	Host	*
	N/W No.	1*1
	PC No.	2*2
	Type	QnUDE(H)
	IP address	192.168.3.39*3
	Port No.	5006 (fixed)
	Communication	UDP (fixed)

*1 Set the same value as that of GOT N/W No.
*2 Set a value different from that of GOT PLC No.
*3 Set it to the IP address value of the Built-in Ethernet port Motion Controller CPU side.

■ Checking communication state of Connecting to Built-in Ethernet port CPU

(4) When using the Command Prompt of Windows®
Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication
C:\>Ping 192.168.3.39
Reply from 192.168.3.2: bytes=32 time <10ms TTL=32

(b) When abnormal communication
C:\>Ping 192.168.3.39
Request timed out.

(5) When abnormal communication
At abnormal communication, check the followings and execute the Ping command again.
- Cable connecting condition
- Confirmation of switch and network parameter setting
- Operation state of PLC CPU (faulty or not)
- The IP address of Built-in Ethernet port CPU specified in the Ping command

POINT

Ethernet diagnostics of GX Works2/GX Developer

Ethernet diagnostics of GX Works2/GX Developer is available to a Ping test from the PLC.
For details of Ethernet diagnostics of GX Works2/GX Developer, refer to the following manual.

GX Works2 Version1 Operating Manual (Common)
GX Developer Version8 Operating Manual

5.5 Precautions

■ Connection to QnA (S) CPU type

Use B or a later function version of Ethernet module (QnA Series) and PLC CPU (QnA/QnASCPU type).

■ Connection to QSCPU

The GOT can only read device data and sequence programs by the ladder monitor function in the QSCPU.

The GOT cannot write any data to the QSCPU.

■ Connection to Q170MCPU or Q170MSCPU(-S1)

Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

When the CPU No. is set to "1", the device on the PLC CPU area (CPU No.1) is monitored.

When the CPU No. is set to "0", the monitoring target differs depending on the GOT connection destination. Refer to the following.

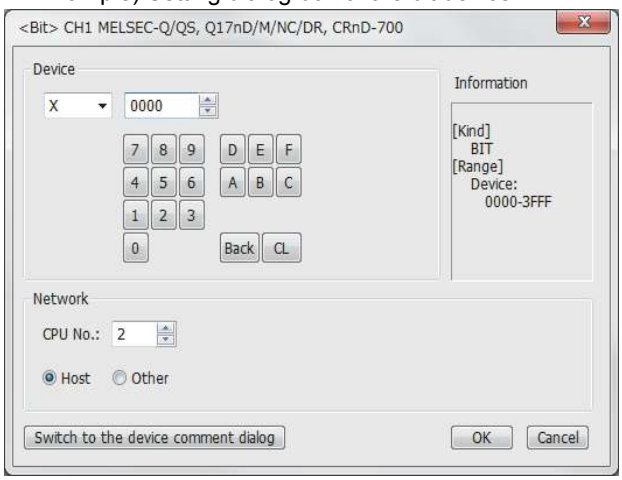
GOT connection destination	Monitoring target
QJ71E71 module	PLC CPU area (CPU No.1)
PERIPHERAL I/F	Motion CPU area (CPU No.2)

When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device



■ Connection in the multiple CPU system

When the GOT is connected to multiple CPU system, the following time is taken until when the PLC runs.

QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more
MELDAS C70: 18 seconds or more

When the GOT starts before the PLC runs, a system alarm occurs. Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to LCPU

LCPU may diagnose (check file system, recovering process, etc.) the SD memory card when turning on the power or when resetting. Therefore, it takes time until the SD memory card becomes available. When the GOT starts before the SD card becomes available, a system alarm occurs. Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ When connecting to multiple GOTs

(1) Setting PLC No.

When connecting two or more GOTs in the Ethernet network, set each [PLC No.] to the GOT.

☞ 5.3.1 Setting communication interface (Communication settings)

(2) Setting IP address

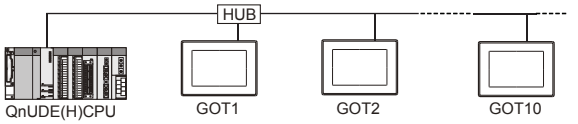
Do not use the IP address "192.168.3.18" when using multiple GOTs.
A communication error may occur on the GOT with the IP address.

(3) Setting for starting up multiple GOTs simultaneously (When connected to Built-in Ethernet port CPU)

When connecting multiple GOTs to one Built-in Ethernet port CPU, adjust the timing of GOT communication start. When the communication concentrates on the PLC, the communication between GOT and PLC becomes difficult, and the monitoring by GOT may not start. As a method for adjusting the timing, communicating one GOT alone first, and then communicating the other GOTs is effective.
Set the following items on each GOT.

- [Startup Time] of [Controller Setting], or [Title Display Time] of [GOT Setup].
- [Timeout Time] of [Controller Setting]

The following shows a setting example.



Item	GOT1	GOT2	GOT10
Startup Time	3sec (default)	4sec	4sec
Timeout Time	3sec (default)	4sec	4sec

■ When connecting to the multiple network equipment (including GOT) in a segment

By increasing the network load, the transmission speed between the GOT and PLC may be reduced.
The following actions may improve the communication performance.

- Using a switching hub
- More high speed by 100BASE-TX (100Mbps)
- Reduction of the monitoring points on GOT

When setting IP address

Do not use "0" and "255" at the end of an IP address.

(Numbers of *.*.*.0 and *.*.*.255 are used by the system)

The GOT may not monitor the controller correctly with the above numbers.

Consult with the administrator of the network before setting an IP address to the GOT and controller.

When monitoring to another network No. on the same line

When the network No. of the GOT does not match with that of the PLC on the same Ethernet, the PLC cannot be monitored. When monitoring, set the same network No. as that of the GOT, or connect a Ethernet module to the PLC and set the routing setting to monitor as other network.
When the Multi-channel is supported for GT16, set each channel with the networks No. to monitor.

Remote password for QCPU

Do not set a remote password for QCPU.
Monitoring with GOT becomes unavailable.

When connecting to Built-in Ethernet port of Built-in Ethernet port CPU

Connect to GOT after turning on the network equipment such as Built-in Ethernet port CPU or HUB to enable the communication.
When the communication with Built-in Ethernet port CPU is not available, a communication error may occur on the GOT.

The number of connectable CPUs for one GOT

QCPU : 128 CPUs can be set (10 or less CPUs are recommended)
FXCPU : 128 CPUs can be set (10 or less CPUs are recommended)

6

DIRECT CONNECTION TO CPU

6. DIRECT CONNECTION TO CPU

6.1 Connectable Model List

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU Q00CPU*1 Q01CPU*1 Q02CPU*1 Q02HCPU*1 Q06HCPU*1 Q12HCPU*1 Q25HCPU*1	○	RS-232 RS-422	GT27 GT23 GS	6.2.1
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU Q12PRHCPU (Main base) Q25PRHCPU (Main base)	○	RS-232 RS-422	GT27 GT23 GS	6.2.1
	Q12PRHCPU (Extension base) Q25PRHCPU (Extension base)	○	-	GT27 GT23 GS	-
	Q00UJCPU Q00UCPU Q01UCPU Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU	○	RS-232 RS-422	GT27 GT23 GS	6.2.1
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	○	RS-232	GT27 GT23 GS *2	6.2.1
C Controller module	Q12DCCPU-V*3 Q24DHCCPU-V Q24DHCCPU-LS	○	RS-232	GT27 GT23 GS *2	6.2.1
MELSEC-QS	QS001CPU	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.
*2 Access via the (RS-232) in the multiple CPU system.
*3 Use a module with the upper five digits of the serial No. later than 12042.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-L	L02CPU[*1] L06CPU[*1] L26CPU[*1] L26CPU-BT[*1] L02CPU-P[*1] L06CPU-P[*1] L26CPU-P[*1] L26CPU-PBT[*1] L02SCPU L02SCPU-P	○	RS-232 RS-422	GT27 GT23 GS	6.2.2
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	RS-232 RS-422	GT27 GT23 GS	6.2.1
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU	○	RS-422	GT27 GT23 GS	6.2.3
	Q4ARCPU	○	RS-422		
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	RS-422	GT27 GT23 GS	6.2.3
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU[*2] A1NCPUP21[*2] A1NCPUR21[*2] A2NCPU[*2] A2NCPUP21[*2] A2NCPUR21[*2] A2NCPU-S1[*2] A2NCPUP21-S1[*2] A2NCPUR21-S1[*2] A3NCPU[*2] A3NCPUP21[*2] A3NCPUR21[*2]	○	RS-422	GT27 GT23 GS	6.2.4
MELSEC-A (AnSCPU)	A2USCPU	○	RS-422	GT27 GT23 GS	6.2.4

(Continued to next page)

*1 When connecting in direct CPU connection, the adapter L6ADP-R2 is required.

*2 When monitoring AnNCPU or A2SCPU, only the following or later software version is used to write to the CPU.
- AnNCPU(S1) with link: Version L or later, AnNCPU(S1) without link: Version H or later
- A2SCPU: Version H or later

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A (AnSCPU)	A2USCPU-S1	○	RS-422	GT27 GT23 GS	6.2.4
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU*1				
	A2SCPU-S1*1				
	A2SHCPU				
	A2SHCPU-S1				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A	A0J2HCPU*1	×	RS-422	GT27 GT23 GS	6.2.4
	A0J2HCPUP21*1				
	A0J2HCPUR21*1				
	A0J2HCPU-DC24*1				
	A2CCPU*1	○	RS-422	GT27 GT23 GS	6.2.4
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*2*3	○	RS-232 RS-422	GT27 GT23 GS	6.2.1
	Q173CPU*2*3				
	Q172CPUN*2				
	Q173CPUN*2				
	Q172HCPU	○	RS-232	GT27 GT23 GS *4	6.2.1
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU	○	RS-232	GT27 GT23 GS	6.2.7
	Q170MSCPU				
	Q170MSCPU-S1				
	MR-MQ100	○	RS-422	GT27 GT23 GS	-

(Continued to next page)

*1 When monitoring A0J2HCPU, A2CCPU or A2SCPU, only the following or later software version is used to write to the CPU.
- A0J2HCPU (with/without link): Version E or later
- A0J2HCPU-DC24: Version B or later
- A2CCPU, A2SCPU: Version H or later

*2 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00E or later
- SW6RN-SV22Q□: 00E or later
- SW6RN-SV43Q□: 00B or later

*3 Use main modules with the following product numbers.
- Q172CPU: Product number K******* or later
- Q173CPU: Product number J******* or later

*4 Access via QCPU (RS-232) in the multiple CPU system.

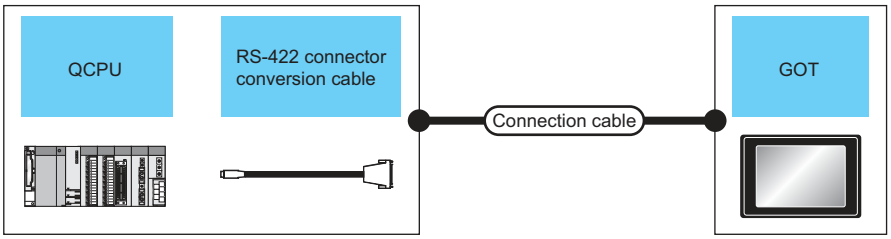
Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	RS-422	GT27 GT23 GS	6.2.4
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU				
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	RS-232	GT27 GT23 GS	6.2.6
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	RS-232	GT27 GT23 GS	6.2.1
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	GT27 GT23 GS	-
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	GT27 GT23 GS	-
CNC C70	Q173NCCPU	○	RS-232	GT27 GT23 GS *1	6.2.1
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	RS-232	GT27 GT23 GS *1	6.2.1
MELSEC-FX	FX_0	×	RS-422	GT27 GT23 GS	6.2.5
	FX_{0S}	×			
	FX_{0N}				
	FX_1	×			
	FX_2	×*2			
	FX_{2C}				
	FX_{1S}	○	RS-232 RS-422		
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	×*2			
	FX_{3S}	○			
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

*1 Access via QCPU (RS-232) in the multiple CPU system.

*2 It is available by installing the real time clock function board or the EEPROM memory with the real time clock function.

6.2 System Configuration

6.2.1 Connecting to QCPU

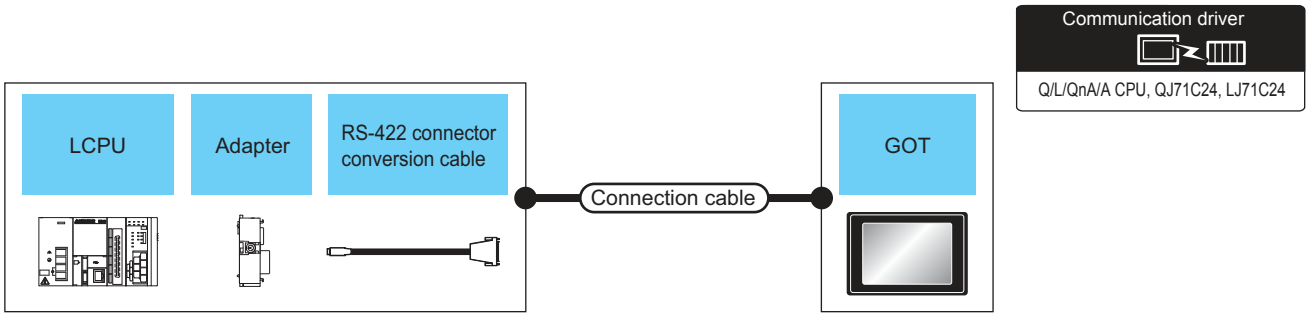


PLC			Connection cable		GOT		Number of connectable equipment
Model name	RS-422 connector conversion cable	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q	-	RS-232	GT01-C30R2-6P(3m)	3m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*1	-	
	FA-CNV2402CBL(0.2m) FA-CNV2405CBL (0.5m)	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	
					GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

6.2.2 Connecting to LCPU

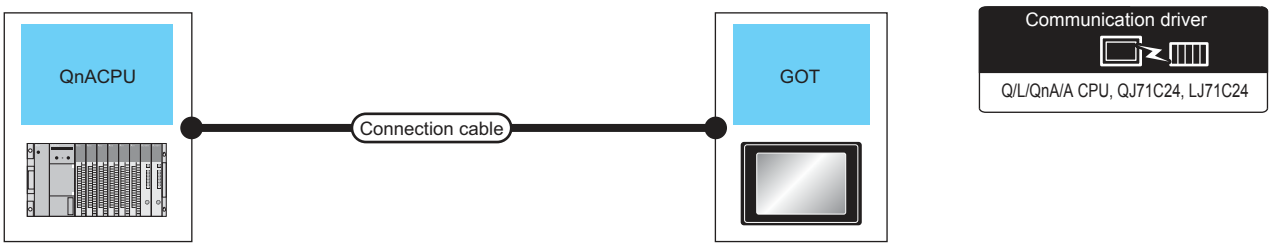


PLC				Connection cable		GOT		Number of connectable equipment
Model name	Adapter	RS-422 connector conversion cable	Communication type	Cable model	Max. distance	Option device	Model	
L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT	L6ADP-R2	-	RS-232	GT01-C30R2-6P(3m)	3m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	
	L6ADP-R2	FA-CNV2402CBL(0.2m) FA-CNV2405CBL(0.5m)	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	
L02SCPU L02SCPU-P	-	-	RS-232	GT01-C30R2-6P(3m)	3m	- (Built into GOT)	GT27 GT23 GS	
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	
L02SCPU L02SCPU-P	-	FA-CNV2402CBL(0.2m) FA-CNV2405CBL(0.5m)	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	3m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

6.2.3 Connecting to QnACPU

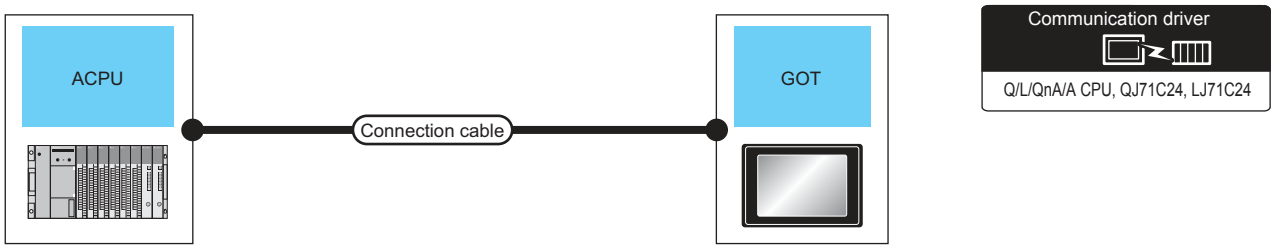


PLC		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-QnA	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
				GT15-RS4-9S	GT27 GT23 GS	
				GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

6.2.4 Connecting to ACPU

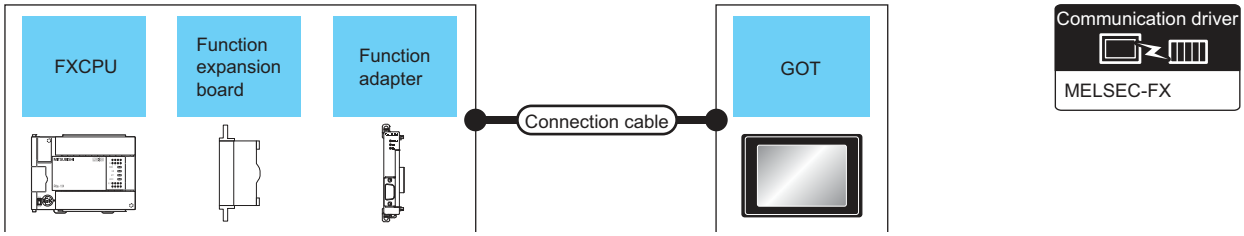


PLC		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-A	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
				GT15-RS4-9S	GT27 GT23 GS	
				GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

6.2.5 Connecting to FXCPU



■ When connecting to FX0, FX0S, FX0N, FX1, FX2 or FX2C

PLC				Connection cable		GOT		Number of connectable equipment
Model name	Function expansion board*2	Function adapter*2	Communication type	Cable model	Max. distance	Option device	Model	
FX0 FX0S FX0N	-	-	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	
FX1 FX2 FX2C	-	-	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

*2 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

■ When connecting to FX1S, FX1N, FX2N, FX1NC, FX2NC (RS-422 connection)

PLC				Connection cable		GOT		Number of connectable equipment
Model name	Function expansion board*1*3	Function adapter*3	Communication type	Cable model	Max. distance	Option device	Model	
FX1S FX1N FX2N FX1NC FX2NC	-	-	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC built-in port
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*2	-	
FX1S FX1N FX2N	FX1N-422-BD FX2N-422-BD	-	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function expansion board
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*2	-	

*1 The function expansion board to be used differs according to the type of the FXCPU to be connected.
Use the applicable function expansion board shown in the following table.

Item	Function expansion board to be used	
	When connecting to FX1N or FX1S Series	When connecting to FX Series
RS-422 communication	FX1N-422-BD	FX2N-422-BD

*2 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

*3 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

■ When connecting to FX1S, FX1N, FX2N, FX1NC, FX2NC (RS-232 connection)

PLC				Connection cable		GOT		Number of connectable equipment*3
Model name	Function expansion board*1*3	Function adapter*3	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
FX1S FX1N FX2N	FX1N-232-BD FX2N-232-BD	-	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function expansion board
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*2	-	
	FX1N-CNV-BD FX2N-CNV-BD	FX2NC -232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC built-in port
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*2	-	
		FX0N -232ADP	RS-232	GT01-C30R2-25P(3m) or User preparing RS232 connection diagram 2)	15m	- (Built into GOT)	GT27 GT23 GS	
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*2	-	
FX1NC FX2NC	-	FX2NC -232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*2	-	
		FX0N -232ADP	RS-232	GT01-C30R2-25P(3m) or User preparing RS232 connection diagram 2)	15m	- (Built into GOT)	GT27 GT23 GS	
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*2	-	

*1 The function expansion board to be used differs according to the type of the FXCPU. Select the function expansion board from the following table.

Item	Function expansion board to be used	
	When connecting to FX1N or FX1S Series	When connecting to FX Series
RS-232 communication	FX1N-232-BD	FX2N-232-BD
When the function adapter is used	FX1N-CNV-BD	FX2N-CNV-BD

*2 For details of the GOT multi-drop connection, refer to the following.

☞ 18. GOT MULTI-DROP CONNECTION

*3 When using function expansion boards or function adapters, confirm the communication settings.

☞ 6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

■ When connecting to FX3G, FX3S, FX3GE (RS-422 connection)

PLC				Connection cable		GOT		Number of connectable equipment *2
Model name	Function expansion board*3	Function adapter*3	Communication type	Cable model	Max. distance	Option device	Model	
FX3G FX3S FX3GE	-	-	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC built-in port
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	
	FX3G-422-BD	-	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function expansion board
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

*2 When the function expansion board (communication board) and the function adapter are connected, a GOT and a peripheral such as a PC with GX Developer installed can be connected to them individually.

*3 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

■ When connecting to FX3G, FX3S, FX3GE (RS-232 connection)

PLC				Connection cable		GOT		Number of connectable equipment *2
Model name	Function expansion board*3	Function adapter*3	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
FX3G FX3S FX3GE	FX3G-232-BD	-	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GT27 GT23 GS)	GT27 GT23 GS	1 GOT for 1 function expansion board
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	
FX3G	-	FX3G-CNV-ADP + FX3U-232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GT27 GT23 GS)	GT27 GT23 GS	1 GOT for 1 function adapter
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	
FX3GE	-	FX3U-232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GT27 GT23 GS)	GT27 GT23 GS	1 GOT for 1 function adapter
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	
FX3S	-	FX3S-CNV-ADP + FX3U-232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GT27 GT23 GS)	GT27 GT23 GS	1 GOT for 1 function adapter
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

*2 When the function expansion board (communication board) and the function adapter are connected, a GOT and a peripheral such as a PC with GX Developer installed can be connected to them individually.

*3 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

*4 Use the RS-232 connection model.

■ When connecting to FX3GC (FX3GC-□□/D, FX3GC-□□/DSS) (RS-422 connection)

PLC		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Cable model	Max. distance	Option device	Model	
FX3GC-□□/D FX3GC-□□/DSS	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC built-in port
				GT15-RS4-9S	GT27 GT23 GS	
				GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

■ When connecting to FX3GC (FX3GC-□□/D, FX3GC-□□/DSS) (RS-232 connection)

PLC			Connection cable		GOT		Number of connectable equipment*2
Model name	Function adapter*3	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
FX3GC-□□/D FX3GC-□□/DSS	FX3U-232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function adapter
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

*2 A GOT and a peripheral such as a PC with GX Developer installed can be connected to the function adapter and the FXCPU individually.

*3 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

■ When connecting to FX3U or FX3UC (FX3UC-□□-LT(-2)) (RS-422 connection)

PLC				Connection cable		GOT		Number of connectable equipment *2
Model name	Function expansion board*3	Function adapter *3	Communication type	Cable model	Max. distance	Option device	Model	
FX3U FX3UC (FX3UC-□□-LT(-2))	-	-	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC built-in port
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	
	FX3U-422-BD	-	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function expansion board
						GT15-RS4-9S	GT27 GT23 GS	
						GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

*2 When the function expansion board (communication board) and the function adapter are connected, a GOT and a peripheral such as a PC with GX Developer installed can be connected to them individually.

*3 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

■ When connecting to FX3U or FX3UC (FX3UC-□□-LT(-2)) (RS-232 connection)

PLC				Connection cable		GOT		Number of connectable equipment *2
Model name	Function expansion board*3	Function adapter*3	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
FX3U FX3UC (FX3UC-□□-LT(-2))	FX3U-232-BD	-	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function expansion board
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	
	FX3U-422-BD FX3U-232-BD FX3U-CNV-BD	FX3U-232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function adapter
						GT15-RS2-9P	GT27 GT23 GS	
						GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

*2 When the function expansion board (communication board) and the function adapter are connected, a GOT and a peripheral such as a PC with GX Developer installed can be connected to them individually.

*3 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

■ When connecting to FX3UC (FX3UC-□□/D, FX3UC-□□/DS, FX3UC-□□/DSS) (RS-422 connection)

PLC		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Cable model	Max. distance	Option device	Model	
FX3UC-□□/D FX3UC-□□/DS FX3UC-□□/DSS	RS-422	GT01-C10R4-8P(1m) GT01-C30R4-8P(3m) GT01-C100R4-8P(10m) GT01-C200R4-8P(20m) GT01-C300R4-8P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC built-in port
				GT15-RS4-9S	GT27 GT23 GS	
				GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

■ When connecting to FX3UC (FX3UC-□□/D, FX3UC-□□/DS, FX3UC-□□/DSS) (RS-232 connection)

PLC			Connection cable		GOT		Number of connectable equipment*2
Model name	Function adapter*3	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
FX3UC-□□/D FX3UC-□□/DS FX3UC-□□/DSS	FX3U-232ADP	RS-232	GT01-C30R2-9S(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 function adapter
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*1	-	

*1 For details of the GOT multi-drop connection, refer to the following.

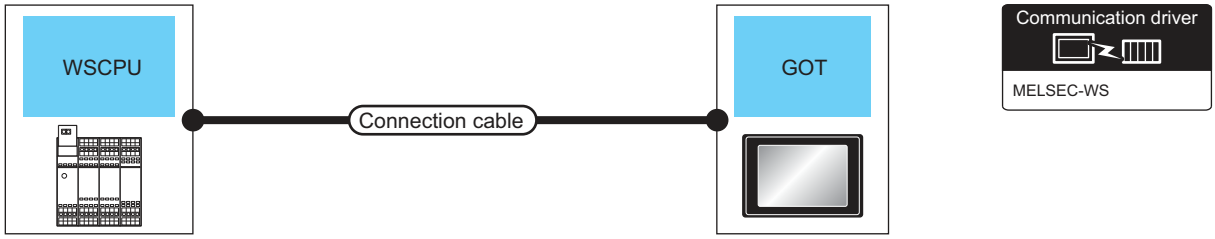
18. GOT MULTI-DROP CONNECTION

*2 A GOT and a peripheral such as a PC with GX Developer installed can be connected to the function adapter and the FXCPU individually.

*3 When using function expansion boards or function adapters, confirm the communication settings.

6.5 Precautions ■Connection to FXCPU (2)When connecting with function extension board or communication special adapter

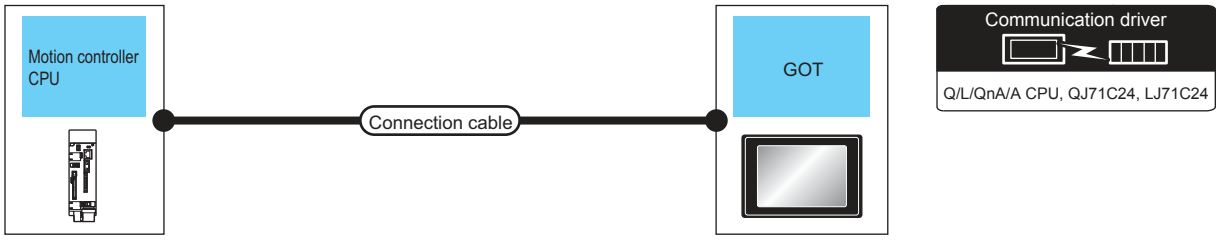
6.2.6 Connecting to WSCPU



PLC		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
MELSEC-WS	RS-232	WS0-C20R2(2m)	2m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
				GT15-RS2-9P	GT27 GT23 GS	

*1 Use the RS-232 connection model.

6.2.7 Connecting to the motion controller CPU



Motion controller CPU		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Cable model	Max. distance	Option device	Model	
Q170MCPU	RS-232	GT01-C30R2-6P(3m)	3m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 motion controller CPU
				GT15-RS2-9P	GT27 GT23 GS	

POINT

When connecting to the motion controller CPU (Q Series) other than Q170MCPU or Q170MSCPU(-S1)

A motion controller CPU (Q Series) mounted to the multiple CPU system of the QCPU (Q mode) can be monitored. The system configuration, connection conditions, and system equipment for connecting a GOT to a motion controller CPU (Q Series) are the same as those for connecting to the QCPU.

6.2.1 Connecting to QCPU

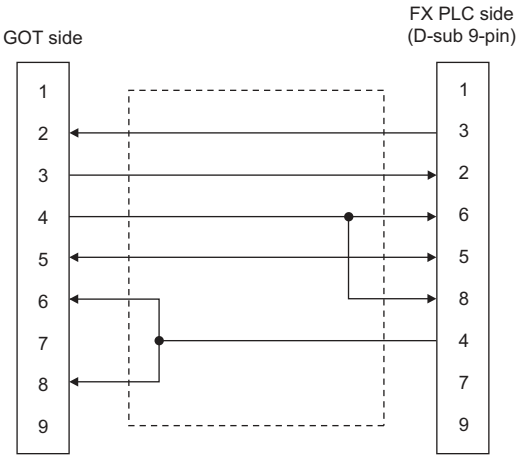
6.3 Connection Diagram

The following diagram shows the connection between the GOT and the PLC.

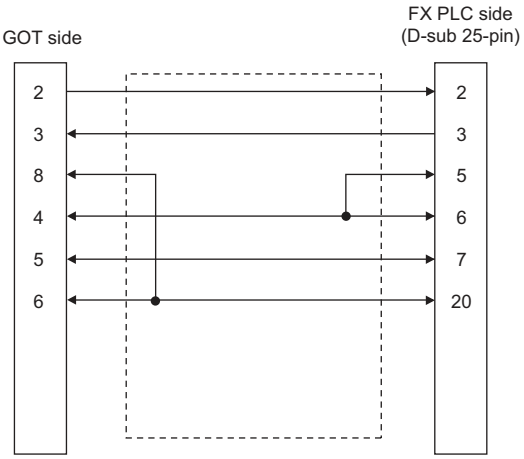
6.3.1 RS-232 cable

■ Connection diagram

(1) RS232 connection diagram 1)



RS232 connection diagram 2)



■ Precautions when preparing a cable

(1) Cable length
The length of the RS-422 cable must be within the maximum distance specifications.

(2) GOT side connector
For the GOT side connector, refer to the following.
☞ 1.4.1 GOT connector specifications

6.4 GOT Side Settings

6.4.1 Setting communication interface (Communication settings)

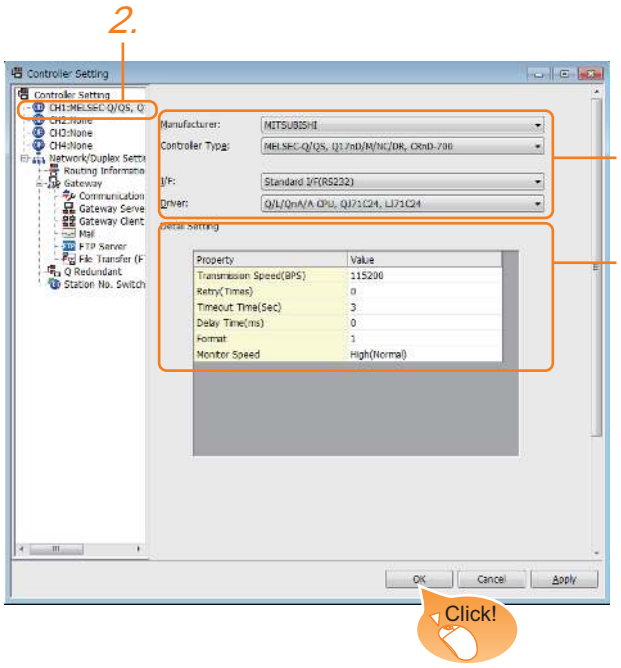
POINT

GOT Multi- Drop Connection

When using the serial multi-drop connection unit, refer to the following.

18. GOT MULTI-DROP CONNECTION

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: Set either of the following according to the Controller Type to be connected.
     - Q/L/QnA/A CPU,QJ71C24,LJ71C24
     - MELSEC-FX
     - MELSEC-WS
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set. Make the settings according to the usage environment.

   6.4.2Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting]. For details, refer to the following:

1.1.2 I/F communication setting

6.4.2 Communication detail settings

Make the settings according to the usage environment.

(1) Q/L/QnA/A CPU,QJ71C24,LJ71C24

Property	Value
Transmission Speed(BPS)	115200
Retry(Times)	0
Timeout Time(Sec)	3
Delay Time(ms)	0
Format	1
Monitor Speed	High(Normal)

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 115200bps) When the setting exceeds the limit of the connected equipment, communication is performed at the fastest transmission speed supported by the connected equipment.	9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Retry	Set the number of retries to be performed when a communication timeout occurs. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 (ms)
Format*3	Select the communication format. (Default: 1)	1, 2
Monitor Speed	Set the monitor speed of the GOT. This setting is not valid in all systems. (Default: Normal)	High(Normal)*1 Middle Low*2

*1 This is effective when collecting a large data on other than the monitor screen (logging, recipe function, etc.). However, when connecting to Q00J/Q00/Q01CPU, the sequence scan time may be influenced. If you want to avoid the influence on the sequence scan time, do not set [High(Normal)]. (High performance is hardly affected)

*2 Set this item if you want to avoid the influence on the sequence scan time further than the [Middle] setting when connecting to Q00UJ/Q00U/Q01U/Q02UCPU or Q00J/Q00/Q01CPU. However, the monitor speed may be reduced.

*3 Set the format to "1".

(2) MELSEC-FX

Property	Value
Transmission Speed(BPS)	115200
Retry(Times)	0
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 115200bps) When the setting exceeds the limit of the connected equipment, communication is performed at the fastest transmission speed supported by the connected equipment.	9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 (ms)

(3) MELSEC-WS

Property	Value
Transmission Speed(BPS)	115200
Retry(Times)	3
Timeout Time(Sec)	3
Delay Time(ms)	5

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 115200bps) When the setting exceeds the limit of the connected equipment, communication is performed at the fastest transmission speed supported by the connected equipment.	9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 300 (ms)
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 5ms)	0 to 300 (ms)

POINT

(1) Communication interface setting by the Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

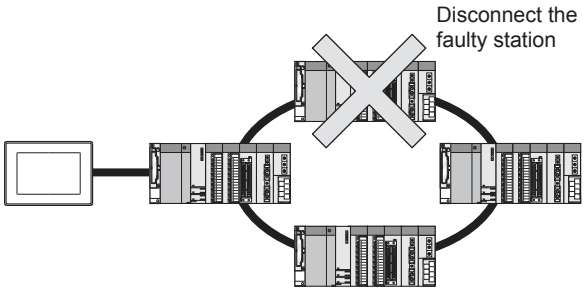
☞ GOT2000 Series User's Manual (Utility)

(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

HINT

Cutting the portion of multiple connection of the controller

By setting GOT internal device, GOT can cut the portion of multiple connection of the controller. For example, faulty station that has communication timeout can be cut from the system.



For details of the setting contents of GOT internal device, refer to the following manual.

☞ GT Designer3 (GOT2000) Help

6.5 Precautions

■ Connection to FXCPU

(1) When connecting to FX3 series
When the keyword of FXCPU (FX3 series) has been set, GOT may not be able to monitoring.Perform an I/O check again.
(☞ ■ Perform an I/O check) When the result of the I/O check is normal, check the status of keyword registration.

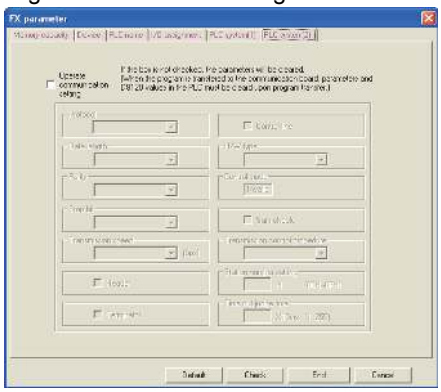
(2) When connecting with function extension board or communication special adapter
When a sequence program and settings that the FXCPU communicates with devices other than the GOT are set with software, including GX Developer, the FXCPU cannot communicate with the GOT.

(a) Settings with sequence program
Check the sequence program and delete the following.

☞ FX SERIES PROGRAMMABLE CONTROLLERS USER'S MANUAL - Data Communication Edition

- No protocol communication (RS instruction)
- Sequence program with the computer link, N:N network, and parallel link
- Parameter setting
- Set the following special registers to 0.
  Except FX3U, FX3UC: D8120
  FX3U, FX3UC: D8120, D8400, D8420
  FX3G, FX3GC, FX3GE: D8120, D8400, D8420, D8370
  FX3S: D8120, D8400

(b) Settings with GX Developer
Select [PLC parameter] in [Parameter], and then click the PLC system(2) tab on the FX parameter screen.
Uncheck [Operate communication setting], and then transfer the parameter to the programmable controller.After the transfer, turn off the programmable controller, and then turn on the programmable controller again.



■ Connection in the multiple CPU system

When the GOT is connected to multiple CPU system, the following time is taken until when the PLC runs.

- QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more
- MELDAS C70: 18 seconds or more

When the GOT starts before the PLC runs, a system alarm occurs.Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to LCPU

LCPU may diagnose (check file system, recovering process, etc.) the SD memory card when turning on the power or when resetting. Therefore, it takes time until the SD memory card becomes available. When the GOT starts before the SD card becomes available, a system alarm occurs. Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to basic model QCPU

Do not set the serial communication function of Q00UJ/Q00U/Q01U/Q02UCPU, Q00/Q01CPU. If the function is set, the communication may not be performed.

■ Connection to Q170MCPU or Q170MSCPU(-S1)

Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

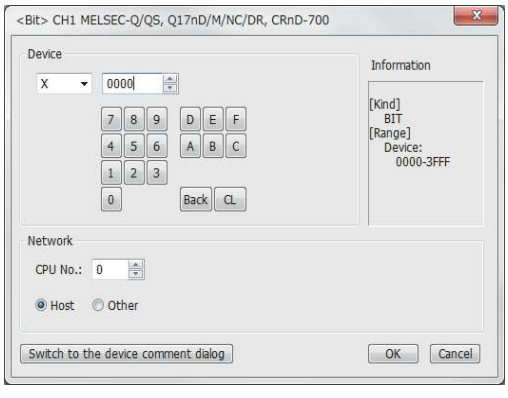
When the CPU No. is set to "0" or "1", the device on the PLC CPU area (CPU No.1) is monitored.

When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device



7

COMPUTER LINK CONNECTION

7. COMPUTER LINK CONNECTION

7.1 Connectable Model List

The following table shows the connectable models.

7.1.1 PLC/Motion controller CPU

Series	Model name	Clock	Communication	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU Q00CPU*1 Q01CPU*1 Q02CPU*1 Q02HCPU*1 Q06HCPU*1 Q12HCPU*1 Q25HCPU*1	○	RS-232 RS-422	GT27 GT23 GS	7.2.1
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU	○	RS-232 RS-422	GT27 GT23 GS	7.2.1
	Q12PRHCPU (Main base) Q25PRHCPU (Main base)	○	-	GT27 GT23 GS	-
	Q12PRHCPU (Extension base) Q25PRHCPU (Extension base)	○	RS-232 RS-422	GT27 GT23 GS	7.2.1
	Q00UJCPU Q00UCPU Q01UCPU Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	○	RS-232 RS-422	GT27 GT23 GS	7.2.1

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.

Series	Model name	Clock	Communication	Connectable model	Refer to
C Controller module	Q12DCCPU-V*1*2 Q24DHCCPU-V*2 Q24DHCCPU-LS	○	RS-232 RS-422	GT27 GT23 GS	7.2.1
MELSEC-QS	QS001CPU	×	-	GT27 GT23 GS	-
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P	○	RS-232 RS-422	GT27 GT23 GS	7.2.2
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	RS-232 RS-422	GT27 GT23 GS	7.2.3
MELSEC-QnA (QnACPU) *3	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU	○	RS-232 RS-422	GT27 GT23 GS	7.2.4
	Q4ARCPU	○	RS-232 RS-422	GT27 GT23 GS	
MELSEC-QnA (QnASCPU) *3	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	RS-232 RS-422	GT27 GT23 GS	7.2.5
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU A2NCPUP21 A2NCPUR21 A2NCPU-S1 A2NCPUP21-S1 A2NCPUR21-S1 A3NCPU A3NCPUP21 A3NCPUR21	○	RS-232 RS-422	GT27 GT23 GS	7.2.6

(Continued to next page)

*1 Use only modules with the upper five digits of the serial No. later than 12042.

*2 Use the serial port of a serial communication module controlled by another CPU on the multiple CPU.

*3 If the A series computer link module is applied to the QnACPU, the GOT can monitor the devices in the same range on AnACPU. However, the following devices cannot be monitored.
- Devices added to QnACPU
- Latch relays (L) and step relays (S)
  (In case of QnACPU, the latch relay (L) and step relay (S) are different from the internal relay. However, whichever is specified, an access is made to the internal relay.)
- File register (R)

Series	Model name	Clock	Communication	Connectable model	Refer to
MELSEC-A (AnSCPU)	A2USCPU	○	RS-232 RS-422	GT27 GT23 GS	7.2.7
	A2USCPU-S1				
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU*1				
	A2SCPU*1				
	A2SCPU-S1*1				
	A2SHCPU*1				
	A2SHCPU-S1*1				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU*1				
MELSEC-A	A0J2HCPU*1	×	RS-232 RS-422	GT27 GT23 GS	7.2.7
	A0J2HCPUP21*1				
	A0J2HCPUR21*1				
	A0J2HCPU-DC24*1				
	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24	○	RS-232 RS-422	GT27 GT23 GS	7.2.7
	A2CCPUC24-PRF				
	A2CJCPU-S3	○	-	GT27 GT23 GS	-
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*2*3	○	RS-232 RS-422	GT27 GT23 GS	7.2.1
	Q173CPU*2*3				
	Q172CPUN*2				
	Q173CPUN*2				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*4				
	Q170MSCPU*5				
	Q170MSCPU-S1*5				
	MR-MQ100	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 The computer link module version U or later supports the A2SCPU(S1), A2SHCPU(S1), A1SHCPU, A1SJHCPU and A0J2HCPU. In addition, A0J2-C214-S1 (A0J2HCPU-dedicated computer link module) cannot be used.

*2 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00H or later
- SW6RN-SV22Q□: 00H or later
- SW6RN-SV43Q□: 00B or later

*3 Use main modules with the following product numbers.
- Q172CPU: Product number N******* or later
- Q173CPU: Product number M******* or later

*4 Only the first step can be used on the extension base unit (Q52B/Q55B).

*5 The extension base unit (Q5□B/Q6□B) can be used.

Series	Model name	Clock	Communication	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	RS-232 RS-422	GT27 GT23 GS	7.2.6
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU	○	RS-232 RS-422	GT27 GT23 GS	7.2.7
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU*1				
	A171SHCPUN*1				
	A172SHCPU*1				
	A172SHCPUN*1				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	-	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	RS-232 RS-422	GT27 GT23 GS	7.2.1
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	RS-232 RS-422	GT27 GT23 GS	7.2.2
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	GT27 GT23 GS	-
CNC C70	Q173NCCPU	○	RS-232 RS-422	GT27 GT23 GS	7.2.1
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	RS-232 RS-422	GT27 GT23 GS	7.2.1
MELSEC-FX	FX_0	×	-	GT27 GT23 GS	-
	FX_{0S}				
	FX_{0N}				
	FX_1				
	FX_2	×			
	FX_{2C}				
	FX_{1S}	○			
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	×			
	FX_{3S}	○			
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

*1 For computer link connection of A171SHCPU(N) and A172SHCPU(N), use the computer link module whose software version is version U or later.

7.1.2 Serial communication module/Computer link module

CPU series	Model name[*1]
MELSEC-Q (Q mode) Motion controller CPU (Q Series) MELSECNET/H remote I/O station CNC C70 Robot controller (CRnQ-700)	QJ71C24[*2], QJ71C24-R2[*2]
	QJ71C24N, QJ71C24N-R2, QJ71C24N-R4
	QJ71CMO[*3], QJ71CMON[*3]
MELSEC-L	LJ71C24, LJ71C24-R2
MELSEC-Q (A mode)	A1SJ71UC24-R2, A1SJ71UC24-R4, A1SJ71UC24-PRF
	A1SJ71C24-R2, A1SJ71C24-R4, A1SJ71C24-PRF
MELSEC-QnA (QnACPU) MELSEC-QnA (QnASCPU)	AJ71QC24[*4], AJ71QC24-R2[*4], AJ71QC24-R4[*4]
	AJ71QC24N[*4], AJ71QC24N-R2[*4], AJ71QC24N-R4[*4]
	A1SJ71QC24[*4], A1SJ71QC24-R2[*4]
	A1SJ71QC24N[*4], A1SJ71QC24N-R2[*4]
	A1SJ71QC24N1[*4], A1SJ71QC24N1-R2[*4]
	AJ71UC24[*4*6]
	A1SJ71C24-R2[*6], A1SJ71C24-R4[*6], A1SJ71C24-PRF[*6]
	A1SJ71UC24-R2[*6], A1SJ71UC24-R4[*6], A1SJ71C24-PRF[*6]
MELSEC-A (AnCPU) MELSEC-A (AnSCPU) MELSEC-A Motion controller CPU (A Series)	AJ71UC24[*4*5]
	A1SJ71UC24-R2[*5], A1SJ71UC24-R4[*5], A1SJ71UC24-PRF[*5]
	A1SJ71C24-R2[*5], A1SJ71C24-R4[*5], A1SJ71C24-PRF[*5]
	A1SCPUC24-R2[*5]
	A2CCPUC24[*4], A2CCPUC24-PRF[*4]

*1 Communication cannot be performed with RS-485.
A0J2-C214-S1 cannot be used.

*2 Either CH1 or CH2 can be used for the function version A. Both CH1 and CH2 can be used together for the function version B or later.

*3 Only CH2 can be connected.

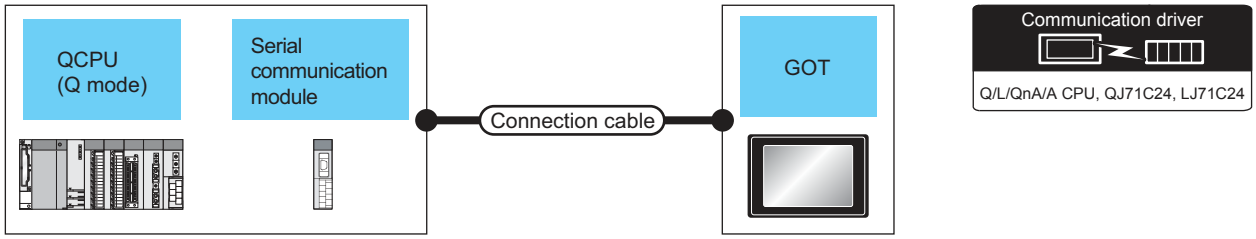
*4 Either CH1 or CH2 can be used.

*5 The computer link module version U or later supports the A2SCPU(S1), A2SHCPU(S1), A1SHCPU, A1SJHCPU and A0J2HCPU.

*6 The module operates in the device range on AnACPU.

7.2 System Configuration

7.2.1 Connecting to QCPU (Q mode)



PLC			Connection cable		GOT		Number of connectable equipment
Model name	Serial communication module*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q (Q mode)	QJ71C24 QJ71C24N QJ71C24-R2 QJ71C24N-R2 QJ71CMO QJ71CMON	RS-232	GT09-C30R2-9P(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	2 GOTs for 1 serial communication module*2 1 GOT for 1 modem interface module
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*3	-	
	QJ71C24 QJ71C24N QJ71C24N-R4	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	1200m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	
				500m	GT01-RS4-M*3	-	

*1 For details on the system configuration on the serial communication module side, refer to the following manual.

Q Corresponding Serial Communication Module User's Manual (Basic)

For details on the system configuration on the modem interface module side, refer to the following manual.

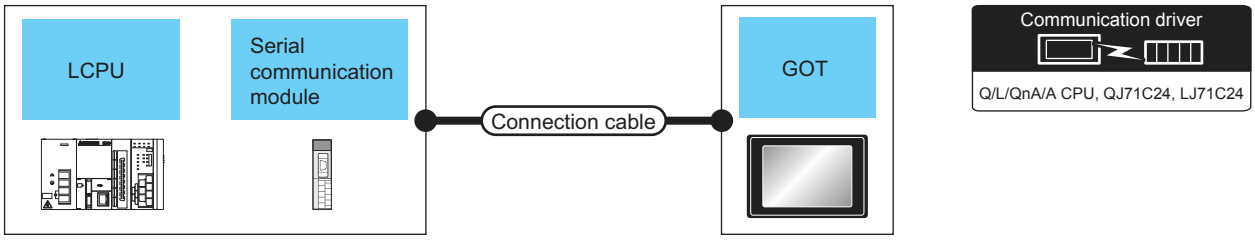
Modem Interface Module User's Manual

*2 Two GOTs can be connected with the function version B or later of the serial communication module.

*3 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

7.2.2 Connecting to LCPU



PLC			Connection cable		GOT		Number of connectable equipment
Model name	Serial communication module*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-L	LJ71C24 LJ71C24-R2	RS-232	GT09-C30R2-9P(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	2 GOTs for 1 serial communication module
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*2	-	
	LJ71C24	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	1200m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	
				500m	GT01-RS4-M*2	-	

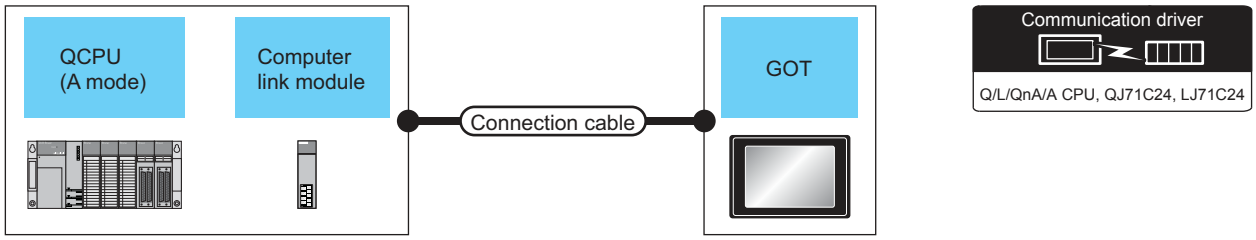
*1 For details on the system configuration on the serial communication module side, refer to the following manual.

MELSEC-L Serial Communication Module User's Manual (Basic)

*2 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

7.2.3 Connecting to QCPU (A mode)

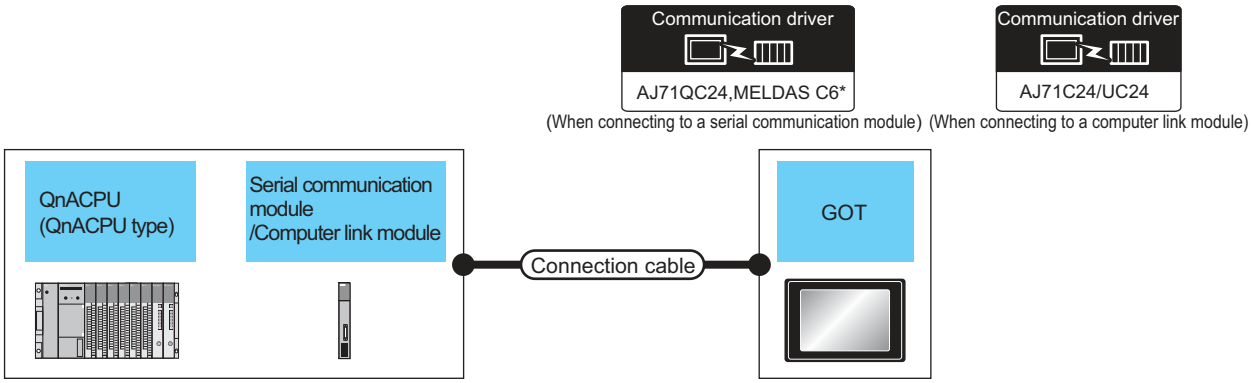


PLC			Connection cable		GOT		Number of connectable equipment
Model name	Computer link module*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q (A mode)	A1SJ71UC24-R2 A1SJ71C24-R2 A1SJ71UC24-PRF A1SJ71C24-PRF	RS-232	GT09-C30R2-9P(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 computer link module
					GT15-RS2-9P	GT27 GT23 GS	
	A1SJ71UC24-R4 A1SJ71C24-R4	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	

*1 For the system configuration on the computer link module side, refer to the following manual.

Computer Link Module (Com. link func./Print. func.) User's Manual

7.2.4 Connecting to QnACPU (QnACPU type)



PLC			Connection cable		GOT		Number of connectable equipment
Model name	Serial communication module*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-QnA (QnACPU)	AJ71QC24 AJ71QC24N AJ71QC24-R2 AJ71QC24N-R2	RS-232	GT09-C30R2-25P(3m) or User preparing RS232 connection diagram 2)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 serial communication module
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*2	-	
	AJ71QC24-R4 AJ71QC24N-R4	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	
					GT01-RS4-M*2	-	
	AJ71QC24 AJ71QC24N AJ71QC24-R4 AJ71QC24N-R4	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	1200m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	
					GT01-RS4-M*2	-	

*1 For details on the system configuration on the serial communication module side, refer to the following manual.

Serial Communications Module User's Manual (Modem Function Additional Version)

*2 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

PLC			Connection cable		GOT		Number of connectable equipment
Model name	Computer link module*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-QnA (QnACPU)	AJ71UC24	RS-232	GT09-C30R2-25P(3m) or User preparing RS232 connection diagram 2)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 computer link module
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*2	-	
	AJ71UC24	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	
					GT01-RS4-M*2	-	

*1 For the system configuration on the computer link module side, refer to the following manual.

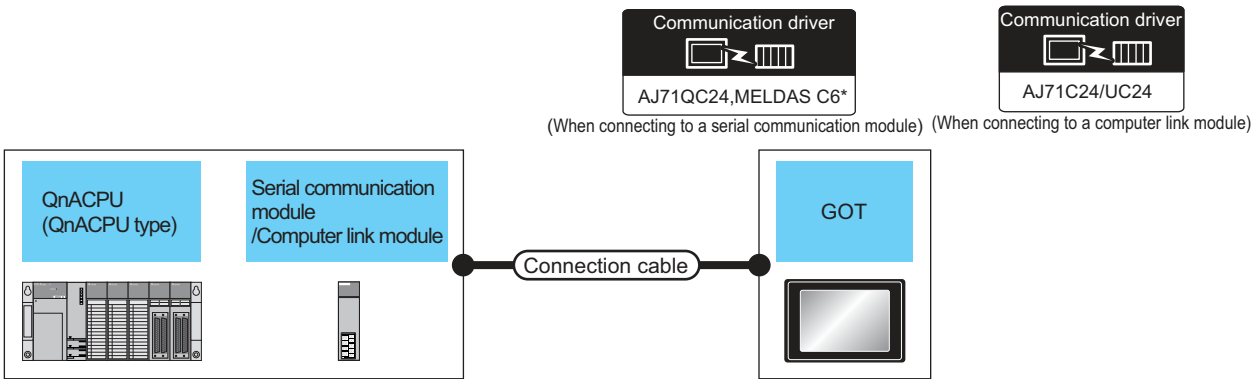
Computer Link Module (Com. link func./Print. func.) User's Manual

When connecting to a computer link module, set the communication driver to [AJ71C24/UC24].

*2 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

7.2.5 Connecting to QnACPU (QnASCPU type)



PLC			Connection cable		GOT		Number of connectable equipment
Model name	Serial communication module*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-QnA (QnACPU)	A1SJ71QC24 A1SJ71QC24N A1SJ71QC24N1 A1SJ71QC24-R2 A1SJ71QC24N-R2 A1SJ71QC24N1-R2	RS-232	GT09-C30R2-9P(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 serial communication module
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*2	-	

*1 For details on the system configuration on the serial communication module side, refer to the following manual.

Serial Communication Module User's Manual (Modem Function Additional Version)

*2 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

PLC			Connection cable		GOT		Number of connectable equipment
Model name	Serial communication module /Computer link module*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-QnA (QnACPU)	A1SJ71QC24 A1SJ71QC24N A1SJ71QC24N1	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	1200m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 serial communication module
					GT15-RS4-9S	GT27 GT23 GS	
				500m	GT01-RS4-M*2	-	
MELSEC-QnA (QnACPU)	A1SJ71UC24-R2 A1SJ71C24-R2 A1SJ71UC24-PRF A1SJ71C24-PRF	RS-232	GT09-C30R2-9P(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 computer link module
					GT15-RS2-9P	GT27 GT23 GS	
					GT01-RS4-M*2	-	
	A1SJ71UC24-R4 A1SJ71C24-R4	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	
					GT01-RS4-M*2	-	

*1 For details on the system configuration on the serial communication module side, refer to the following manual.

Serial Communication Module User's Manual (Modem Function Additional Version)

For the system configuration on the computer link module side, refer to the following manual.

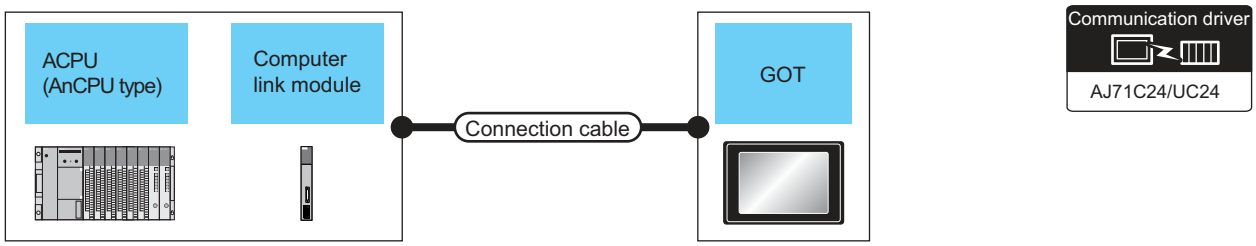
Computer Link Module (Com. link func./Print. func.) User's Manual

When connecting to a computer link module, set the communication driver to [AJ71C24/UC24].

*2 For details of the GOT multi-drop connection, refer to the following.

18. GOT MULTI-DROP CONNECTION

7.2.6 Connecting to ACPU (AnCPU type)

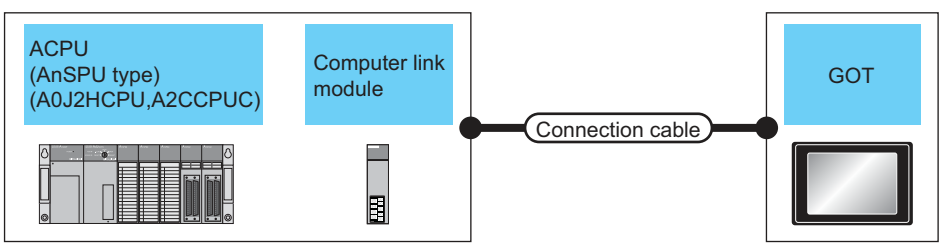


PLC			Connection cable		GOT		Number of connectable equipment
Model name	Computer link module *1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-A (AnCPU)	AJ71UC24	RS-232	GT09-C30R2-25P(3m) or User preparing RS232 connection diagram 2)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 computer link module
					GT15-RS2-9P	GT27 GT23 GS	
	AJ71UC24	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	

*1 For the system configuration on the computer link module side, refer to the following manual.

Computer Link Module (Com. link func./Print. func.) User's Manual

7.2.7 Connecting to ACPU (AnSCPU type, A0J2HCPU, A2CCPUC)



PLC			Connection cable		GOT		Number of connectable equipment
Model name	Computer link module *1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-A (AnSCPU) (A0J2H) (A2CCPUC)	A1SJ71UC24-R2 A1SJ71C24-R2 A1SJ71UC24-PRF A1SJ71C24-PRF A1SCPUC24-R2 A2CCPUC24 A2CCPUC24-PRF	RS-232	GT09-C30R2-9P(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 computer link module
					GT15-RS2-9P	GT27 GT23 GS	
	A1SJ71UC24-R4 A1SJ71C24-R4	RS-422	GT09-C30R4-6C(3m) GT09-C100R4-6C(10m) GT09-C200R4-6C(20m) GT09-C300R4-6C(30m) or User preparing RS422 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	

*1 For the system configuration on the computer link module side, refer to the following manual.

Computer Link Module (Com. link func./Print. func.) User's Manual

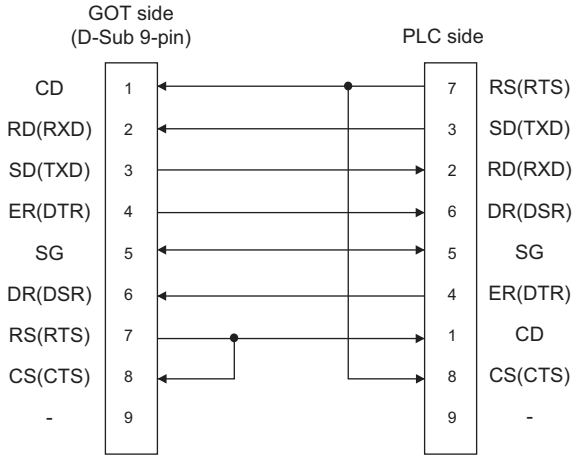
7.3 Connection Diagram

The following diagram shows the connection between the GOT and the PLC.

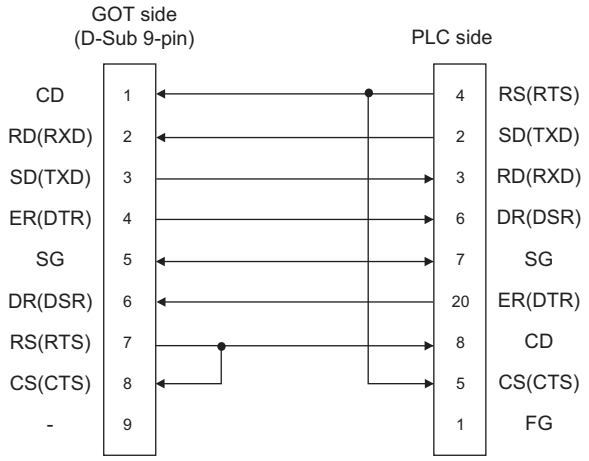
7.3.1 RS-232 cable

■ Connection diagram

(1) RS232 connection diagram 1)
PLC side connector D-sub 9-pin



(2) RS232 connection diagram 2)
PLC side connector D-sub 25-pin



■ Precautions when preparing a cable

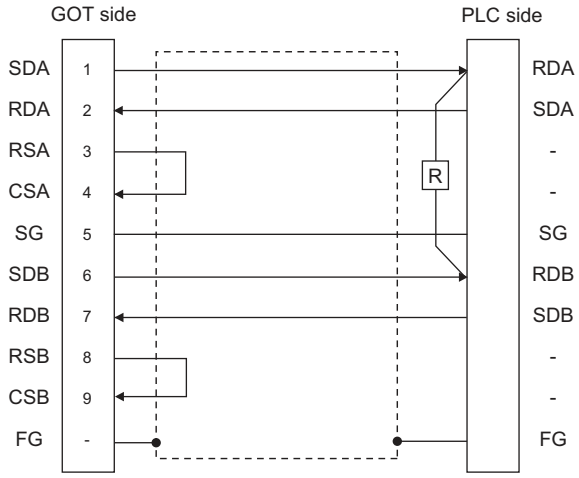
(1) Cable length
The length of the RS-232 cable must be 15m or less.

(2) GOT side connector
For the GOT side connector, refer to the following.
☞ 1.4.1 GOT connector specifications

7.3.2 RS-422 cable

■ Connection diagram

(1) RS422 connection diagram 1)



■ Precautions when preparing a cable

(1) Cable length
The length of the RS-422 cable must be 1200m or less.

(2) GOT side connector
For the GOT side connector, refer to the following.
☞ 1.4.1 GOT connector specifications

■ Connecting terminating resistors

(1) GOT side
Set the terminating resistor setting switch to "Disable". For the procedure to set the terminating resistor, refer to the following.
☞ 1.4.3 Terminating resistors of GOT

(2) Serial communication module or computer link module side
Connect the terminating resistors (330Ω 1/4W (orange/orange/brown/□)) on the serial communication module or computer link module side. For details, refer to the following manual.
☞ User's Manual for the serial communication module or computer link module

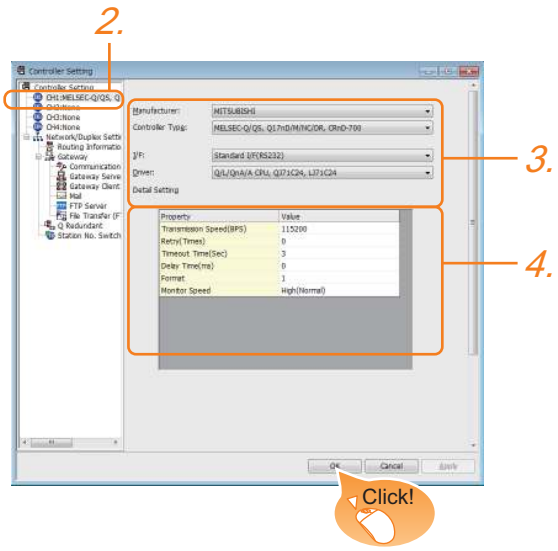
(a) Other than A2CCPUC24(-PRF)
Connect the terminating resistors supplied with the module across RDA and RDB.

(b) A2CCPUC24(-PRF)
Set TXD and RXD on the terminating resistor setting pin to "A".

7.4 GOT Side Settings

7.4.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: Set either of the following according to the Controller Type to be connected.
     - Q/L/QnA/A CPU, QJ71C24, LJ71C24
     - AJ71QC24, MELDAS C6*
     - AJ71C24/UC24
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   7.4.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

7.4.2 Communication detail settings

Make the settings according to the usage environment.

(1) A/QnA/L/Q CPU, LJ71C24, QJ71C24

Property	Value
Transmission Speed(BPS)	115200
Retry(Times)	0
Timeout Time(Sec)	3
Delay Time(ms)	0
Format	1
Monitor Speed	High(Normal)

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 115200bps) When the setting exceeds the limit of the connected equipment, communication is performed at the fastest transmission speed supported by the connected equipment.	9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 (ms)
Format*3	Select the communication format. (Default: 1)	1, 2
Monitor Speed (GT16 only)	Set the monitor speed of the GOT. This setting is not valid in all systems. (Default: Normal)	High (Normal)*1 Middle Low*2

*1 This is effective when collecting a large data on other than the monitor screen (logging, recipe function, etc.). However, when connecting to Q00J/Q00/Q01CPU, the sequence scan time may be influenced. If you want to avoid the influence on the sequence scan time, do not set [@@@(??)].
(High performance is hardly affected)

*2 Set this item if you want to avoid the influence on the sequence scan time further than the [@@@] setting when connecting to Q00UJ/Q00U/Q01U/Q02UCPU or Q00J/Q00/Q01CPU.

*3 Refer to the following POINT.

POINT

Setting [Format]

This setting is required for replacement of F900 series with GOT2000 series.

(1) To change the communication settings of the serial communication module which is connected to F900, set as follows.
The value of Transmission Speed can be set to 115200bps.

(a) [Intelligent function module switch setting] of PLC

Switch No.	CH1 side	CH2 side
Switch 1	0000H	-
Switch 2	0000H	-
Switch 3	-	0000H
Switch 4	-	0000H
Switch 5	0000H	0000H

☞ 7.5 PLC Side Setting

(b) GOT communication settings

Format
1

(2) To maintain the communication settings of the serial communication module which is connected to F900, set the communication setting of the GOT as follows.
The value of Transmission Speed remains 38400bps.

Format	Transmission Speed
2	38400bps

(2) AJ71QC24, MELDAS C6*

Property	Value
Transmission Speed(BPS)	19200
Data Bit	8 bit
Stop Bit	1 bit
Parity	Odd
Retry(Times)	0
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 19200bps)	4800bps, 9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Data Bit	Set this item when change the data length used for communication with the connected equipment. (Default: 8bit)	8bit (fixed)
Stop Bit	Specify the stop bit length for communications. (Default: 1bit)	1bit (fixed)
Parity	Specify whether or not to perform a parity check, and how it is performed during communication. (Default: Odd)	Odd (fixed)
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 (ms)

(3) AJ71C24/UC24

Property	Value
Transmission Speed(BPS)	19200
Data Bit	8 bit
Stop Bit	1 bit
Parity	Odd
Retry(Times)	0
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 19200bps)	4800bps, 9600bps, 19200bps
Data Bit	Set this item when change the data length used for communication with the connected equipment. (Default: 8bit)	8bit (fixed)
Stop Bit	Specify the stop bit length for communications. (Default: 1bit)	1bit (fixed)
Parity	Specify whether or not to perform a parity check, and how it is performed during communication. (Default: Odd)	Odd (fixed)
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 (ms)

POINT

(1) Communication interface setting by the Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

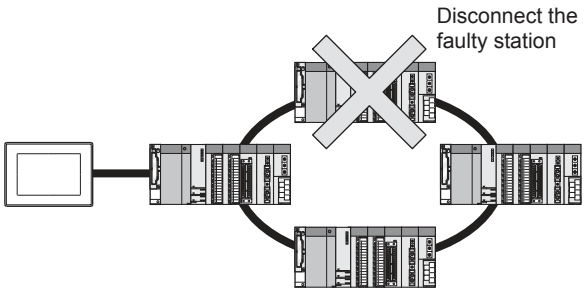
GOT2000 Series User's Manual (Utility)

(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

HINT

Cutting the portion of multiple connection of the controller

By setting GOT internal device, GOT can cut the portion of multiple connection of the controller. For example, faulty station that has communication timeout can be cut from the system.



For details of the setting contents of GOT internal device, refer to the following manual.

GT Designer3 (GOT2000) Help

7.5 PLC Side Setting

The GOT operates under the following transmission specifications when it is connected to a Mitsubishi PLC in the computer link connection.

Transmission specifications	Setting
Data bit	8bits
Parity bit	Yes (Odd)
Stop bit	1bit
Sum check	Yes
Transmission speed (Baud rate)	Set the same transmission speed on both the GOT and the PLC.

The PLC side settings (the serial communication module, computer link module) are explained in Section 7.5.1 to Section 7.5.3.

Model		Refer to
Serial communication module (Q Series)	QJ71C24N, QJ71C24	7.5.1
	QJ71C24N-R2, QJ71C24-R2	
	QJ71C24N-R4	
Modem interface module	QJ71CMO, QJ71CMON	7.5.1
Serial communication module (L Series)	LJ71C24, LJ71C24-R2	7.5.1
Serial communication module (QnA Series)	AJ71QC24N, AJ71QC24	7.5.2
	AJ71QC24N-R2, AJ71QC24-R2	
	AJ71QC24N-R4, AJ71QC24-R4	
	A1SJ71QC24N1, A1SJ71QC24N, A1SJ71QC24	
	A1SJ71QC24N1-R2, A1SJ71QC24N-R2, A1SJ71QC24-R2	
Computer link module	AJ71UC24	7.5.3
	A1SJ71UC24-R2, A1SJ71UC24-PRF, A1SJ71C24-R2, A1SJ71C24-PRF	7.5.3
	A1SJ71UC24-R4, A1SJ71C24-R4	7.5.3
	A1SCPUC24-R2	7.5.3
	A2CCPUC24, A2CCPUC24-PRF	7.5.3

7.5.1 Connecting serial communication module (Q, L Series)

POINT

(1) Serial communication module (Q, L Series)
For details of the serial communication module (Q, L Series), refer to the following manual.

☞ Q Corresponding Serial Communication Module User's Manual (Basic)

☞ MELSEC-L Serial Communication Module User's Manual (Basic)

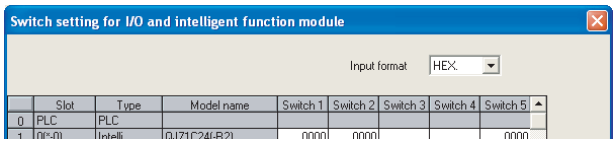
(2) Modem interface module
For details of the modem interface module, refer to the following manual.

☞ Modem Interface Module User's Manual

■ [Intelligent function module switch setting] on GX Developer

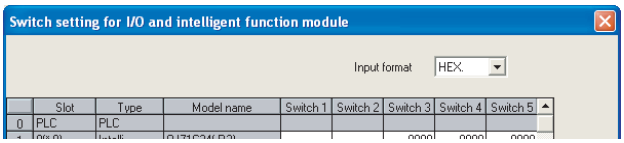
[The intelligent function module switch setting] on GX Developer is not necessary. (When no [intelligent function module switch setting] is made, the module runs in the GX Developer connection mode.)
A module can be also connected to a GOT by making the following [intelligent function module switch setting] on GX Developer.

(1) When connecting to the CH1 side



Switch No.	Bit: Position	Bit: Specified value	Description			Set value*3
Switch 1	b0	OFF	CH1 transmission settings*1	Operation setting	(Operates according to the GOT side specifications.)	0000H
	b1	OFF		Data Bit		
	b2	OFF		Parity Bit		
	b3	OFF		Even/Odd parity		
	b4	OFF		Stop bit		
	b5	OFF		Sum check code		
	b6	OFF		Write during RUN		
	b7	OFF		Setting modifications		
	b8 to b15	—	CH1 transmission speed setting*2			
Switch 2	—		CH1 Communication protocol setting		GX Developer connection	0000H
Switch 5	—		Station number setting		0th station	0000H

(2) When connecting to the CH2 side



Switch No.	Bit		Description			Set value*3
	Position	Specified value				
Switch 3	b0	OFF	CH2 transmission settings*1	Operation setting	(Operates according to the GOT side specifications.)	0000H
	b1	OFF		Data bit		
	b2	OFF		Parity bit		
	b3	OFF		Even/odd parity		
	b4	OFF		Stop bit		
	b5	OFF		Sum check code		
	b6	OFF		Write during RUN		
	b7	OFF		Setting modifications		
	b8 to b15	—	CH2 transmission speed setting*2			
Switch 4	—		CH2 Communication protocol setting		GX Developer connection	0000H
Switch 5	—		Station number setting		0th station	0000H

*1 The module operates under the following transmission specifications.

Transmission specifications	Setting details
Operation setting	Independent
Data bit	8bits
Parity bit	Yes
Even/odd parity	Odd
Stop bit	1bit
Sum check code	Yes

*2 The serial communication module operates at the transmission speed set on the GOT.

*3 When the value of switch setting is other than "0", the setting of [Format] and [Transmission Speed] on the GOT side are required to be changed.

7.4.2 Communication detail settings

POINT

(1) When the [intelligent function module switch setting] has been set
After writing PLC parameters to the PLC CPU, turn the PLC CPU OFF then back ON again, or reset the PLC CPU.

(2) Connection of multiple GOTs
To some serial communication module models, two GOTs can be connected using both CH1 and CH2.

Model	Connection of 2 GOTs	
	Function version A	Function version B
QJ71C24(-R2)	△	○
QJ71C24N(-R2/R4)	-	○
LJ71C24(-R2)	○	-

○: 2 GOTs connectable, △: 1 GOT connectable, -: Not applicable

(3) When connecting to the modem interface module
When the modem interface module is connected, only CH2 can be used.

7.5.2 Connecting serial communication module (QnA Series)

POINT

Serial communication module (QnA Series)

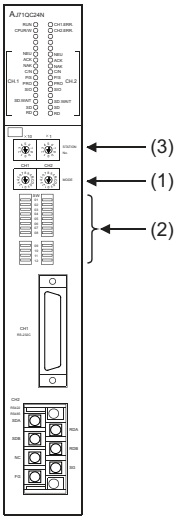
For details of the serial communication module (QnA Series), refer to the following manual.

Serial Communication Module User's Manual (Modem Function Additional Version)

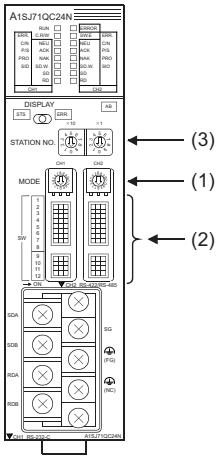
■ Switch setting on serial communication module

Set the Station number switches, the Mode setting switch for the channel used for GOT connection, and the Transmission specifications switches.

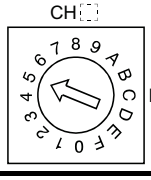
AJ71QC24N, AJ71QC24N-R2, AJ71QC24N-R4,AJ71QC24, AJ71QC24-R2, AJ71QC24-R4



A1SJ71QC24N1, A1SJ71QC24N1-R2 A1SJ71QC24N, A1SJ71QC24N-R2, A1SJ71QC24, A1SJ71QC24-R2



(1) Mode setting switch

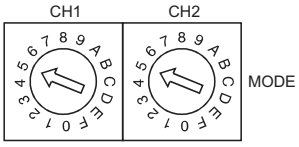
Mode setting switch*1	Description	Set value
CH  MODE	Dedicated protocol (Format 5) (Binary mode)	5

*1 The mode switch in the figure is for the AJ71QC24 (N) (-R2/R4).

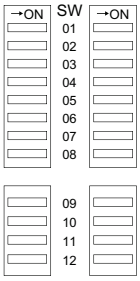
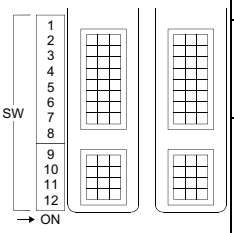
POINT

When connecting a GOT to CH2

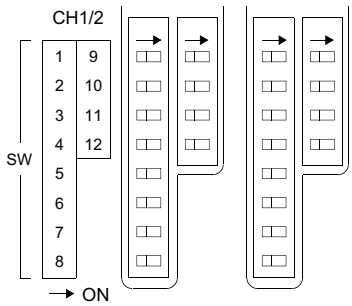
Set the CH1 side mode switch to any other than "0" (interlocked operation).



(2) Transmission specifications setting switch

Transmission specifications setting switch	Setting switch	Description		Set value
AJ71QC24(N) (-R2/R4) 	SW01	Operation setting	Independent operation	OFF
	SW02	Data bit setting	8bits	ON
	SW03	Parity bit enable/disable setting	Enable	ON
	SW04	Even/odd parity setting	Odd	OFF
	SW05	Stop bit setting	1bit	OFF
	SW06	Sum check enable/disable setting	Enable	ON
	SW07	Write during RUN enable/ disable setting	Enable	ON
	SW08	Setting change enable/disable	Disable (prohibit)	OFF
A1SJ71QC24(N) (N1)(-R2)*1 	SW09 to SW12	Transmission speed setting	(Consistent with the GOT side specifications)	See (a)
	SW13 to SW15	—	The switch is located on the left side of the module. (only on AJ71QC24 (-R2/R4))	All OFF

*1 The following shows the layout of switches in the case of the following hardware versions for the module.
Switch settings and switch ON/OFF directions are the same.



Target unit	Hardware version
A1SJ71QC24	Version E hardware or earlier
A1SJ71QC24-R2	Version D hardware or earlier
A1SJ71QC24N, A1SJ71QC24N-R2	Version A hardware

(a) Transmission speed setting (SW09 to SW12)
Set the transmission speed (SW09 to SW12) as follows.
The transmission speed setting must be consistent with that of the GOT side.

Setting Switch	Transmission speed*1*2*3					
	4800 bps	9600 bps	19200 bps	38400 bps*4	57600 bps*4	115200 bps*4
SW09	OFF	ON	OFF	ON	OFF	ON
SW10	OFF	OFF	ON	ON	ON	ON
SW11	ON	ON	ON	ON	OFF	OFF
SW12	OFF	OFF	OFF	OFF	ON	ON

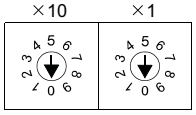
*1 Only transmission speeds available on the GOT side are shown.

*2 When the software version of AJ71QC24 (-R2/R4) and A1SJ71QC24 (-R2) is "L" or earlier, and when 2 devices are connected to the two interfaces individually, make the setting so that the total transmission speed of the two interfaces is within 19200bps.
When the total transmission speed of the two interfaces is within 19200bps, a controller other than GOT can be connected to the computer link module.
When only one device is connected to either of the interfaces, a maximum transmission speed of 19200bps can be set to the one where the device is connected.In this instance, set SW09 to SW12 to "OFF" on the other side.

*3 When 3 devices are connected to the two interfaces individually in the case of AJ71QC24N(-R2/R4), A1SJ71QC24N(-R2), and A1SJ71QC24N1(-R2), make the setting so that the total transmission speed of the two interfaces is within 115200bps (within 230400bps in the case of A1SJ71QC24N1(-R2)).
When the total transmission speed of the two interfaces is within 115200bps (within 230400bps in the case of A1SJ71QC24N1(-R2)), a controller other than GOT can be connected to the computer link module.
When only one device is connected to either of the interfaces, a maximum transmission speed of 115200bps can be set to the one where the device is connected.In this instance, set SW09 to SW12 to "OFF" on the other side.

*4 This can be set only in the case of AJ71QC24N (-R2/R4), A1SJ71QC24N (-R2) or A1SJ71QC24N1 (-R2).

(3) Station number switch (for both CH1 and CH2)

Station number switch*5	Contents	Set value
×10 ×1  STATION No.	Set the station number of the serial communication module to which an access is made from the GOT.	0

*5 The station number switch in the figure is for the AJ71QC24 (N) (-R2/R4).

POINT

When the switch setting has been changed
Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

7.5.3 Connecting computer link module

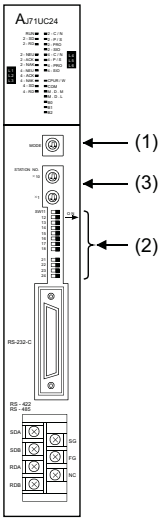
POINT

Computer link module
For details of the computer link module, refer to the following manual.
Computer Link Module (Com. link func./Print. func.) User's Manual

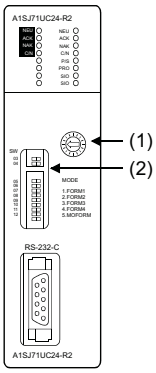
■ Switch setting on the computer link module

Set the Mode setting switch, the Transmission specifications switches and the Station number setting switches.

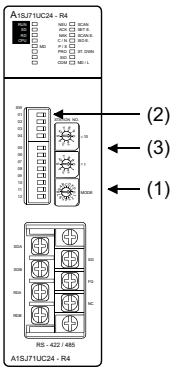
AJ71UC24



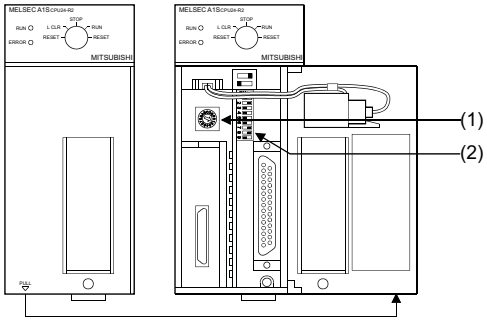
A1SJ71UC24-R2, A1SJ71UC24-PRF, A1SJ71C24-R2, A1SJ71C24-PRF



A1SJ71UC24-R4, A1SJ71C24-R4

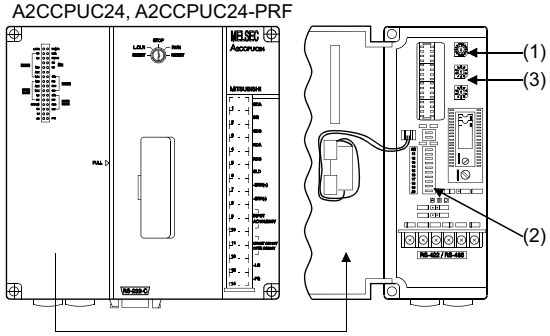


A1SCPUC24-R2



When the cover is open

A2CCPUC24, A2CCPUC24-PRF



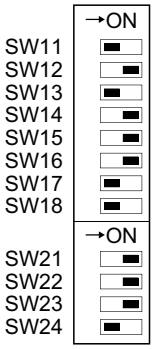
When the cover is open

(1) Mode setting switch

Mode setting switch	Contents		Set value
	Dedicated protocol type 1	RS-232 connection	1
		RS-422 connection	5

(2) Transmission specifications switch

(a) AJ71UC24

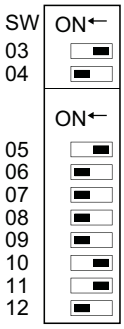
Transmission specifications switch	Setting switch	Description		Set value
	SW11	Main channel setting	RS-232 connection	OFF
			RS-422 connection	ON
	SW12	Data bit setting	8bits	ON
	SW13	Transmission speed setting	(Consistent with the GOT side specifications)	See descriptions below.
	SW14			
	SW15			
	SW16	Parity bit setting	Set	ON
	SW17	Even/odd parity setting	Odd	OFF
	SW18	Stop bit setting	1bit	OFF
	SW21	Sum check setting	Set	ON
	SW22	Write during RUN enabled/disabled setting	Enabled	ON
	SW23	Computer link/multi-drop selection	Computer link	ON
	SW24	Master station/Local station setting	(Setting ignored)	OFF

• Transmission speed setting (SW13 to SW15)
Set the transmission speed (SW13 to SW15) as follows.
The transmission speed setting must be consistent with that of the GOT side.

Setting switch	Transmission speed*1		
	4800bps	9600bps	19200bps
SW13	OFF	ON	OFF
SW14	OFF	OFF	ON
SW15	ON	ON	ON

*1 Only transmission speeds available on the GOT side are shown.

(b) A1SJ71UC24-R2, A1SJ71UC24-PRF, A1SJ71C24-R2, A1SJ71C24-PRF

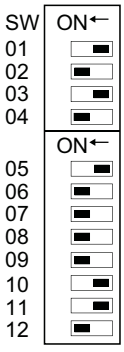
Transmission specifications switch	Setting switch	Description		Set value
	SW03	Unused	—	OFF
	SW04	Write during RUN enabled/disabled setting	Enabled	ON
	SW05	Transmission speed setting	(Consistent with the GOT side specifications)	See descriptions below.
	SW06			
	SW07			
	SW08	Data bit setting	8bits	ON
	SW09	Parity bit setting	Set	ON
	SW10	Even/odd parity setting	Odd	OFF
	SW11	Stop bit setting	1bit	OFF
	SW12	Sum check setting	Set	ON

• Transmission speed setting (SW05 to SW07)
Set the transmission speed (SW05 to SW07) as follows.
The transmission speed setting must be consistent with that of the GOT side.

Setting switch	Transmission speed*1		
	4800bps	9600bps	19200bps
SW05	OFF	ON	OFF
SW06	OFF	OFF	ON
SW07	ON	ON	ON

*1 Only transmission speeds available on the GOT side are shown.

(c) A1SJ71UC24-R4, A1SJ71C24-R4

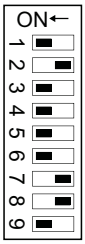
Transmission specifications switch	Setting switch	Description		Set value
	SW01	Master station/Local station setting	(Setting ignored)	OFF
	SW02	Computer link/multi-drop selection	Computer link	ON
	SW03	Unused	—	OFF
	SW04	Write during RUN enabled/disabled setting	Enabled	ON
	SW05	Transmission speed setting	(Consistent with the GOT side specifications)	See descriptions below.
	SW06			
	SW07			
	SW08	Data bit setting	8bits	ON
	SW09	Parity bit setting	Set	ON
	SW10	Even/odd parity setting	Odd	OFF
	SW11	Stop bit setting	1bit	OFF
	SW12	Sum check setting	Set	ON

• Transmission speed setting (SW05 to SW07)
Set the transmission speed (SW05 to SW07) as follows.
The transmission speed setting must be consistent with that of the GOT side.

Setting switch	Transmission speed*1		
	4800bps	9600bps	19200bps
SW05	OFF	ON	OFF
SW06	OFF	OFF	ON
SW07	ON	ON	ON

*1 Only transmission speeds available on the GOT side are shown.

(d) A1SCPUC24-R2

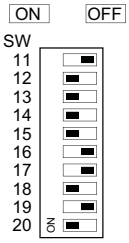
Transmission specifications switch	Setting switch	Description		Set value
	1	Write during RUN enabled/ disabled setting	Enabled	ON
	2	Transmission speed setting	(Consistent with the GOT side specifications)	See descriptions below.
	3			
	4			
	5	Data bit setting	8bits	ON
	6	Parity bit setting	Set	ON
	7	Even/odd parity setting	Odd	OFF
	8	Stop bit setting	1bit	OFF
	9	Sum check setting	Set	ON

• Transmission speed setting (2 to 4)
Set the transmission speed (2 to 4) as follows.
The transmission speed setting must be consistent with that of the GOT side.

Setting switch	Transmission speed*2		
	4800bps	9600bps	19200bps
2	OFF	ON	OFF
3	OFF	OFF	ON
4	ON	ON	ON

*2 Only transmission speeds available on the GOT side are shown.

(e) A2CCPUC24, A2CCPUC24-PRF

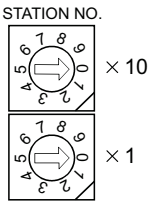
Transmission specifications switch	Setting switch	Description		Set value
	SW11	Transmission speed setting	(Consistent with the GOT side specifications)	See descriptions below.
	SW12			
	SW13			
	SW14	Data bit setting	8bits	ON
	SW15	Parity bit setting	Set	ON
	SW16	Even/odd parity setting	Odd	OFF
	SW17	Stop bit setting	1bit	OFF
	SW18	Sum check setting	Set	ON
	SW19	Main channel setting	RS-232	OFF
	SW20	Write during RUN enabled/ disabled setting	Enabled	ON

• Transmission speed setting (SW11 to SW13)
Set the transmission speed (SW11 to SW13) as follows.
The transmission speed setting must be consistent with that of the GOT side.

Setting switch	Transmission speed*1		
	4800bps	9600bps	19200bps
SW11	OFF	ON	OFF
SW12	OFF	OFF	ON
SW13	ON	ON	ON

*1 Only transmission speeds available on the GOT side are shown.

(3) Station number setting switch

Station number switch*2	Description	Set value
	Set the station number of the computer link module to which an access is made from the GOT.	0

*2 The station number setting switch in the figure is for the A1SJ71UC24-R4.

POINT

When the switch setting has been changed
Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

7.6 Precautions

■ Time taken until the PLC runs when connected in the multiple CPU system

The following time is taken until the PLC runs.
QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more

MELDAS C70: 18 seconds or more

When the GOT starts before the PLC runs, a system alarm occurs.Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to LCPU

LCPU may diagnose (check file system, recovering process, etc.) the SD memory card when turning on the power or when resetting. Therefore, it takes time until the SD memory card becomes available. When the GOT starts before the SD card becomes available, a system alarm occurs. Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ When monitoring the Q170MCPU

Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

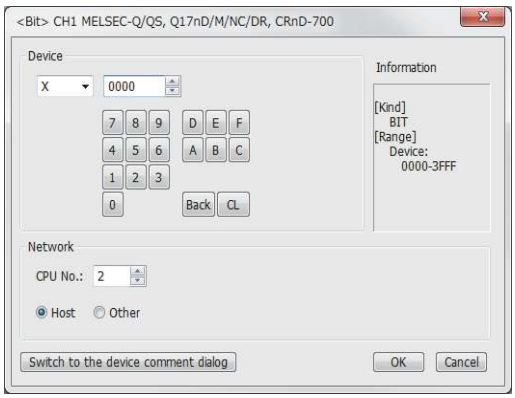
When the CPU No. is set to "0" or "1", the device on the PLC CPU area (CPU No.1) is monitored.

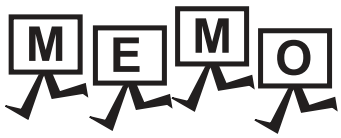
When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device




MEMO

8

BUS CONNECTION

8. BUS CONNECTION

8.1 Connectable Model List

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)*4	Q00JCPU*1	○	Bus connection	GT27 GT23 GS	8.2.1
	Q00CPU*2				
	Q01CPU*2				
	Q02CPU*2				
	Q02HCPU*2 Q06HCPU*2 Q12HCPU*2 Q25HCPU*2				
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU				
	Q12PRHCPU (Main base)	○	-	GT27 GT23 GS	-
	Q25PRHCPU (Main base)				
	Q12PRHCPU (Extension base)				
	Q25PRHCPU (Extension base)				
	Q00UJCPU*1	○	Bus connection	GT27 GT23 GS	8.2.1
	Q00UCPU Q01UCPU Q02UCPU Q03UDCPU				
	Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU				
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU				
	Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU				
C Controller module	Q12DCCPU-V*3 Q24DHCCPU-V Q24DHCCPU-LS	○	Bus connection	GT27 GT23 GS	8.2.1
MELSEC-QS	QS001CPU	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 When using the bus extension connector box, attach it to the extension base unit. (Connecting it to the main base unit is not allowed.)
*2 For the multiple CPU system configuration, use CPU function version B or later.
*3 Use a module with the upper five digits later than 12042.
*4 When a slim base is used, a bus connection cannot be established.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-L	L02CPU	○	-	GT27 GT23 GS	-
	L06CPU				
	L26CPU				
	L26CPU-BT				
	L02CPU-P				
	L06CPU-P				
	L26CPU-P				
	L26CPU-PBT				
	L02SCPU				
	L02SCPU-P				
MELSEC-Q (A mode)	Q02CPU-A	○	-	GT27 GT23 GS	-
	Q02HCPU-A				
	Q06HCPU-A				
MELSEC-QnA (QnACPU)	Q2ACPU	○	Bus connection	GT27 GT23 GS	8.2.2
	Q2ACPU-S1				
	Q3ACPU				
	Q4ACPU				
	Q4ARCPU*1				
MELSEC-QnA (QnASCPU)	Q2ASCPU	○	Bus connection	GT27 GT23 GS	8.2.3
	Q2ASCPU-S1				
	Q2ASHCPU				
	Q2ASHCPU-S1				
MELSEC-A (AnCPU)	A2UCPU	○	Bus connection	GT27 GT23 GS	8.2.2
	A2UCPU-S1				
	A3UCPU				
	A4UCPU				
	A2ACPU				
	A2ACPUP21				
	A2ACPUR21				
	A2ACPU-S1				
	A2ACPUP21-S1				
	A2ACPUR21-S1				
	A3ACPU				
	A3ACPUP21				
	A3ACPUR21				
	A1NCPU				
	A1NCPUP21				
	A1NCPUR21				
	A2NCPU				
	A2NCPUP21				
	A2NCPUR21				
	A2NCPU-S1				
	A2NCPUP21-S1				
	A2NCPUR21-S1				
	A3NCPU				
	A3NCPUP21				
	A3NCPUR21				
MELSEC-A (AnSCPU)	A2USCPU	○	Bus connection	GT27 GT23 GS	8.2.3
	A2USCPU-S1				
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU				
	A2SCPU-S1				
	A2SHCPU				
	A2SHCPU-S1				
	A1SJCPU*2				
	A1SJCPU-S3*2				
	A1SJHCPU*2				
MELSEC-A	A0J2HCPU	×	Bus connection	GT27 GT23 GS	8.2.4
	A0J2HCPUP21				

(Continued to next page)

*1 Bus-connect the GOT on the last redundant extension base A68RB (version B or later) for the Q4ARCPU redundant system.
*2 When an extension base unit is connected, a bus connection cannot be established.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A	A0J2HCPUR21	×	Bus connection	GT27 GT23 GS	8.2.4
	A0J2HCPU-DC24				
	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*1*2	○	Bus connection	GT27 GT23 GS	8.2.1
	Q173CPU*1*2				
	Q172CPUN*1				
	Q173CPUN*1				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*3				
	Q170MSCPU*5				
	Q170MSCPU-S1*5				
	MR-MQ100	○	-	GT27 GT23 GS	-
Motion controller CPU (A Series)	A273UCPU	○	Bus connection	GT27 GT23 GS	8.2.5
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU*4	○	Bus connection	GT27 GT23 GS	8.2.6
	A171SCPU-S3*4				
	A171SCPU-S3N*4				
	A171SHCPU*4				
	A171SHCPUN*4				
	A172SHCPU*4				
	A172SHCPUN*4				
	A173UHCPU*4				
	A173UHCPU-S1*4				
MELSEC-WS	WS0-CPU0	×	-	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	-	GT27 GT23 GS	-
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	GT27 GT23 GS	-
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB9	×	-	GT27 GT23 GS	-
CNC C70	Q173NCCPU	○	Bus connection	GT27 GT23 GS	8.2.1
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	Bus connection	GT27 GT23 GS	8.2.1

*1 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00E or later
- SW6RN-SV22Q□: 00E or later
- SW6RN-SV43Q□: 00B or later

*2 Use main modules with the following product numbers.
- Q172CPU: Product number K******* or later
- Q173CPU: Product number J******* or later

*3 Connect Q170MCPU to QC30B directly, or to the extension base unit (Q52B/Q55B).

*4 When using an extension base, use the A168.

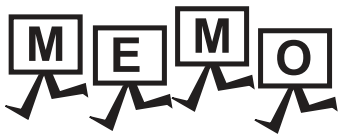
*5 Connect Q170MSCPU to QC30B directly, or to the extension base unit (Q5□B/Q6□B).

POINT

List of the main base or extension base available for the GOT bus connection

○: The GOT bus connection is available. ×: The GOT bus connection is not available.

Main/Extension base	Model	GOT bus connection
Main base	Q3□B	○
	Q3□DB (Multiple CPU high speed main base unit)	○
	Q3□BL (Large type base unit)	○
	Q3□SB (Slim type main base unit)	×
	Q38RB (Redundant power main base unit)	×
Extension base	Q5□B (Model requiring no power supply module)	○
	Q6□B (Model requiring a power supply module)	○
	QA1S6□B (Small type QA base unit)	○
	Q5□BL (Large type base unit, Model requiring no power supply module)	×
	Q6□BL (Large type base unit, Model requiring a power supply module)	○
	QA6□B (Large type QA base unit)	×
	QA6ADP (QA conversion adapter module) + A5□B/A6□B	×
	Q68RB (Redundant power extension base unit)	×
	Q65WRB (Redundant extension base unit)	×


MEMO

8.2 System Configuration

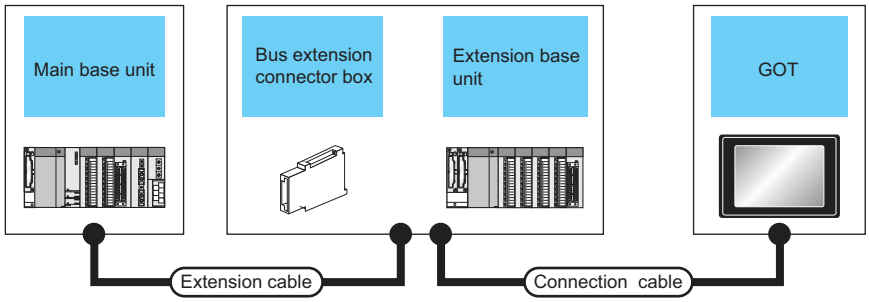
POINT

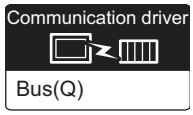
When "CONTROL BUS ERR" or "UNIT VERIFY ERR" occurs

It can be considered that noise due to a long bus connection cable causes a malfunction.
Check whether a signal line such as bus cable is placed near the equipment to operate. If the line is close to the equipment, make a distance of 100mm or more from the equipment.

8.2.1 Connecting to QCPU

■ When one GOT is connected

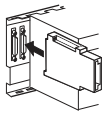




PLC					Connection cable	GOT		Max. distance
Main base			Extension base			Option device*4	Model	
Main base	Bus extension connector box*2	Extension cable*1	Extension base	Bus extension connector box*2				
Main base	-	-	-	-	GT15-QC06B(0.6m) GT15-QC12B(1.2m) GT15-QC30B(3m) GT15-QC50B(5m) GT15-QC100B(10m)	GT15-75QBUSL GT15-75QBUS2L GT15-QBUS GT15-QBUS2	GT27 GT23 GS	Between main base and GOT: 13.2m (Including the extension cable length)
	-	Extension cable (13.2m or less)	Extension base	-				
	A9GT-QCNB*3	-	-	-	GT15-QC06B(0.6m) GT15-QC12B(1.2m) GT15-QC30B(3m) GT15-QC50B(5m) GT15-QC100B(10m) GT15-QC150BS(15m) GT15-QC200BS(20m) GT15-QC250BS(25m) GT15-QC300BS(30m) GT15-QC350BS(35m)	GT15-75QBUSL GT15-75QBUS2L GT15-QBUS GT15-QBUS2	GT27 GT23 GS	Between main base and GOT: 37m (Including the extension cable length)
	-	Extension cable (13.2m or less)	Extension base	A9GT-QCNB				

*1 For the extension cables, refer to the MELSEC-Q catalog (L(NA)08032).

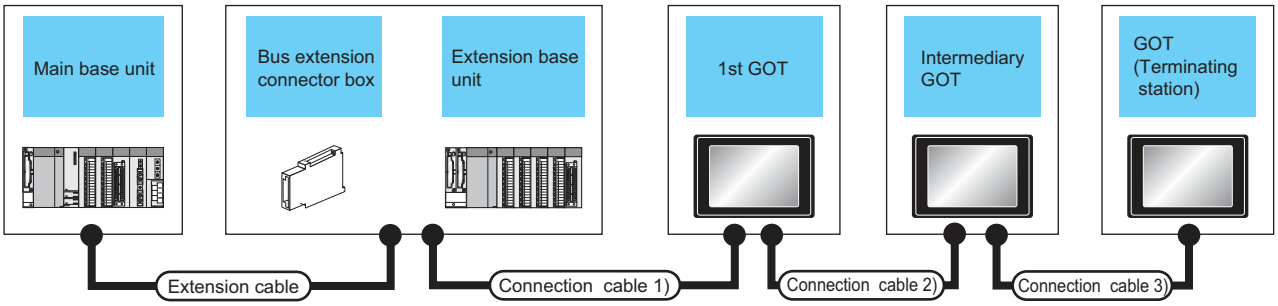
*2 When installing the GOT 13.2m or more away from the main base unit, the bus extension connector box is required.
Attach the bus extension connector box to the extension connector of the base unit.
Also, connect the connection cable to the bus extension connector box.
When using no extension base unit: Attach it to the main base unit.
When using the extension base unit: Attach it to the extension base unit on the last stage.



*3 When using Q00JCPU or Q00UJCPU, attach the bus extension connector to the extension base unit. (Connecting it to the main base unit is not allowed)

*4 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

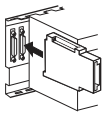
■ When 2 to 5 GOTs are connected



PLC					Connection cable 1)	GOT (1st)*5		
Main base		Extension cable *1	Extension base			Option device *6*7	Model	
Main base	Bus extension connector box*2		Extension base	Bus extension connector box*2				
Main base	-	-	-	-	GT15-QC06B(0.6m) GT15-QC12B(1.2m) GT15-QC30B(3m) GT15-QC50B(5m) GT15-QC100B(10m)	GT15-75QBUS2L GT15-QBUS2	GT27 GT23 GS	
	-	Extension cable (13.2m or less)	Extension base	-		GT15-75QBUS2L GT15-QBUS2	GT27 GT23 GS	
	A9GT-QCNB*3	-	-	-	GT15-QC06B(0.6m) GT15-QC12B(1.2m) GT15-QC30B(3m) GT15-QC50B(5m) GT15-QC100B(10m) GT15-QC150BS(15m) GT15-QC200BS(20m) GT15-QC250BS(25m) GT15-QC300BS(30m) GT15-QC350BS(35m)	GT15-75QBUS2L GT15-QBUS2	GT27 GT23 GS	
	-	Extension cable (13.2m or less)	Extension base	A9GT-QCNB		GT15-75QBUS2L GT15-QBUS2	GT27 GT23 GS	

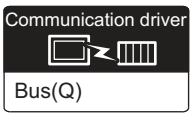
*1 For the extension cables, refer to the MELSEC-Q catalog (L(NA)08032).

*2 When installing the GOT 13.2m or more away from the main base unit, the bus extension connector box is required.
Attach the bus extension connector box to the extension connector of the base unit.
When using no extension base unit: Attach it to the main base unit.
When using the extension base unit: Attach it to the extension base unit on the last stage.
Also, connect the connection cable to the bus extension connector box.
Set the bus extension connector box to the same Stage No. as that of the GOT unit.
For details on the Stage No. setting, refer to the following.



8.3.1 Setting communication interface (Communication settings)

*3 When using Q00JCPU or Q00UJCPU, attach the bus extension connector to the extension base unit. (Connecting it to the main base unit is not allowed)



	Connection cable 2)	GOT (intermediary)*4*5		Connection cable 3)	GOT (terminal)*4*5		Max. distance
		Option device *6*7	Model		Option device *6*7	Model	
	GT15-QC06B(0.6m) GT15-QC12B(1.2m) GT15-QC30B(3m) GT15-QC50B(5m) GT15-QC100B(10m) GT15-QC150BS(15m) GT15-QC200BS(20m) GT15-QC250BS(25m) GT15-QC300BS(30m) GT15-QC350BS(35m)	GT15-75QBUS2L, GT15-QBUS2	GT27 GT23 GS	GT15-QC06B(0.6m) GT15-QC12B(1.2m) GT15-QC30B(3m) GT15-QC50B(5m) GT15-QC100B(10m) GT15-QC150BS(15m) GT15-QC200BS(20m) GT15-QC250BS(25m) GT15-QC300BS(30m) GT15-QC350BS(35m)	GT15-75QBUSL, GT15-75QBUS2L, GT15-QBUS, GT15-QBUS2	GT27 GT23 GS	Between main base and GOT (1st): 13.2m Between main base and GOT (terminal): 37m
		GT15-75QBUS2L, GT15-QBUS2	GT27 GT23 GS		GT15-75QBUSL, GT15-75QBUS2L, GT15-QBUS, GT15-QBUS2	GT27 GT23 GS	Between main base and GOT (1st): 13.2m (Including the extension cable length) Between main base and GOT (terminal): 37m (Including the extension cable length)
		GT15-75QBUS2L, GT15-QBUS2	GT27 GT23 GS		GT15-75QBUSL, GT15-75QBUS2L, GT15-QBUS, GT15-QBUS2	GT27 GT23 GS	Between main base and GOT (terminal): 37m
		GT15-75QBUS2L, GT15-QBUS2	GT27 GT23 GS		GT15-75QBUSL, GT15-75QBUS2L, GT15-QBUS, GT15-QBUS2	GT27 GT23 GS	Between main base and GOT (terminal): 37m (Including the extension cable length)

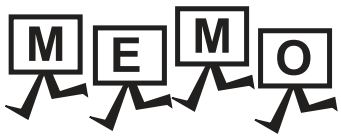
*4 When connecting 3 or more GOTs, the overall cable length is restricted.

8.4.12 When connecting multiple GOTs

*5 The connection of multiple GOTs
When connecting to multiple GOTs withGT27, GT 16, GT15 and GT11 mixed, use GT11 as a terminal.

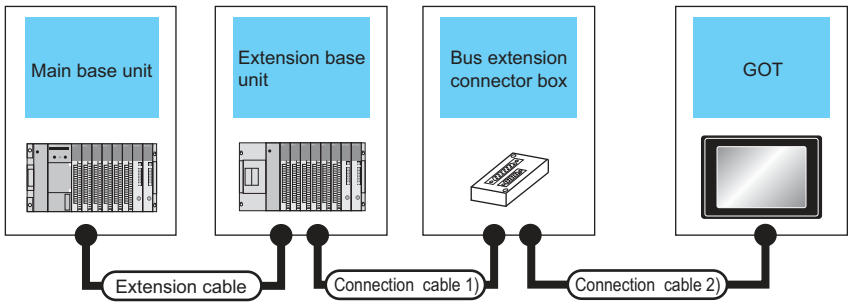
*6 The bus connection unit
GT15-75QBUSL, GT15-QBUS: Used for a terminal GOT. (Not available for an intermediary GOT)
GT15-75QBUS2L, GT15-QBUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*7 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function


MEMO

8.2.2 Connecting to QnACPU or AnCPU

■ When one GOT is connected



PLC					Connection cable 2)	GOT		Max. distance
Main base	Extension cable *1	Extension base	Connection cable 1)	Bus connector conversion box*2		Option device	Model	
Main base	-	-	-	-	GT15-C12NB(1.2m) GT15-C30NB(3m) GT15-C50NB(5m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 6.6m
Main base	-	-	GT15-AC06B(0.6m) GT15-AC12B(1.2m) GT15-AC30B(3m) GT15-AC50B(5m)	A7GT-CNB	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 36.6m (Including between main base and bus connector conversion box) Between main base and bus connector conversion box: 6.6m
Main base	Extension cable	Extension base	-	-	GT15-C12NB(1.2m) GT15-C30NB(3m) GT15-C50NB(5m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 6.6m (Including the extension cable length)
Main base	Extension cable	Extension base	GT15-AC06B(0.6m) GT15-AC12B(1.2m) GT15-AC30B(3m) GT15-AC50B(5m)	A7GT-CNB	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 36.6m Between main base and bus connector conversion box: 6.6m (Including the extension cable length)

*1 For the extension cables, refer to MELSEC-A/QnA catalog (L(NA)08024).

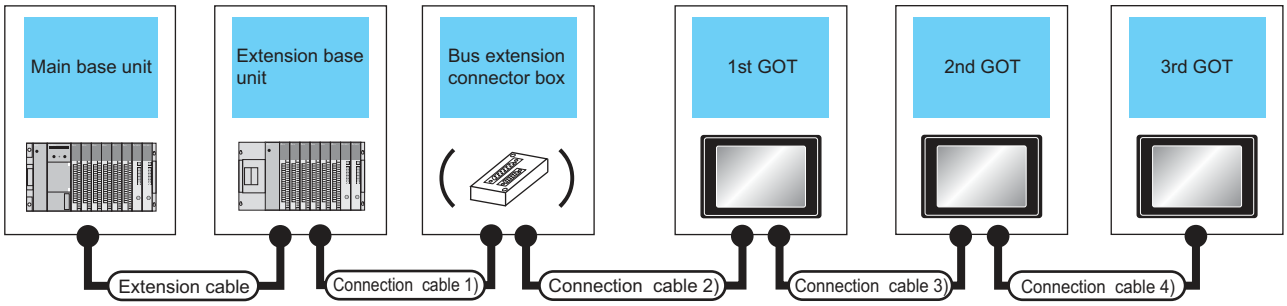
*2 When installing the GOT 6.6m or more away from the main base unit, the bus connector conversion box is required.

*3 When using GT15-C□EXSS-1, follow the precautions below.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*4 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

■ When 2 to 3 GOTs are connected



PLC*5					Connection cable 2)	GOT (1st)*3		
Main base	Extension cable*1	Extension base	Connection cable 1)	Bus connector conversion box*2		Option device *6*7	Model	
Main base	-	-	-	-	GT15-C12NB(1.2m) GT15-C30NB(3m) GT15-C50NB(5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
	Extension cable	Extension base						
	-	-	GT15-AC06B(0.6m) GT15-AC12B(1.2m) GT15-AC30B(3m) GT15-AC50B(5m)	A7GT-CNB	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *4	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
	Extension cable	Extension base						
Main base	-	-	-	-	GT15-C12NB(1.2m) GT15-C30NB(3m) GT15-C50NB(5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
	Extension cable	Extension base						

*1 For the extension cables, refer to MELSEC-A/QnA catalog (L(NA)08024).

*2 When installing the GOT 6.6m or more away from the main base unit, the bus connector conversion box is required.

*3 When connecting to multiple GOTs with GT27, GT 16, GT15 and GT11 mixed, use GT11 as a terminal.

*4 When using GT15-C□EXSS-1 or GT15-C□BS, connect as following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*5 The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.

8.4.12 When connecting multiple GOTs

Communication driver

Bus(A/QnA)

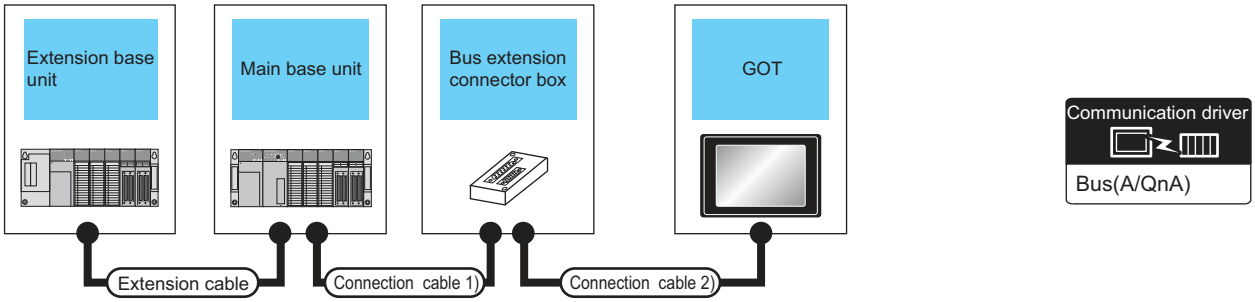
	Connection cable 3)	GOT (2nd)*3*5		Connection cable 4)	GOT (3rd)*3*5		Max. distance
		Option device *6*7	Model		Option device *6*7	Model	
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) GT15-C300BS(30m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	-	-	-	Between main base and GOT(1st): 6.6m (Including the extension cable length) Between GOT (1st) and GOT (2nd): 30m Between main base and GOT (2nd): 36.6m (Including the extension cable length)
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	-	-	-	Between main base and bus connector conversion box: 6.6m (Including the extension cable length) Between bus connector conversion box and GOT (2nd): 30m Between main base and GOT (2nd): 36.6m (Including the extension cable length)
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *4	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 6.6m (Including the extension cable length) Between GOT (1st) and GOT (3rd): 30m Between main base and GOT (3rd): 36.6m (Including the extension cable length)

*6 About the bus connection unit
GT15-75ABUSL, GT15-ABUS: Used for a terminal GOT. (Not available for an intermediary GOT)
GT15-75ABUS2L, GT15-ABUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*7 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

8.2.3 Connection to QnASCPU or AnSCPU

■ When one GOT is connected



PLC					Connection cable 2)	GOT		Max. distance
Extension base	Extension cable *1	Main base	Connection cable 1)	Bus connector conversion box *2		Option device*4	Model	
-	-	Main base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m) GT15-A1SC50B(5m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 5m
			-	-	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 30m
			GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m) GT15-A1SC50NB(5m)	A7GT-CNB	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 35m (Including between main base and bus connector conversion box) Between main base and bus connector conversion box: 5m

PLC					Connection cable 2)	GOT		Max. distance
Extension base	Extension cable *1	Main base	Connection cable 1)	Bus connector conversion box *2		Option device*4	Model	
Extension base	Extension cable	Main base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m) GT15-A1SC50B(5m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT: 6m (Including the extension cable length)
			-	-	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT: 36m (Including the extension cable length)
			GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m) GT15-A1SC50NB(5m)	A7GT-CNB	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT: 36m Between extension base and bus connector conversion box: 6m (Including the extension cable length)

*1 For details on the extension cables, refer to the MELSEC-A/QnA catalog (L(NA)8024).

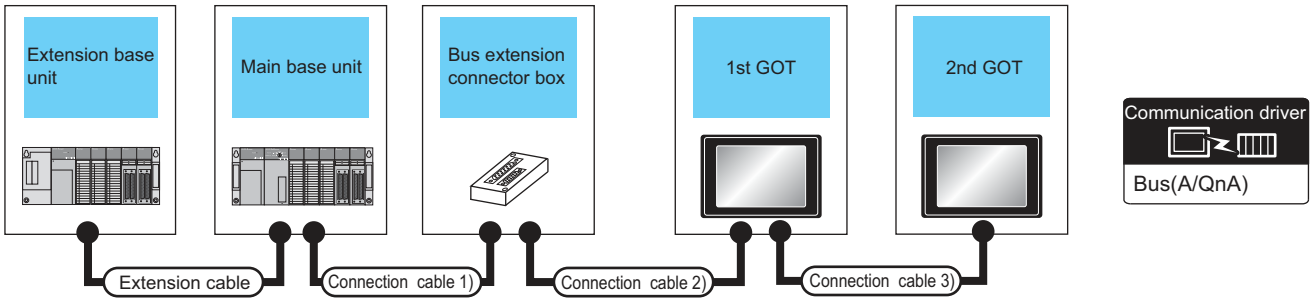
*2 When installing the GOT 30m or more away from the main base unit, the bus connector conversion box is required.

*3 When using GT15-C□EXSS-1, connect as the following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*4 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

■ When two GOTs are connected



PLC*5					Connection cable 2)	GOT (1st)*3		
Extension base	Extension cable*1	Main base	Connection cable 1)	Bus connector conversion box		Option device *6*7	Model	
-	-	Main base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m) GT15-A1SC50B(5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			-	-	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *4			
			GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m) GT15-A1SC50NB(5m)	A7GT-CNB*2	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *4	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
Extension base	Extension cable	Main base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m) GT15-A1SC50B(5m)			
			-	-	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *4	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m) GT15-A1SC50NB(5m)	A7GT-CNB*2	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *4			

*1 For the extension cables, refer to MELSEC-A/QnA catalog (L(NA)08024).

*2 When installing the 1st GOT 30m or more away from the main base unit, the bus connector conversion box is required.

*3 When connecting to multiple GOTs with GT27, GT 16, GT15 and GT11 mixed, use GT11 as a terminal.

*4 When using GT15-C□EXSS-1 or GT15-C□BS, connect as following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*5 The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.

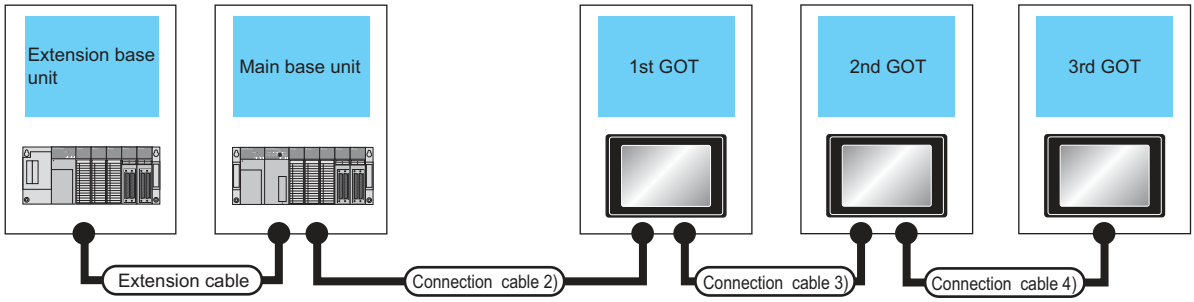
8.4.12 When connecting multiple GOTs

	Connection cable 3)	GOT (2nd)*3*5		Max. distance
		Option device *6*7	Model	
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) GT15-C300BS(30m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 5m Between GOT (1st) and GOT (2nd): 30m Between main base and GOT (2nd): 35m
		GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT (2nd): 30m
		GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and bus connector conversion box: 5m Between bus connector conversion box and GOT (2nd): 30m Between main base and GOT (2nd): 35m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) GT15-C300BS(30m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT (1st): 6m (Including the extension cable length) Between GOT (1st) and GOT (2nd): 30m Between extension base and GOT (2nd): 36m (Including the extension cable length)
		GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT (2nd): 30m Between extension base and GOT (2nd): 36m (Including the extension cable length)
		GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Extension base and bus connector conversion box: 6m (Including extension cable length) Between bus connector conversion box and GOT (2nd): 30m Between extension base and GOT (2nd): 36m (Including the extension cable length)

*6 About the bus connection unit
GT15-75ABUSL, GT15-ABUS: Used for a terminal GOT. (Not available for an intermediary GOT)
GT15-75ABUS2L, GT15-ABUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*7 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

■ When three GOTs are connected



PLC*3					Connection cable 2)	GOT (1st)*2		
Extension base	Extension cable*1	Main base	Connection cable 1)	Bus connector conversion box		Option device *5*6	Model	
-	-	Main base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m) GT15-A1SC50B(5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
Extension base	Extension cable	Main base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m) GT15-A1SC50B(5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	

*1 For the extension cables, refer to MELSEC-A/QnA catalog (L(NA)08024).

*2 The connection of multiple GOTs
When connecting to multiple GOTs with GT27, GT 16, GT15 and GT11 mixed, use GT11 as a terminal.

*3 The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.

8.4.12 When connecting multiple GOTs

Communication driver

Bus(A/QnA)

	Connection cable 3)	GOT (2nd)*2*3		Connection cable 4)	GOT (3rd)*2*3		Max. distance
		Option device *5*6	Model		Option device *5*6	Model	
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *4	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 5m Between GOT (1st) and GOT (3rd): 30m Between main base and GOT (3rd): 35m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *4	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT (1st): 6m (Including the extension cable length) Between GOT (1st) and GOT (3rd): 30m Between extension base and GOT (3rd): 36m (Including the extension cable length)

*4 When using GT15-C□BS, connect as following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*5 The bus connection unit

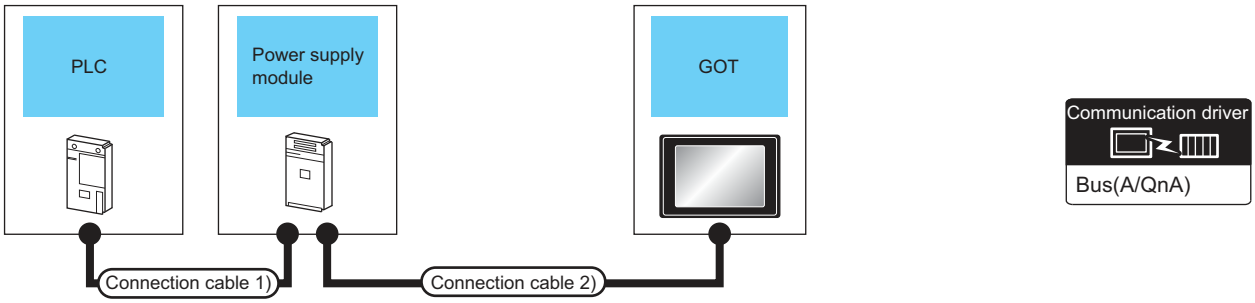
GT15-75ABUSL, GT15-ABUS: Used for a terminal GOT. (Not available for an intermediary GOT)

GT15-75ABUS2L, GT15-ABUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*6 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.

Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

8.2.4 Connection to A0J2HCPU



PLC			Connection cable 2)	GOT1000 series*1		Max. distance
Model name	Connection cable 1)	Power supply module		Option device*2	Model	
A0J2HCPU	A0J2C03(0.3m) A0J2C06(0.55m) A0J2C10(1m) A0J2C20(2m)	A0J2-PW	GT15-J2C10B(1m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between PLC and GOT: 6.6m Between power supply module and GOT: 1m

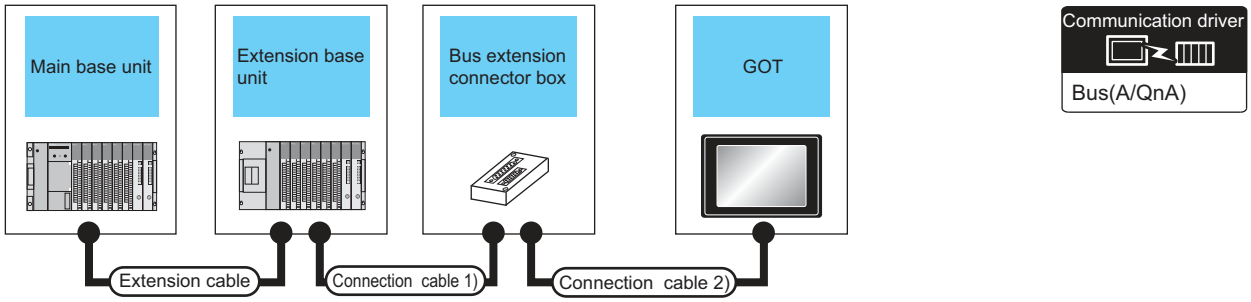
*1 The number of connectable GOTs is restricted depending on the number of intelligent function modules mounted to the A0J2HCPU.

8.4.12 When connecting multiple GOTs

*2 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

8.2.5 Connection to motion controller CPU (A273UCPU, A273UHCPU(-S3), A373UCPU(-S3))

■ When one GOT is connected



PLC					Connection cable 2)	GOT1000 Series		Max. distance
Main base	Extension cable	Extension base	Connection cable 1)	Bus connector conversion box*1		Option device *3	Model	
Main base	-	-	-	-	GT15-A370C12B-S1(1.2m) GT15-A370C25B-S1(2.5m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 2.5m
			GT15-A370C12B(1.2m) GT15-A370C25B(2.5m)	A7GT-CNB	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *2	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 32.5m (Including between main base and bus connector conversion box) Between main base and bus connector conversion box: 2.5m
Main base	GT15-A370C12B(1.2m) GT15-A370C25B(2.5m)	Extension base	-	-	GT15-C12NB(1.2m) GT15-C30NB(3m) GT15-C50NB(5m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 6.6m (Including the extension cable length)
			GT15-AC06B(0.6m) GT15-AC12B(1.2m) GT15-AC30B(3m) GT15-AC50B(5m)	A7GT-CNB	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *2	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 36.6m Between main base and bus connector conversion box: 6.6m (Including the extension cable length)

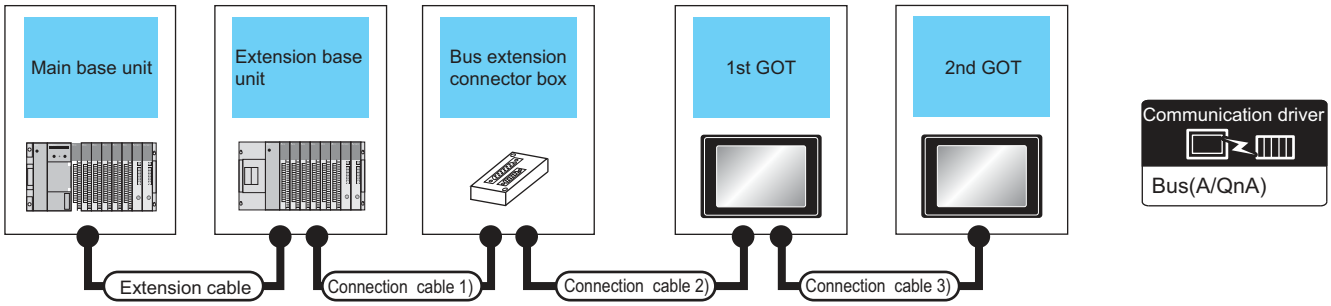
*1 When installing the GOT 30m or more away from the main base unit, the bus connector conversion box is required.

*2 When using GT15-C□EXSS-1, connect as the following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*3 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

■ When two GOTs are connected



PLC*4					Connection cable 2)	GOT (1st)*2		
Main base	Extension cable	Extension base	Connection cable 1)	Bus connector conversion box		Option device*5*6	Model	
Main base	-	-	-	-	GT15-A370C12B-S1(1.2m) GT15-A370C25B-S1(2.5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			GT15-A370C12B(1.2m) GT15-A370C25B(2.5m)	A7GT-CNB*1	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *3		GT27 GT23 GS	
Main base	GT15-A370C12B(1.2m) GT15-A370C25B(2.5m)	Extension base	-	-	GT15-C12NB(1.2m) GT15-C30NB(3m) GT15-C50NB(5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			GT15-AC06B(0.6m) GT15-AC12B(1.2m) GT15-AC30B(3m) GT15-AC50B(5m)	A7GT-CNB*1	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *3		GT27 GT23 GS	

*1 When installing the 1st GOT 30m or more away from the main base unit, the bus connector conversion box is required.

*2 When connecting to multiple GOTs with GT27, GT 16, GT15 and GT11 mixed, use GT11 as a terminal.

*3 When using GT15-C□EXSS-1 or GT15-C□BS, connect as following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*4 The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.

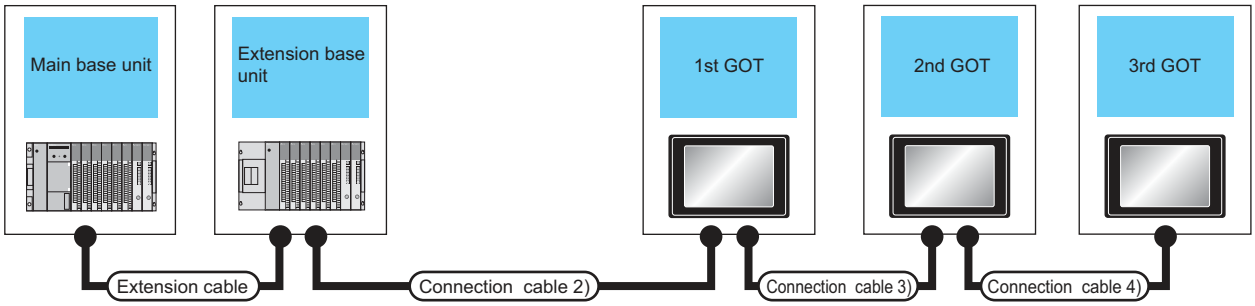
8.4.12 When connecting multiple GOTs

	Connection cable 3)	GOT (2nd)*2*4		Max. distance
		Option device*5*6	Model	
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) GT15-C300BS(30m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 2.5m Between GOT (1st) and GOT (2nd): 30m Between main base and GOT (2nd): 32.5m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and bus connector conversion box: 2.5m Between bus connector conversion box and GOT (2nd): 30m Between main base and GOT (2nd): 32.5m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) GT15-C300BS(30m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT (1st): 6.6m (Including the extension cable length) Between GOT (1st) and GOT (2nd): 30m Between main base and GOT (2nd): 36.6m (Including the extension cable length)
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and bus connector conversion box: 6.6m (Including extension cable length) Between bus connector conversion box and GOT (2nd): 30m Between main base and GOT (2nd): 36.6m (Including the extension cable length)

*5 The bus connection unit
GT15-75ABUSL, GT15-ABUS: Used for a terminal GOT. (Not available for an intermediary GOT)
GT15-75ABUS2L, GT15-ABUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*6 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

■ When 2 to 3 GOTs are connected*2



PLC*2					Connection cable 2)	GOT (1st)*1		
Extension base	Extension cable	Main base	Connection cable 1)	Bus connector conversion box		Option device*4*5	Model	
-	-	Main base	-	-	GT15-A370C12B-S1(1.2m) GT15-A370C25B-S1(2.5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
Extension base	GT15-A370C12B(1.2m) GT15-A370C25B(2.5m)	Main base	-	-	GT15-C12NB(1.2m) GT15-C30NB(3m) GT15-C50NB(5m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	

*1 The connection of multiple GOTs
When connecting to multiple GOTs with GT 16, GT15 and GT11 mixed, use GT11 as a terminal.

*2 The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.

8.4.12 When connecting multiple GOTs

Communication driver

Bus(A/QnA)

	Connection cable 3)	GOT (2nd)*2*3		Connection cable 4)	GOT (3rd)*2*3		Max. distance
		Option device*4*5	Model		Option device*4*5	Model	
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *3	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 2.5m Between GOT (1st) and GOT (3rd): 30m Between main base and GOT (3rd): 32.5m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *3	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *3	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 6.6m (Including the extension cable length) Between GOT (1st) and GOT (3rd): 30m Between main base and GOT (3rd): 36.6m (Including the extension cable length)

*3 When using GT15-C□BS, connect as following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*4 The bus connection unit

GT15-75ABUSL, GT15-ABUS: Used for a terminal GOT. (Not available for an intermediary GOT)

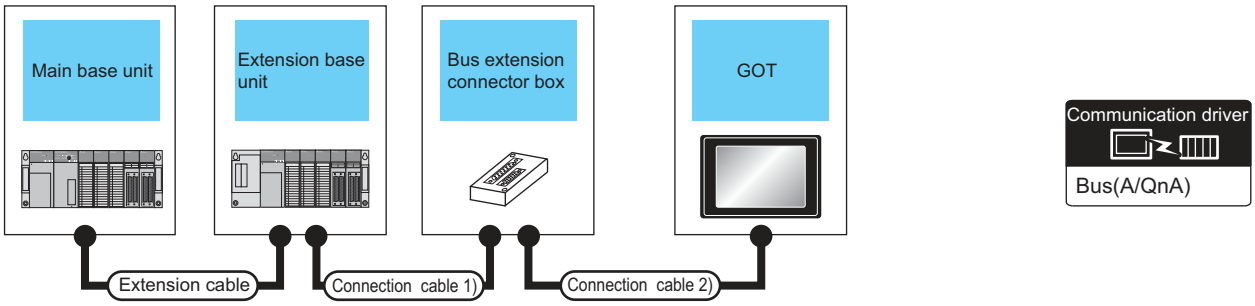
GT15-75ABUS2L, GT15-ABUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*5 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.

Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

8.2.6 Connecting to motion controller CPU (A171SCPU(-S3(N)), A171SHCPU(N), A172SHCPU(N), A173UHCPU(-S1))

■ When one GOT is connected



PLC					Connection cable 2)	GOT1000 Series		Max. distance
Main base	Extension cable *1	Extension base *2	Connection cable 1)	Bus connector conversion box		Option device *5	Model	
Main base	-	-	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 3m
			-	-	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 30m
			GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m)	A7GT -CNB*3	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT: 33m (Including between main base and bus connector conversion box) Between main base and bus connector conversion box: 3m

PLC					Connection cable 2)	GOT1000 Series		Max. distance
Main base	Extension cable *1	Extension base *2	Connection cable 1)	Bus connector conversion box		Option device *5	Model	
Main base	Extension cable	Extension base	- - GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m)	- - A7GT -CNB *3	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m)	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT: 3m (Including the extension cable length)
					GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT: 33m (Including the extension cable length)
					GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) GT15-C300EXSS-1(30m) *4	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between extension base and GOT: 33m Between extension base and bus connector conversion box: 3m (Including the extension cable length)

*1 For details on the extension cables, refer to the MELSEC-A/QnA catalog (L(NA)8024).

*2 Use the A168B for the extension base unit.

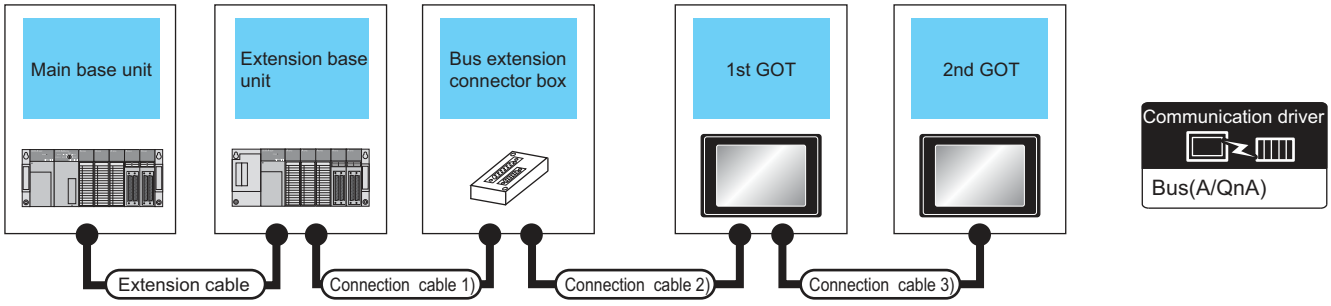
*3 When installing the GOT 30m or more away from the main base unit, the bus connector conversion box is required.

*4 When using GT15-C□EXSS-1, connect as the following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

*5 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

■ When two GOTs are connected



PLC*5					Connection cable 2)	GOT (1st)*4		
Main base	Extension cable*1	Extension base*2	Connection cable 1)	Bus connector conversion box		Option device*7*8	Model	
Main base	-	-	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			-	-	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *5	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m)	A7GT-CNB*3	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *5	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
Main base	Extension cable	Extension base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			-	-	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *5	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
			GT15-A1SC05NB(0.45m) GT15-A1SC07NB(0.7m) GT15-A1SC30NB(3m)	A7GT-CNB*3	GT15-C100EXSS-1(10m) GT15-C200EXSS-1(20m) *5	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	

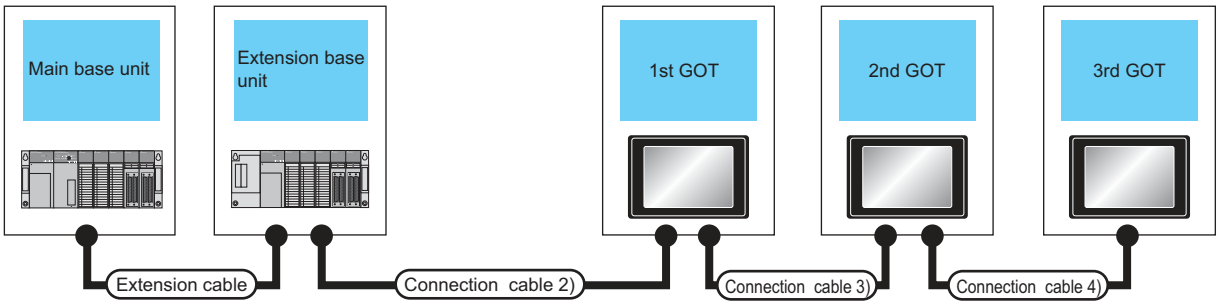
*1 For the extension cables, refer to MELSEC-A/QnA catalog (L(NA)08024).
*2 Use the A168B for the extension base unit.
*3 When installing the 1st GOT 30m or more away from the main base unit, the bus connector conversion box is required.
*4 When connecting to multiple GOTs with GT27, GT 16, GT15 and GT11 mixed, use GT11 as a terminal.
*5 When using GT15-C□EXSS-1 or GT15-C□BS, connect as following precautions.
8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS
*6 The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.
8.4.12 When connecting multiple GOTs

	Connection cable 3)	GOT (2nd)*4*6		Max. distance
		Option device*7*8	Model	
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) GT15-C300BS(30m) *5	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 3m Between GOT (1st) and GOT (2nd): 30m Between main base and GOT (2nd): 33m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *5	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT (2nd): 30m
		GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and bus connector conversion box: 3m Between bus connector conversion box and GOT (2nd): 30m Between main base and GOT (2nd): 33m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) GT15-C300BS(30m) *5	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT (1st): 3m (Including the extension cable length) Between GOT (1st) and GOT (2nd): 30m Between main base and GOT (2nd): 33m (Including the extension cable length)
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *5	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT (2nd): 30m
		GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and bus connector conversion box: 3m (Including extension cable length) Between bus connector conversion box and GOT (2nd): 30m Between main base and GOT (2nd): 33m (Including the extension cable length)

*7 The bus connection unit
GT15-75ABUSL, GT15-ABUS: Used for a terminal GOT. (Not available for an intermediary GOT)
GT15-75ABUS2L, GT15-ABUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*8 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

■ When 2 to 3 GOTs are connected*4



PLC*3					Connection cable 2)	GOT (1st)*3		
Main base	Extension cable*1	Extension base*2	Connection cable 1)	Bus connector conversion box		Option device*6*7	Model	
Main base	-	-	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	
Main base	Extension cable	Extension base	-	-	GT15-A1SC07B(0.7m) GT15-A1SC12B(1.2m) GT15-A1SC30B(3m)	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	

*1 For the extension cables, refer to MELSEC-A/QnA catalog (L(NA)08024).

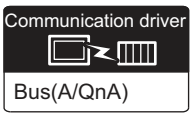
*2 Use the A168B for the extension base unit.

*3 The connection of multiple GOTs

When connecting to multiple GOTs with GT27, GT16, GT15 and GT11 mixed, use GT11 as a terminal.

*4 The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.

8.4.12 When connecting multiple GOTs



	Connection cable 3)	GOT (2nd)*3*4		Connection cable 4)	GOT (3rd)*3*4		Max. distance
		Option device*6*7	Model		Option device*6*7	Model	
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *5	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *5	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 3m Between GOT (1st) and GOT (3rd): 30m Between main base and GOT (3rd): 33m
	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *5	GT15-75ABUS2L GT15-ABUS2	GT27 GT23 GS	GT15-C07BS(0.7m) GT15-C12BS(1.2m) GT15-C30BS(3m) GT15-C50BS(5m) GT15-C100BS(10m) GT15-C200BS(20m) *5	GT15-75ABUSL GT15-75ABUS2L GT15-ABUS GT15-ABUS2	GT27 GT23 GS	Between main base and GOT(1st): 3m (Including the extension cable length) Between GOT (1st) and GOT (3rd): 30m Between main base and GOT (3rd): 33m (Including the extension cable length)

*5 When using GT15-C□BS, connect as following precautions.

8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

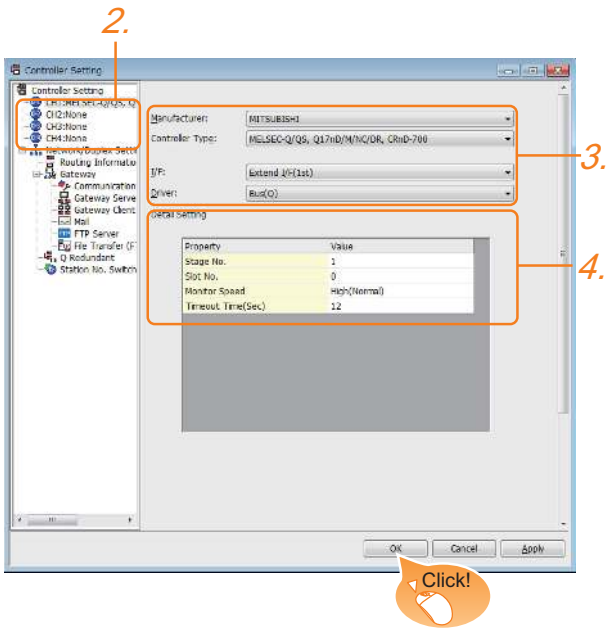
*6 The bus connection unit
GT15-75ABUSL, GT15-ABUS: Used for a terminal GOT. (Not available for an intermediary GOT)
GT15-75ABUS2L, GT15-ABUS2: Used for an intermediary GOT. (Can be used for a terminal GOT)

*7 When using the following functions, use GT15-QBUS(2). GT15-75QBUS(2)L cannot be used.
Remote personal computer operation (Serial), video display function, multimedia function, external I/O device, RGB display function, sound output function

8.3 GOT Side Settings

8.3.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set the option according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: Set either of the following option according to the Controller Type to be connected.
     - BUS (Q)
     - BUS (A/QnA)
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   8.3.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

8.3.2 Communication detail settings

(1) Bus(Q)

Property	Value
Stage No.	1
Slot No.	0
Monitor Speed	High(Normal)
Timeout Time(Sec)	12

Item	Description	Range
Number of Stages	(Default: 1)	1 to 7
Slot No.	(Default: 0)	0 to 9
Monitor Speed	Set the monitor speed of the GOT. This setting is not valid in all systems. (Default: Normal)	High (Normal)*1/ Middle/Low*2
Timeout Time (Sec.)	Set the time period for a communication to time out. (Default: 12)	12 to 90

*1 This range is effective when collecting a large amount of data (such as logging and recipe function) on other than the monitor screen.
However, the range may affect the sequence scan time when connecting to Q00UJ/Q00U/Q01U/Q02UCPU or Q00J/Q00/Q01CPU.
If you want to avoid the influence on the sequence scan time, do not set [High(Normal)].
(This setting hardly affects QCPUs other than the above.)

*2 Set this range if you want to avoid the influence on the sequence scan time further than the [Middle] setting when connecting to Q00UJ/Q00U/Q01U/Q02UCPU or Q00J/Q00/Q01CPU.
However, the monitor speed may be reduced.

(2) Bus(A/QnA)

Property	Value
Stage No.	1
Slot No.	0
Timeout Time(Sec)	3

Item	Description	Range
Number of Stages	(Default: 1)	1 to 7
Slot No.	(Default: 0)	0 to 7
Timeout Time (Sec.)	Set the time period for a communication to time out. (Default: 3)	3 to 90

POINT

(1) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

GOT2000 Series User's Manual (Utility)

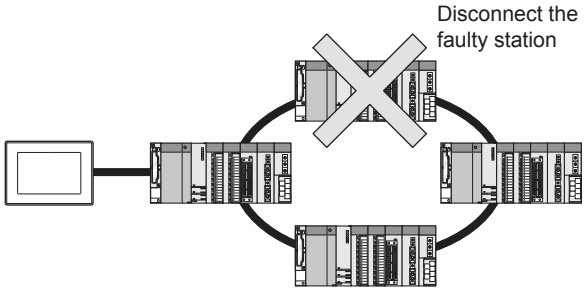
(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

(3) When changing Stage No. and Slot No.
Change these settings with the PLC CPU turned OFF, and then reapply the power to the PLC CPU and GOT.
Failure to do so may generate a system alarm (No.487).

HINT

Cutting the portion of multiple connection of the controller

By setting GOT internal device, GOT can cut the portion of multiple connection of the controller. For example, faulty station that has communication timeout can be cut from the system.



For details of the setting contents of GOT internal device, refer to the following manual.

GT Designer3 (GOT2000) Help

■ Setting Stage No. and Slot No.

POINT

Before setting Stage No. and Slot No.

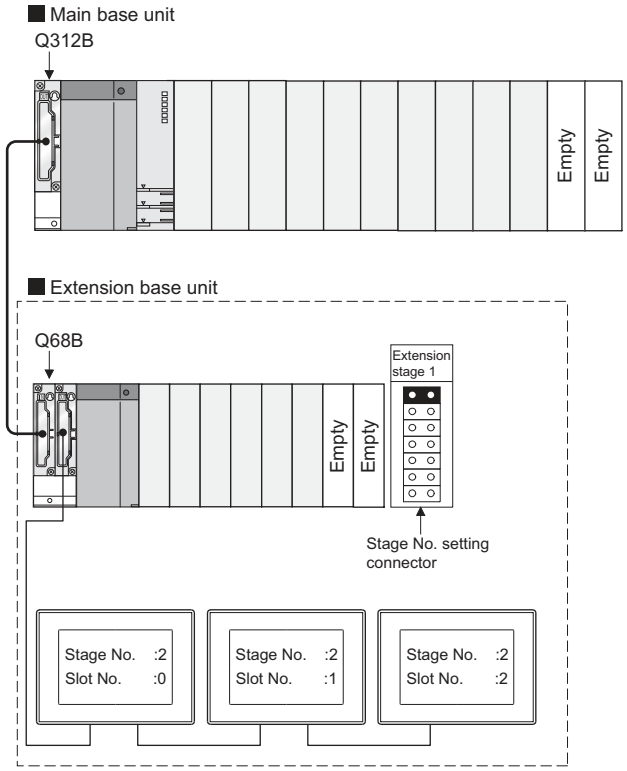
The PLC CPU recognizes the GOT as follows.

- QCPU (Q mode)
  : Intelligent function module of 16 I/O points
- Other than QCPU (Q mode)
  : Intelligent function module of 32 I/O points

At the [Detail setting], assign the GOT to an empty I/O slot on the PLC CPU.

(1) When connecting to QCPU (Q mode)

Set an additional stage (16 points × 10 slots) for GOT connection, and assign a GOT to one of the I/O slots. (The GOT cannot be assigned to empty slots of the main base unit or extension base unit.)



POINT

When using the bus extension connector box

Set the Stage No. switch on the bus extension connector box to the same Stage No. as the GOT.

For setting details, refer to the following manual:

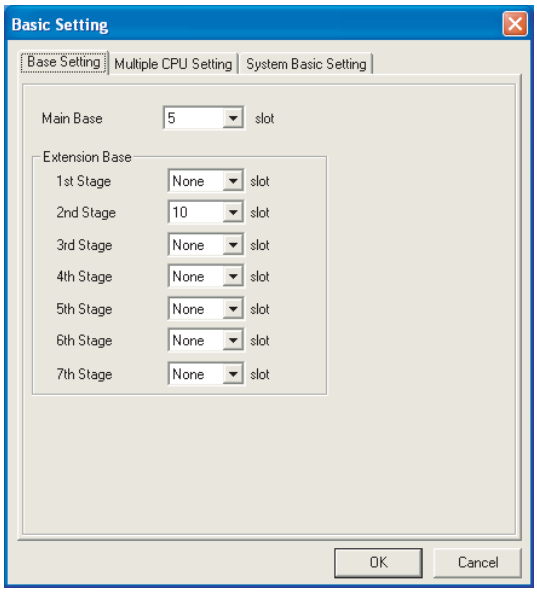
☞ A9GT-QCNB Bus Extension Connector Box User's Manual

POINT

When connecting to motion controller CPU (Q Series)

In the [Base Setting] on MT Developer, set "10" to the number of slots for the extension base used for GOT connection.

Example: When setting "2" to Stage No. and "0" to Slot No. in the communication interface settings, set "10" to [2nd Stage].



HINT

Setting unused I/O slots to empty (0 points) (only when connecting to QCPU (Q mode))

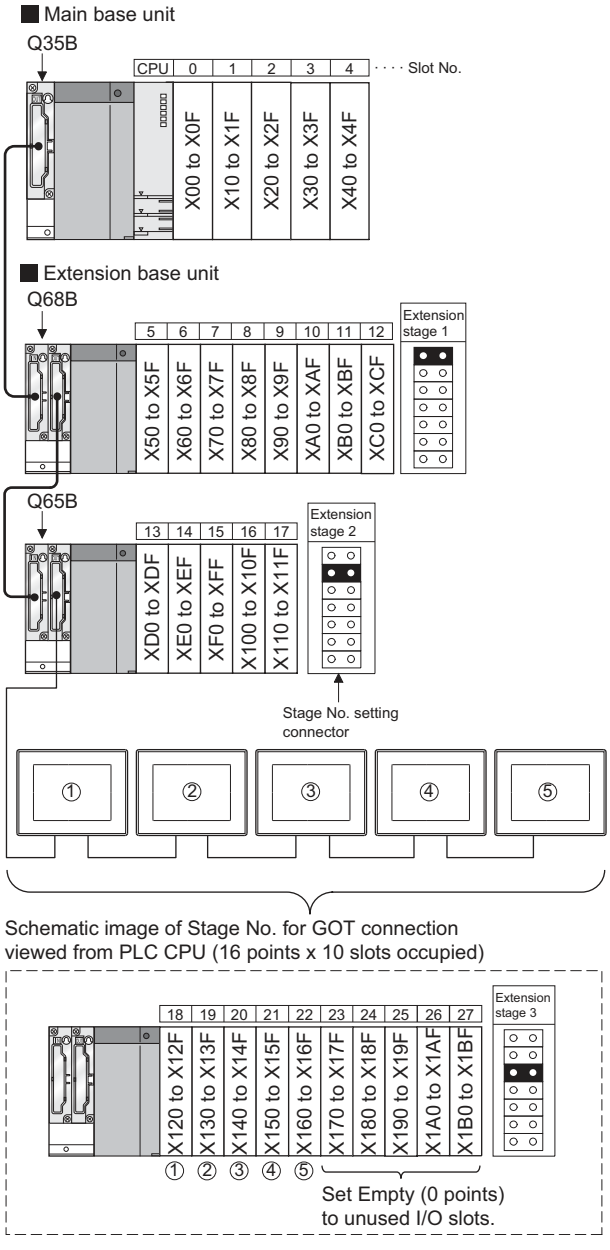
Setting unused I/O slots as empty slots (0 points) from "PC parameters" "I/O assignments" of GX Developer allows you to use I/O numbers of "16 points × number of empty slots" for other purposes.

For details on I/O assignment settings, refer to the following manual:

☞ QnU User's Manual (Function Explanation, Program Fundamentals)

☞ Qn(H)/QnPH/QnPRHCPU User's Manual (Function Explanation, Program Fundamentals)

Example: I/O assignment (when 16 points are assigned to each of all modules installed with the PLC CPU)



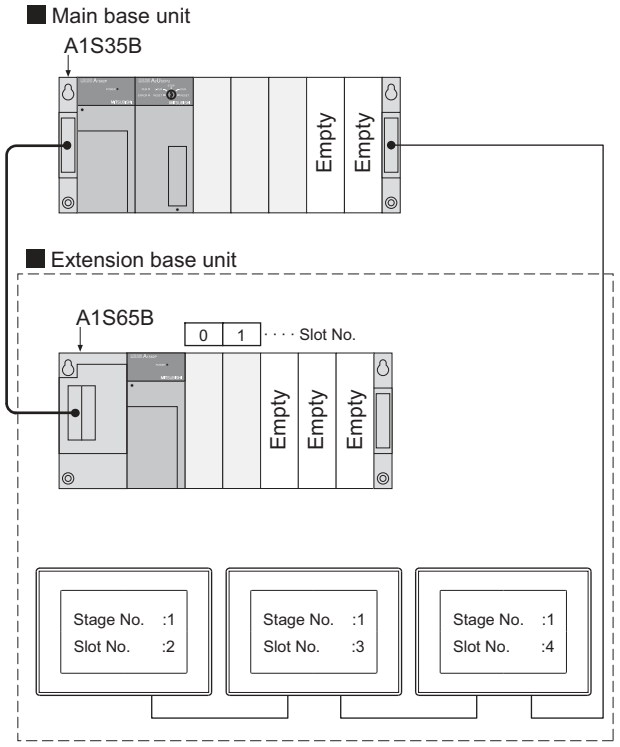
(2) Other than QCPU (Q mode)

Assign the GOT to an empty I/O slot on the extension base unit.

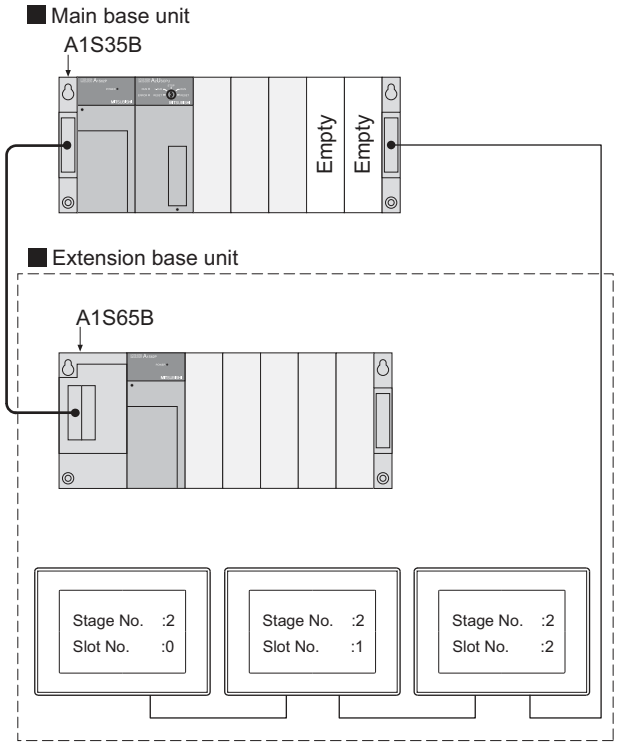
When there is no extension base unit or no empty I/O slots are left on an extension base unit, set an additional stage, and assign the GOT to one of the I/O slots.

(Assigning the GOT to an empty slot on the main base unit is not allowed.)

(a) When there is an empty I/O slot on the extension base unit



(b) When there are no empty I/O slots on the extension base unit

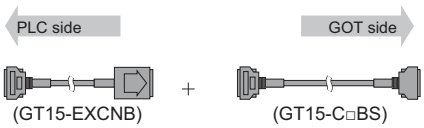


8.4 Precautions

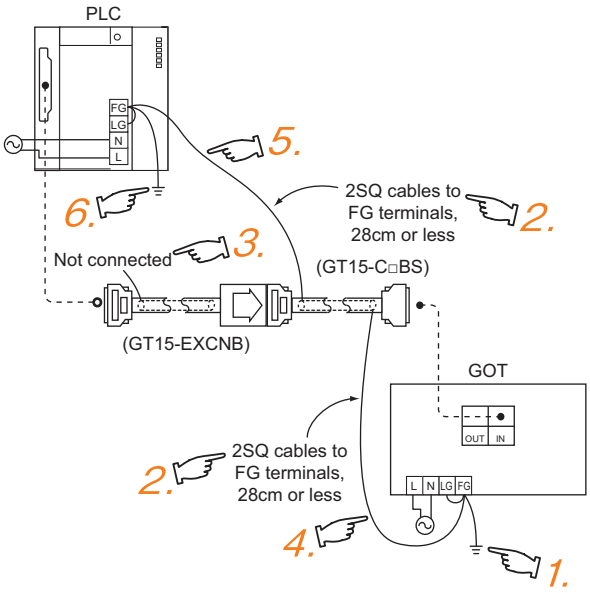
8.4.1 GT15-C [ ] EXSS-1, GT15-C [ ] BS

(1) Composition of GT15-C□EXSS-1
It is composed of GT15-EXCNB (0.5m) and GT15-C□BS (10 to 30m).
Calculate the cable length based on GT15-C100EXSS-1(10m), GT15-C200EXSS-1(20m) and GT15-C300EXSS-1(30m).

(2) GT15-C□EXSS-1 connector
Connect the connectors as follows:
GT15-EXCNB → PLC CPU side
GT15-C□BS → GT OT side



(3) Grounding
(a) When using GT15-C□EXSS-1



1. Connect the LG and FG terminals of the terminal block on the GOT unit power and ground them with a cable.
2. Use the GT15-C□ BS's FG cable of 28cm or less.
3. Do not connect the GT15-EXCNB's FG ground cable.
4. Connect the GT15-C□ BS's FG cable on the GOT side to FG of the GOT unit power's terminal block.
5. Connect the GT15-C□ BS's FG cable on the PLC side to FG of the PLC's power supply module.
6. Connect the LG and FG terminals of the terminal block on the PLC and ground them with a cable.

(b) When using GT15-C□BS
Follow the GOT side grounding steps in (a) above for both GOTs.

8.4.2 Turning the GOT ON

(1) System configuration
The PLC CPU remains in the reset status until the GOT is started.
Therefore, no sequence program will run until then.
The system configuration, in which the GOT is turned on from a sequence program, is not available.

(2) Time taken until the PLC runs after power-on of the GOT
The following time is taken from when the GOT is powered on until when the PLC runs.
• QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more
• MELDAS C70: 18 seconds or more
When the GOT starts before the PLC runs, a system alarm occurs.Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

(3) Power-up sequence for connection of 3 GOTs or more (when connecting QCPU (Q mode))

☞ 8.4.10 (1)Restrictions in overall cable length to No. of GOTs

(4) Power-up sequence for connection of the Q4ARCPU redundant system

☞ 8.4.14 (2)Power-On sequence for GOT and Q4ARCPU redundant system

(5) Power-up sequence for cases other than (3) and (4)
The GOT and PLC can both be started up whichever of these devices is turned ON first. (There is no specific sequence in which they are powered ON)
Note, however, that operation is as follows when the GOT is turned ON followed by the PLC:
When the PLC power is OFF with the GOT turned ON, the system alarm (No.402: timeout error) is generated.
Upon power-on of the PLC CPU, the GOT automatically starts monitoring.
Use System Information to reset the alarm.
For the System Information, refer to the following manual:

☞ GT Designer3 (GOT2000) Help

8.4.3 Powering OFF the GOT, reapplying the power (OFF to ON)

(1) Precautions for reapplying the power to the GOT (OFF to ON)
Do not power-cycle the GOT (OFF to ON) while the PLC is ON.
Before doing so, be sure to turn off the PLC first.

HINT

Operations causing automatic reboot of the GOT2000 Series

Since the GOT2000 Series is automatically rebooted in the following cases, the power does not need to be reapplied to the GOT (OFF to ON).

- When an OS is written from GT Designer3 or a SD card
- When utility settings have been changed

(2) When turning OFF the GOT before display of the user creation screen
When the GOT is turned OFF before the user creation screen is displayed on the GOT, subsequent communications may be no longer possible.
In such a case, reapply the power to the PLC CPU and GOT.

(3) Precautions for connection of 3 GOTs or more (when connecting QCPU (Q mode))

☞ 8.4.10 (1)Restrictions in overall cable length to No. of GOTs

8.4.4 Reset switch on GOT

When bus connection is used, the reset switch on the GOT does not function.

8.4.5 Powering OFF or resetting the PLC

(1) When turning OFF or resetting the PLC during monitoring
When turning OFF or resetting the PLC during monitoring, the system alarm (No.402: timeout error) is generated.
When the PLC CPU is restored, the GOT automatically resumes monitoring.
Use System Information to reset the alarm.
For the System Information, refer to the following manual:

☞ GT Designer3 (GOT2000) Help

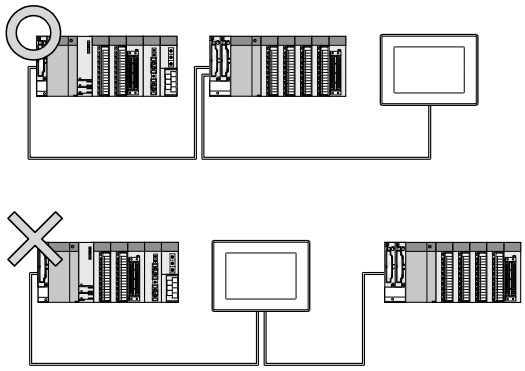
(2) When turning OFF or resetting the PLC CPU before display of the user creation screen
When the PLC CPU is turned OFF or reset before the user creation screen is displayed on the GOT, subsequent communications may be no longer possible.
In such a case, reapply the power to the PLC CPU and GOT.

(3) Precautions for connection of 3 GOTs or more (when connecting QCPU (Q mode))

☞ 8.4.10 (1)Restrictions in overall cable length to No. of GOTs

8.4.6 Position of the GOT

Always connect the GOT to the last base unit.
Connecting a GOT between base units is not allowed.



8.4.7 When the GOT is bus-connected to a PLC CPU without the communication driver written

When the GOT is bus-connected to a PLC CPU without the standard monitor OS and the communication driver for the bus connection being written onto the GOT, the PLC CPU is reset. (GX Developer cannot communicate with the PLC CPU)

In this case, disconnecting the bus connection cable from the GOT will cancel the reset status of the PLC CPU.

8.4.8 When designing the system

When the GOT is OFF, the following currents are supplied to the GOT from the PLC CPU side (the power supply module on the main base unit).(The GOT does not operate when it is OFF.)

Design the system so that the 5V DC current consumption of the modules on the main base unit and the total current consumption of the GOTs will not exceed the rated output current of 5V DC of the power supply module in use.

When connecting to	No. of GOTs	Total current consumption
When connecting to QCPU (Q mode)	5	2200mA
	4	1760mA
	3	1320mA
	2	880mA
	1	440mA
Other than QCPU (Q mode)	3	360mA
	2	240mA
	1	120mA

8.4.9 When assigning GOT I/O signals

Do not use the I/O signals assigned to the PLC CPU in sequence programs, as these signals are used by the GOT system.

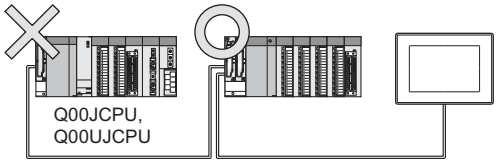
When these signals are used, GOT functions cannot be assured.

8.4.10 When connecting to a QCPU (Q mode)

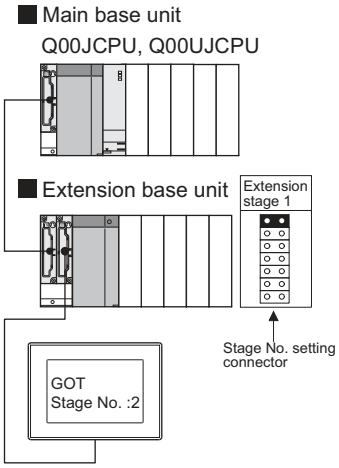
(1) Restrictions in overall cable length to No. of GOTs
The following restrictions apply when 3 of more GOTs are connected:

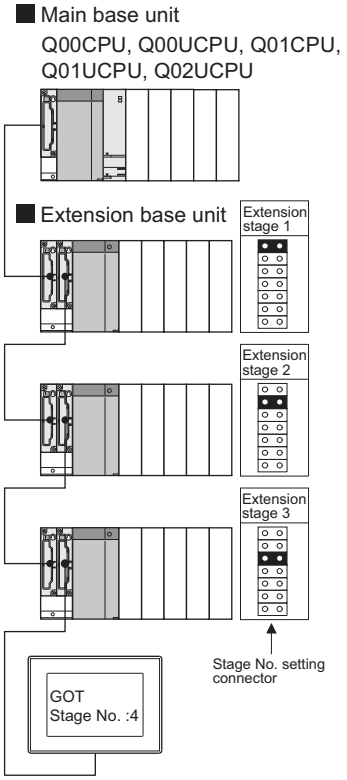
Number of GOTs	Overall Cable Length	Restriction	Overall Cable Length	Restriction
1	(No restrictions)			
2				
3	Less than 25m	(No restrictions)	25 to 37m	Use the same power supply for the PLC and all GOTs, and turn these devices ON and OFF simultaneously.
4	Less than 20m		20 to 37m	
5	Less than 15m		15 to 37m	

(2) When using a Q00JCPU, Q00UJCPU
The bus extension connector box can be connected only to the extension base unit.
(Connecting it to the main base unit is not allowed)

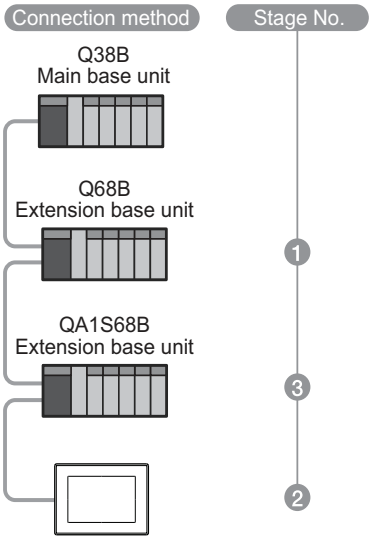


(3) When using a Q00J/Q00UJ/Q00/Q00U/Q01/Q01U/Q02UCPU
When a GOT is bus-connected to a Q00JCPU or Q00UJCPU, number of extension stages including the GOT must be 2 or less.
When a GOT is bus-connected to a Q00CPU, Q00UCPU, Q01CPU, Q01UCPU or Q02UCPU, number of extension stages including the GOT must be 4 or less.



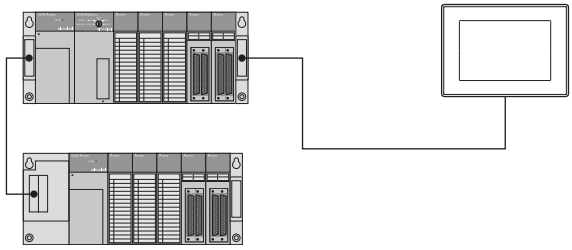


(4) When using the QA1S6□B extension base unit
A GOT is physically connected to the last of all extension base units. In the Stage No. setting, however, assign the GOT as a stage next to the last Q□□B type extension base unit.
Assign the QA1S6□B type extension base unit as a stage next to the GOT.



8.4.11 When connecting to a QnA(S)CPU or An(S)CPU type

(1) When connecting with a QnASCPU type and an AnSCPU type
A GOT can be connected to an extension connector on only one side of the main base unit.
(Concurrently connecting GOTs to extension connectors on both sides is not allowed)



(2) In the case of Q4A(R)CPU, Q3ACPU, A3□CPU, A4UCPU
Empty I/O slots are required within the max. number of extension stages.

(3) For A0J2HCPU
Assign the GOT to the I/O slots 0 to 3 of extension stage 1.

(4) In the case of CPUs other than (2) (3) above
Even if the max. number of stages are used with no empty I/O slots, when there is a free space of 32 I/O points or more, a GOT can be connected under the following communication interface setting.
For the communication interface setting, refer to the following.

☞ 8.3.1 Setting communication interface (Communication settings)

When connecting to	Max. stage No.	Communication interface setting	
		Stage No.	Slot No.
A1□CPU/A2USCPU(-S1) /QnAS(H)CPU(-S1)	1	2	0
A2□CPU/Q2ACPU	3	4	0
A3□CPU/A4□CPU	7	Cannot be used	
Q3ACPU/Q4ACPU	7		
A0J2HCPU	1		

8.4.12 When connecting multiple GOTs

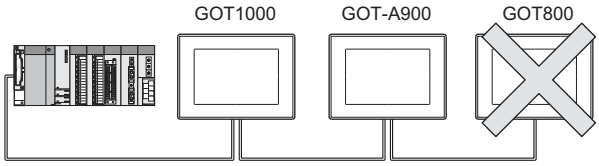
(1) System including different GOT series

The GOT2000 series can be connected with GOT1000 series and GOT-A900 series in a system.
When using them together, refer to the following Technical News.

☞ Precautions when Replacing GOT1000 Series with GOT2000 Series (GOT-A-0061)

☞ Precautions when Replacing GOT-A900 Series with GOT2000 Series (GOT-A-0062)

The GOT2000 series cannot be used with GOTs other than GOT1000 or GOT-A900 series in a system.



(2) Restrictions on No. of GOTs

The number of connectable GOTs is restricted according to the CPU type and the number of intelligent function modules.

When connecting to		Number of connectable GOTs	Total number of connectable GOTs and intelligent function modules*1
QCPU(Q mode), motion controller CPU (Q Series)		Up to 5	5 GOTs + 6 intelligent function modules*2
QCPU (A mode)		Not connectable	————
QnACPU		Up to 3	6 in total
ACPU	AnUCPU, AnACPU, A2US(H)CPU	Up to 3	6 in total
	AnNCPU, AnS(H)CPU, A1SJ(H)CPU	Up to 2	2 in total
	A0J2HCPU	Up to 1	2 in total
	A1FXCPU	Not connectable	————
Motion controller CPU (A Series)	A273UCPU, A273UHCPU(-S3), A373UCPU(-S3), A173UHCPU(-S1)	Up to 3	6 in total
	A171SHCPUN, A172SHCPUN	Up to 2	2 in total

*1 Indicates the following models:
AD51(S3), AD51H(S3), AD51FD(S3), AD57G(S3), AJ71C21(S1), AJ71C22(S1), AJ71C23, AJ71C24(S3/S6/S8), AJ71UC24, AJ71E71(-S3), AJ71E71N-B2/B5/T/B5T, AJ71E71N3-T, AJ61BT11 (in intelligent mode only), A1SJ71C24(-R2/PRF/R4), A1SJ71UC24(-R2/PRF/R4), A1SJ71E71-B2/B5(-S3), A1SJ71E71N-B2/B5/T/B5T, A1SJ71E71N3-T, A1SD51S, A1SJ61BT11 (in intelligent mode only)

*2 Only the A1SD51S can be connected to the QCPU (Q Mode).

8.4.13 When using a PLC CPU in the direct mode

Note that when the I/O control mode of the PLC CPU is the direct mode, and if the 1st GOT is connected to the main or extension base unit with a 5m extension cable (GT15-AC50B, GT15-A1SC50NB), the input X of the empty I/O slot cannot be used.

No restrictions apply when the I/O control mode is the refresh mode.

On PLC CPUs whose I/O control mode can be selected by a switch, set the I/O control mode to the refresh mode before use.

POINT

In the cases where input X of an empty I/O slot is used

(1) When input X is assigned on the MELSECNET/10 network

(2) When input X of an empty I/O slot is turned ON/OFF by the computer link module

(3) When input X of the I/O slot is turned ON/OFF by the touch switch function (Bit SET/RST/Alternate/Momentary) of GOT

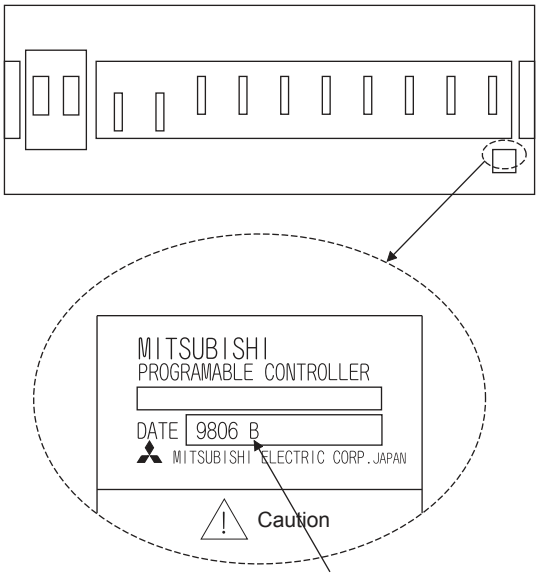
8.4.14 When connecting to a Q4ARCPU redundant system

(1) When the GOT is bus-connected to a Q4ARCPU redundant system

Connect the GOT to the last redundant extension base unit (A68RB) of the Q4ARCPU redundant system.

For the redundant extension base units, use version B or later.

The version can be confirmed in the DATE field of the rating plate.



POINT

Precautions for Q4ARCPU redundant system configurations

The GOT does not operate normally in the following system configurations.

(1) When the GOT is bus connected to the bus switching module (A6RAF) on a redundant main base unit (A32RB/A33RB)

(2) When the GOT is bus connected to a version-A redundant main base unit (A68RB)

(2) Power-On sequence for GOT and Q4ARCPU redundant system

Apply the power to the GOT and Q4ARCPU redundant system in the following sequence.

1. Turn ON the GOT.
2. After the monitor screen is displayed on the GOT, turn ON the Q4ARCPU redundant system.
   At this time, a timeout is displayed on the system alarm. Use System Information to reset the alarm.
   For the system alarm, refer to the following manual:
   GT Designer3 (GOT2000) Help

8.4.15 When monitoring the Q170MCPU, Q170MSCPU(-S1)

Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

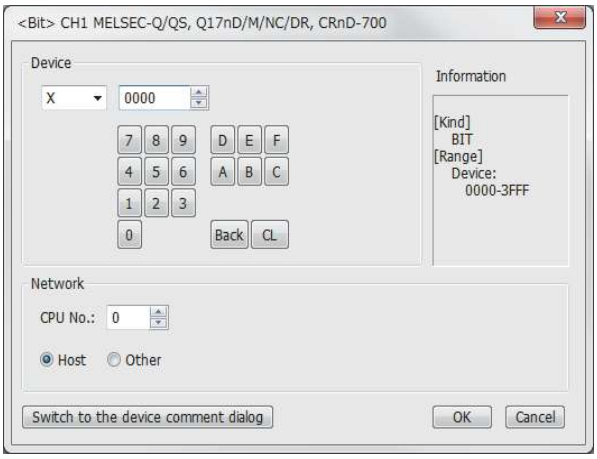
When the CPU No. is set to "0" or "1", the device on the PLC CPU area (CPU No.1) is monitored.

When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

For setting the CPU No., refer to the following manual.

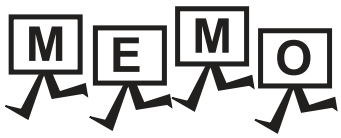
GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device



8.4.16 Troubleshooting

For the troubleshooting, refer to the User's Manual for the GOT you are using.


MEMO

9

MELSECNET/H CONNECTION (PLC TO PLC NETWORK), MELSECNET/10 CONNECTION (PLC TO PLC NETWORK)

9. MELSECNET/H CONNECTION (PLC TO PLC NETWORK), MELSECNET/10 CONNECTION (PLC TO PLC NETWORK)

9.1 Connectable Model List

POINT

(1) Connectable network
For MELSECNET/H connection, use the MNET/H mode or MNET/H extension mode with MELSECNET/H.
Connect the GOT to the following network systems as an ordinary station.
- MELSECNET/H network system (PLC to PLC network) optical loop system
- MELSECNET/H network system (PLC to PLC network) coaxial bus system

The GOT cannot be connected to the remote I/O network.
For MELSECNET/10 connection, use the MNET/10 mode with MELSECNET/H.
- MELSECNET/10 network system (PLC to PLC network) optical loop system
- MELSECNET/10 network system (PLC to PLC network) coaxial bus system

The GOT cannot be connected to the remote I/O network.

(2) MELSECNET/H network module
When connecting the MELSECNET/H network module to the MELSECNET/H network system, specify the MELSECNET/H Mode or the MELSECNET/H Extended Mode as a network type.
When connecting the MELSECNET/H network module to the MELSECNET/10 network system, specify the MNET/10 mode as a network type.

9.1.1 PLC/Motion controller CPU

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS *1	9.2
	Q00CPU				
	Q01CPU				
	Q02CPU				
	Q02HCPU				
	Q06HCPU				
	Q12HCPU				
	Q25HCPU				
	Q02PHCPU				
	Q06PHCPU				
	Q12PHCPU				
	Q25PHCPU				
	Q12PRHCPU (Main base)				
	Q25PRHCPU (Main base)				
	Q12PRHCPU (Extension base)	○	-	GT27 GT23 GS	-
	Q25PRHCPU (Extension base)				
MELSEC-Q (Q mode)	Q00UJCPU	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS	9.2
	Q00UCPU				
	Q01UCPU				
	Q02UCPU				
	Q03UDCPU				
	Q04UDHCPU				
	Q06UDHCPU				
	Q10UDHCPU				
	Q13UDHCPU				
	Q20UDHCPU				
	Q26UDHCPU				

(Continued to next page)

*1 Use CPU function version B or a later version.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS	9.2
C Controller module	Q12DCCPU-V*1 Q24DHCCPU-V Q24DHCCPU-LS	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS	9.2
MELSEC-QS	QS001CPU	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS	9.2
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P	○	-	GT27 GT23 GS	-
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	MELSECNET/10	GT27 GT23 GS	9.2
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	○	MELSECNET/10	GT27 GT23 GS	9.2
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	MELSECNET/10	GT27 GT23 GS	9.2
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU	○	MELSECNET/10	GT27 GT23 GS	9.2
	A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU A2NCPUP21 A2NCPUR21 A2NCPU-S1		-	GT27 GT23 GS	-

(Continued to next page)

*1 Use a module with the upper five digits later than 12042.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A (AnCPU)	A2NCPUP21-S1	○	MELSECNET/10	GT27 GT23 GS	9.2
	A2NCPUR21-S1				
	A3NCPU				
	A3NCPUP21				
	A3NCPUR21				
	A2USCPU	○	-	GT27 GT23 GS	-
	A2USCPU-S1				
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU				
	A2SCPU-S1				
	A2SHCPU				
	A2SHCPU-S1				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A	A0J2HCPU	×	-	GT27 GT23 GS	-
	A0J2HCPUP21				
	A0J2HCPUR21				
	A0J2HCPU-DC24				
	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*1*2	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS	9.2
	Q173CPU*1*2				
	Q172CPUN*1				
	Q173CPUN*1				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*3				
	Q170MSCPU*4				
	Q170MSCPU-S1*4				
	MR-MQ100	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00H or later
- SW6RN-SV22Q□: 00H or later
- SW6RN-SV43Q□: 00B or later

*2 Use main modules with the following product numbers.
- Q172CPU: Product number N******* or later
- Q173CPU: Product number M******* or later

*3 Only the first step can be used on the extension base unit (Q52B/Q55B).

*4 The extension base unit (Q5□B/Q6□B) can be used.

Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	MELSECNET/10	GT27 GT23 GS	9.2
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3	○	-	GT27 GT23 GS	
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU				
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU	○	MELSECNET/10	GT27 GT23 GS	9.2
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	-	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	-	GT27 GT23 GS	-
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	GT27 GT23 GS	-
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	GT27 GT23 GS	-
CNC C70	Q173NCCPU	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS	9.2
Robot controller	CRnQ-700 (Q172DRCPU)	○	MELSECNET/H MELSECNET/10	GT27 GT23 GS	9.2
MELSEC-FX	FX_0	×	-	GT27 GT23 GS	-
	FX_{0S}				
	FX_{0N}				
	FX_1				
	FX_2	×			
	FX_{2C}				
	FX_{1S}	○			
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	×			
	FX_{3S}	○			
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

9.1.2 MELSECNET/H network module

CPU series	Model name	
	Optical loop	Coaxial bus
MELSEC-Q (Q mode)*1 MELSEC-QS Motion controller CPU (Q Series) CNC C70 Robot controller (CRnQ-700)	QJ71LP21 QJ71LP21-25 QJ71LP21S-25	QJ71BR11*1
C Controller module	QJ71LP21-25 QJ71LP21S-25	QJ71BR11*1

*1 Use function version B or later of the MELSECNET/H network module and CPU.

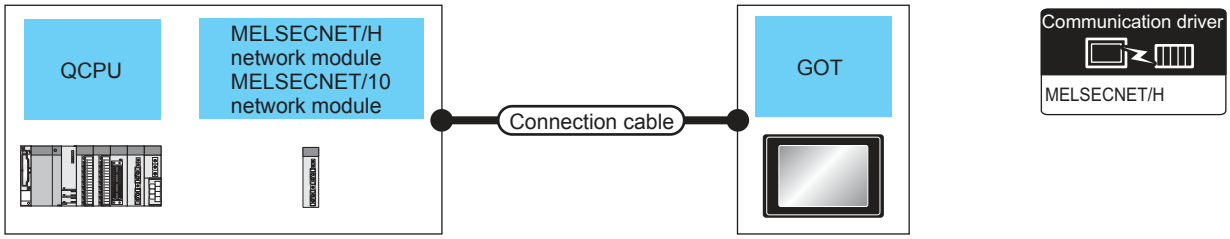
9.1.3 MELSECNET/H (NET/10 mode), MELSECNET/10 network module

CPU series	Model name	
	Optical loop	Coaxial bus
MELSEC-Q (Q mode)*1 MELSEC-QS Motion controller CPU (Q Series) CNC C70 Robot controller (CRnQ-700)	QJ71LP21, QJ71LP21-25 QJ71LP21S-25	QJ71BR11*1
C Controller module	QJ71LP21-25, QJ71LP21S-25	QJ71BR11*1
MELSEC-QnA	AJ71QLP21,AJ71QLP21S A1SJ71QLP21,A1SJ71QLP21S	AJ71QBR11 A1SJ71QBR11
MELSEC-Q (A mode) MELSEC-A Motion controller CPU (A Series)	AJ71LP21 A1SJ71LP21	AJ71BR11 A1SJ71BR11

*1 Use function version B or later of the MELSECNET/H network module and CPU.

9.2 System Configuration

9.2.1 Connecting to optical loop system



PLC			Connection cable		GOT		Number of connectable equipment
Model name	MELSECNET/H network module *1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q	QJ71LP21 QJ71LP21-25 QJ71LP21S-25	MELSECNET/H	Optical fiber cable*2	*3	GT15-J71LP23-25	GT27 GT23 GS	63 GOTs
		MELSECNET/10	Optical fiber cable*2	*3	GT15-J71LP23-25 *4	GT27 GT23 GS	
C Controller module	QJ71LP21-25 QJ71LP21S-25	MELSECNET/H	Optical fiber cable*2	*3	GT15-J71LP23-25	GT27 GT23 GS	
		MELSECNET/10	Optical fiber cable*2	*3	GT15-J71LP23-25 *4	GT27 GT23 GS	
MELSEC-QS	QJ71LP21 QJ71LP21-25 QJ71LP21S-25	MELSECNET/H	Optical fiber cable*2	*3	GT15-J71LP23-25	GT27 GT23 GS	
		MELSECNET/10	Optical fiber cable*2	*3	GT15-J71LP23-25 *4	GT27 GT23 GS	
MELSEC-QnA	AJ71QLP21 AJ71QLP21S A1SJ71QLP21 A1SJ71QLP21S	MELSECNET/10	Optical fiber cable*2	*3	GT15-J71LP23-25 *4	GT27 GT23 GS	
MELSEC-A	AJ71LP21 A1SJ71LP21	MELSECNET/10	Optical fiber cable*2	*3	GT15-J71LP23-25 *4	GT27 GT23 GS	

*1 For the system configuration of the MELSECNET/H network module, refer to the following manual.

Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)
For QnA/Q4AR MELSECNET/10 Network System Reference Manual
For AnU MELSECNET/10 Network System Reference Manual (PLC to PLC network)

*2 For the optical fiber cable, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)
For QnA/Q4AR MELSECNET/10 Network System Reference Manual
For AnU MELSECNET/10 Network System Reference Manual (PLC to PLC network)

*3 The overall extension cable length and the length between stations vary depending on the cable type to be used and the total number of stations.

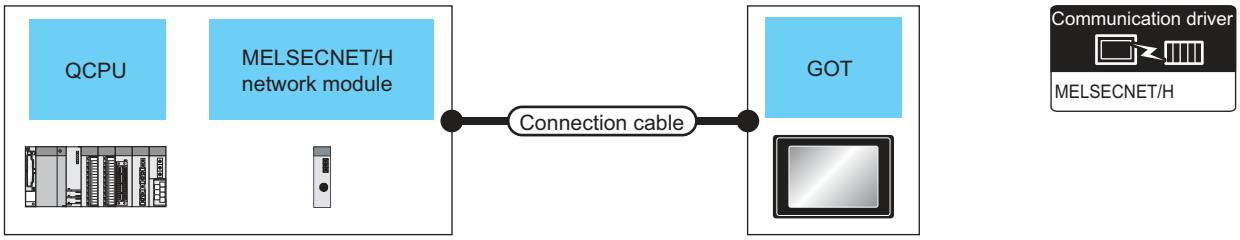
For details, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)
For QnA/Q4AR MELSECNET/10 Network System Reference Manual
For AnU MELSECNET/10 Network System Reference Manual (PLC to PLC network)

*4 Set the MELSECNET/10 mode in the communication settings. For the setting, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

9.2.2 Connecting to the coaxial bus system



PLC			Connection cable		GOT		Number of connectable equipment
Model name	MELSECNET/H network module *2	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q	QJ71BR11	MELSECNET/H	Optical fiber cable *3	*4	GT15-J71BR13	GT27 GT23 GS	31 GOTs
	QJ71BR11	MELSECNET/10	Optical fiber cable *3	*4	GT15-J71BR13 *5	GT27 GT23 GS	
C Controller module	QJ71BR11	MELSECNET/H	Optical fiber cable *3	*4	GT15-J71BR13	GT27 GT23 GS	
	QJ71BR11	MELSECNET/10	Optical fiber cable *3	*4	GT15-J71BR13 *5	GT27 GT23 GS	
MELSEC-QS	QJ71BR11	MELSECNET/H	Optical fiber cable *3	*4	GT15-J71BR13	GT27 GT23 GS	
	QJ71BR11	MELSECNET/10	Optical fiber cable *3	*4	GT15-J71BR13 *5	GT27 GT23 GS	
MELSEC-QnA	AJ71QBR11 A1SJ71QBR11	MELSECNET/10	Optical fiber cable *3	*4	GT15-J71BR13 *5	GT27 GT23 GS	
MELSEC-A	AJ71BR11 A1SJ71BR11	MELSECNET/10	Optical fiber cable *3	*4	GT15-J71BR13 *5	GT27 GT23 GS	

*1 Use a PLC CPU of function version B or a later version.

*2 For the system configuration of the MELSECNET/H network module, refer to the following manual.

Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)
For QnA/Q4AR MELSECNET/10 Network System Reference Manual
For AnU MELSECNET/10 Network System Reference Manual (PLC to PLC network)

Use a MELSECNET/H network module of function version B or a later version.

*3 For the coaxial cable, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)
For QnA/Q4AR MELSECNET/10 Network System Reference Manual
For AnU MELSECNET/10 Network System Reference Manual (PLC to PLC network)

For the coaxial cable connector connection method, refer to the following.

☞ 1.4.2 Coaxial cableconnector connection method

*4 The overall extension cable length and the length between stations vary depending on the cable type to be used and the total number of stations.
For details, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)
For QnA/Q4AR MELSECNET/10 Network System Reference Manual
For AnU MELSECNET/10 Network System Reference Manual (PLC to PLC network)

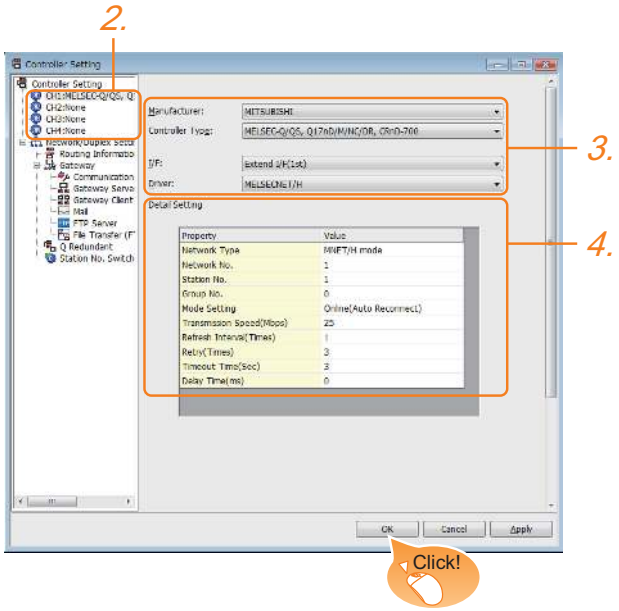
*5 Set the MELSECNET/10 mode in the communication settings. For the setting, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

9.3 GOT Side Settings

9.3.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: MELSECNET/H
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   ☞ 9.3.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following:
☞ 1.1.2 I/F communication setting

9.3.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
Network Type	MNET/H mode
Network No.	1
Station No.	1
Group No.	0
Mode Setting	Online(Auto Reconnect)
Transmission Speed(Mbps)	25
Refresh Interval(Times)	1
Retry(Times)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Network Type	Set the network type. (Default: MNET/H mode)	• MNET/H mode • MNET/10 mode • MNET/H Extended mode*1
Network No.	Set the network No. (Default: 1)	1 to 239
Station No.	Set the station No. of the GOT. (Default: 1)	1 to 64
Mode Setting	Set the operation mode of the GOT. (Default: Online (auto. reconnection))	• Online (auto. reconnection) • Offline • Test between slave station*2 • Self-loopback test*2 • Internal self-loopback test*2 • H/W test*2
Transmission Speed	Set the communication transmission speed. (Default: 25Mbps) When specifying [MNET/10 mode] as The network type, only 10mbps can be set applicable.	10Mbps/25Mbps
Refresh Interval	Set the number of refreshes to secure the send/receive data in station units during communication. (Default: 1time) Valid when [Secured data send/ Secured data receive] Is marked by the control station side network parameters of the melsecnet/h network system.	1 to 1000times

Item	Description	Range
Retry	Set the number of retries to be performed when a communication timeout occurs. When no response is received after retries, a communication times out. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 300ms

*1 To monitor the redundant QCPU system, use function version D or later of QCPU, whose first 5 digits of the serial number are 07102 or later.
Use version 8.29F or later of GX Developer.

*2 For details, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

☞ For QnA/Q4AR MELSECNET/10 Network System Reference Manual

☞ For AnU MELSECNET/10 Network System Reference Manual (PLC to PLC network)

POINT

(1) When connecting to the MELSECNET/10 network
When connecting to the MELSECNET/10 network using the MELSECNET/H communication module, set [MNET/10 mode] in [Network Type].

(2) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the RS-422 conversion unit and the GOT utility, refer to the following manual:

☞ GOT2000 Series User's Manual (Utility)

(3) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

9.3.3 Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.

However, the same transfer network number cannot be set twice or more (multiple times).

Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.

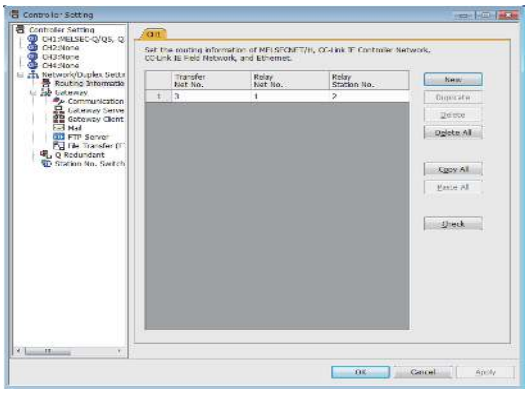
POINT

Routing parameter setting

When communicating within the host network, routing parameter setting is unnecessary.

For details of routing parameters, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)



Item	Range
Transfer Network No.	1 to 239
Relay Network No.	1 to 239
Relay Station No.	1 to 64

POINT

(1) Routing parameter setting of relay station
Routing parameter setting is also necessary for the relay station.
For the setting, refer to the following.

☞ 9.4 PLC side setting when connecting to MELSECNET/H

(2) Parameter reflection function of MELSOFT Navigator
   (a) The color of the cells for the items which are reflected to GT Designer3 from MELSOFT Navigator changes to green. Set items, which are displayed in green cells, from the MELSOFT Navigator.
   (b) When the settings of Transfer network No., Relay network No. or Relay station No. are reflected to the parameter from the MELSOFT Navigator, those settings are added. Items set in advance are not deleted.However, if the target network No. overlaps, the item set in advance is overwritten.
   (c) The routing information is used manually by the user when the data is created. Therefore, after changing the network configuration by MELSOFT Navigator, create a routing information again. For details of the creation of the routing information, refer to the MELSOFT Navigator help.

9.4 PLC side setting when connecting to MELSECNET/H

This section describes the settings of the GOT and MELSECNET/H network module in the case of system configuration shown as 9.4.1.

When connecting the MELSECNET/H network module to the MELSECNET/H network system, specify the MELSECNET/H Mode or the MELSECNET/H Extended Mode as a network type.

POINT

MELSECNET/H network module

For details of the MELSECNET/H network module, refer to the following manual.

☞ Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

9.4.1 System configuration

☞ 9.4.4 [Controller Setting] of GT Designer3

<GOT>
(Use the default value for settings other than the following.)

Network type : MNET/H Mode
Network No. : 1
Station No. : 2
Made Setting : Online (auto,reconnection)
Network range assignment *2: LB0100H to LB01FFH
LW0100H to LW01FFH
Transmission speed : 10Mbps

MELSECNET/H (PLC to PLC network)

<MELSECNET/H network module> *1
(Use the default value for settings other than the following.)

Station No. : 1
Mode : Online (10Mbps)
Network type : MNET/H mode (Control station)
Network No. : 1
Total stations : 2
Network range assignment *2: LB0000H to LB00FFH
LW0000H to LW00FFH

☞ 9.4.2 Switch setting of MELSECNET/H network module
(1) [Network parameter] of GX Developer

*1 The MELSECNET/H network module is mounted at slot 0 of the base unit.
The start I/O No. of the MELSECNET/H network module is set at "0".

*2 The network type must be set according to the number of assignment of send points for each station.
When the number of assignment is 2000 bytes or less: MELSECNET/H mode
When the number of assignment is 2000 bytes or more: MELSECNET/H Extended Mode

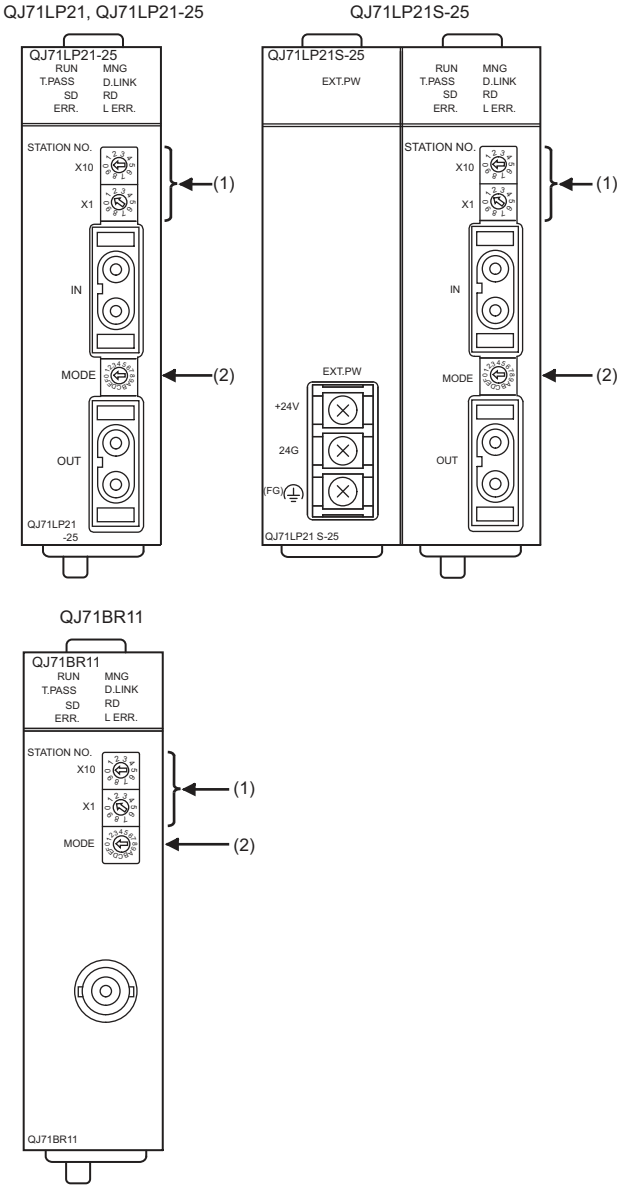
POINT

When connecting to Q170MCPU or Q170MSCPU(-S1)

When connected to Q170MCPU or Q170MSCPU(-S1), the start I/O No. of the MELSECNET/H network module is set to "70".

9.4.2 Switch setting of MELSECNET/H network module

Set the station number setting switch and mode setting switch.



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
STATION NO. X10 X1	Station number setting (Station No.1)*1	1	○

○: Necessary △: As necessary ×: Not necessary

*1 Do not set the same station No. as that of the GOT.

(2) Mode setting switch

Mode setting switch	Description	Set value	Setting necessity at GOT connection
MODE	Mode setting (Online: 10Mbps)*2	0	○

○: Necessary △: As necessary ×: Not necessary

*2 Set the same mode setting and transmission speed as those of the GOT.

POINT

When the switch setting has been changed

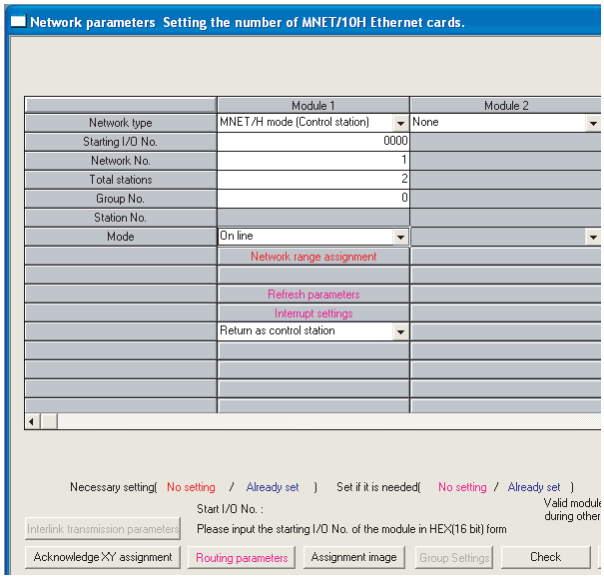
Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

9.4.3 Parameter setting

■ Connecting to MELSEC-Q or QS series

(1) [Network parameter] of GX Developer

(a) Network parameter



Item	Set value	Setting necessity at GOT connection
Network type	MNET/H mode (Control station) (fixed)	○
Starting I/O No.*1	0000H	○
Network No.*2	1	○
Total stations	2	○
Group No.	0 (fixed)	○
Mode*3	Online	○
Network range assignment	Refer to (b).	△
Refresh parameters	(Use default value)	△
Interrupt settings		×
Control station return setting		△
Redundant settings*4		△
Interlink transmission parameters		×
Routing parameters	Refer to (c).	△

○: Necessary △: As necessary ×: Not necessary

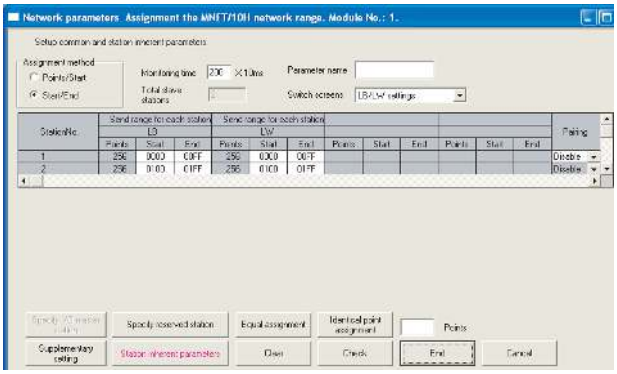
*1 When using Q170MCPU or Q170MSCPU(-S1), set it according to the system configuration.

*2 Specify the same network No. as that of the GOT.

*3 Set the same mode setting as that of the GOT.

*4 Set it when the MELSECNET/H network module is used in the redundant QnPRHCPU system.

(b) Network range assignment



Item				Set value	Setting necessity at GOT connection
Monitoring time				200	△
LB/LW setting*1	Send range for station (LB)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	Send range for station (LW)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	Pairing setting*2			Disable	△
LX/LY setting*1				No setting	△
Specify I/O master station*1				No setting	△
Specify reserved station				No setting	△
Supplementary setting				(Use default value)	△
Station inherent parameters					△

○: Necessary △: As necessary ×: Not necessary

*1 Be sure to set the setting to perform the cyclic transmission.

*2 Set it when the MELSECNET/H network module is used in the redundant QnPRHCPU system.

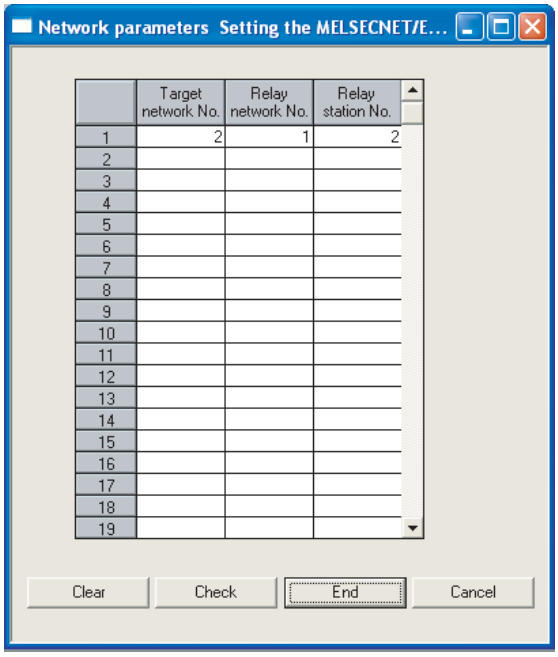
POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(c) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set. However, the same transfer network number cannot be set twice or more (multiple times). Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 64

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.

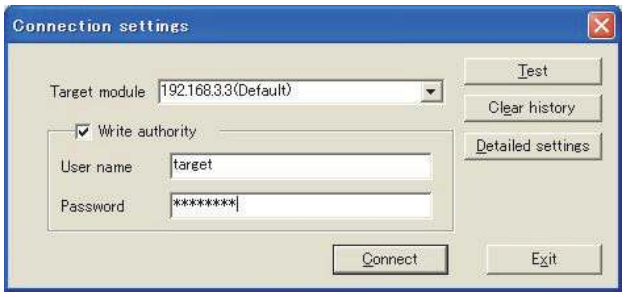
For the setting, refer to the following.

☞ 9.3.3 Routing parameter setting

■ Connecting to C Controller module

Use SW3PVC-CCPU-E Ver.3.05F or later for the MELSECNET/H utility.

(1) Connection settings



Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3 (Default)	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

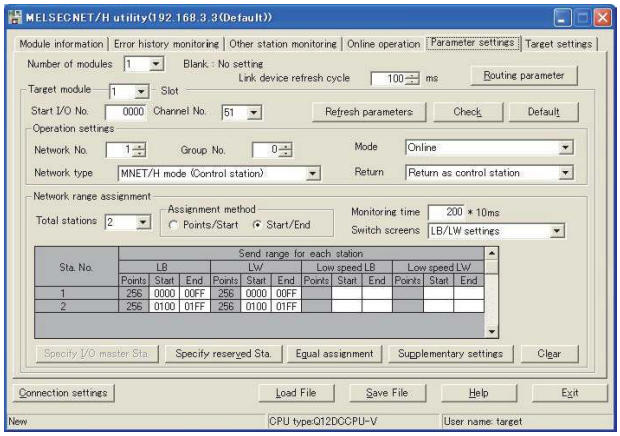
○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

(2) MELSECNET/H Utility's [Parameter Settings]

(a) Parameter settings



Item	Set value	Setting necessity at GOT connection
Number of modules	1	○
Link device refresh cycle	(Use default value)	△
Routing parameter	Refer to (b).	△
Target module	1	○
Start I/O No.	0000H	○
Channel No.	(Use default value)	○

Item				Set value	Setting necessity at GOT connection
Operation settings	Network type			MNET/H mode (Control station)	○
	Network No.*1			1	○
	Group No.			0	○
	Mode*2			Online	○
	Return			(Use default value)	△
Refresh parameters				(Use default value)	△
Network range assignment	Total stations			2	○
	Assignment method			Start/End	○
	LB/LW settings*3	Send range for each station LB	Sta. No.1	Start	0000H	△
				End	00FFH	△
			Sta. No.2	Start	0100H	△
				End	01FFH	△
		Send range for each station LW	Sta. No.1	Start	0000H	△
				End	00FFH	△
			Sta. No.2	Start	0100H	△
				End	01FFH	△
	(LX/LY) settings*3				No setting	△
	Monitoring time				(Use default value)	△
	Specify I/O master Sta.*3				No setting	△
	Specify reserved Sta.				No setting	△
	Supplementary settings				(Use default value)	△

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same network No. as that of the GOT.

*2 Set the same mode setting as that of the GOT.

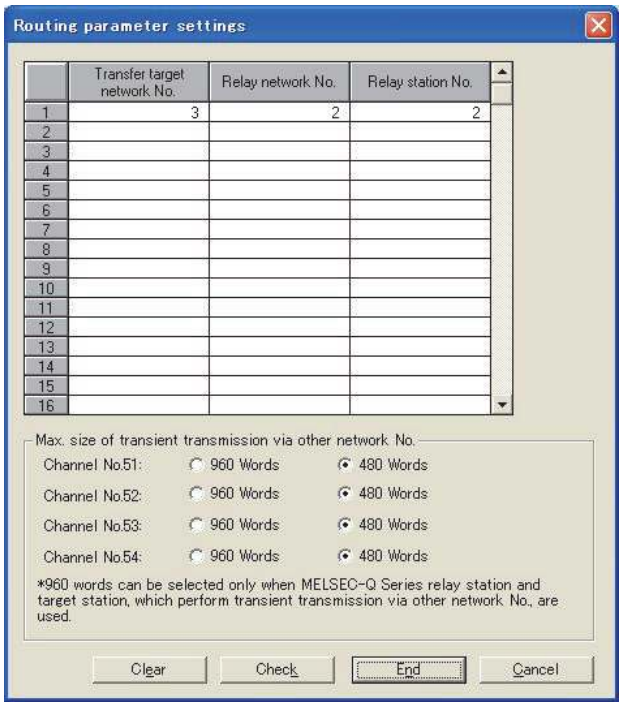
*3 Be sure to set the setting to perform the cyclic transmission.

POINT

When changing the network parameter

After writing the network parameter to the C Controller module, either turn the C Controller module OFF and then ON or reset it.

(b) Routing parameter setting
Up to 64 [Transfer Network No.]s can be set. However, the same transfer network number cannot be set twice or more (multiple times). Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Transfer target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 120

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.
For the setting, refer to the following.

☞ 9.3.3 Routing parameter setting

9.4.4 [Controller Setting] of GT Designer3

Item	Set value
Network Type	MNET/H mode
Network No.	1: Network No.1
Station No.	2: Station No.2
Mode Setting	Online (auto. reconnection)
Retry count	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0sec (Use default value)
Refresh Interval	1time (Use default value)
Monitor Speed	10Mbs

POINT

[Controller Setting] of GT Designer3

For [Controller Setting], of GT Designer3, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

9.5 PLC side setting when connecting to MELSEC/10

Model name		Reference
MELSECNET/H network module	QJ71LP21, QJ71LP21-25, QJ71LP21S-25, QJ71BR11	9.5.1
MELSECNET/10 network module (QnA Series)	AJ71QLP21, AJ71QLP21S, AJ71QBR11, A1SJ71QLP21, A1SJ71QLP21S, A1SJ71QBR11	9.5.2
MELSECNET/10 network module (A Series)	AJ71LP21, AJ71BR11, A1SJ71LP21, A1SJ71BR1	9.5.3

9.5.1 Connecting to MELSECNET/H network module

This section describes the settings of the GOT and MELSECNET/H network module in the following case of system configuration.

When connecting the MELSECNET/H network module to the MELSECNET/10 network system, specify the MELSECNET/10 Mode as a network type.

POINT

MELSECNET/H network module

For details of the MELSECNET/H network module, refer to the following manual.

Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

■ System configuration

■ [Controller Setting] of GT Designer3
■ Setting of the MELSECNET/10 communication unit

<GOT> (Use the default value for settings other than the following.)

Station No. : 2
Mode : Online
Network No. : 1
Network range assignment: LB0100H to LB01FFH
LW0100H to LW01FFH

MELSECNET/10 (PLC to PLC network)

<MELSECNET/H network module> *1
(Use the default value for settings other than the following.)

Station No. : 1
Mode : Online (10Mbps)
Network type : MNET/10 mode (Control station)
Network No. : 1
Total stations : 2
Network range assignment: LB0000H to LB00FFH
LW0000H to LW00FFH

*1 The MELSECNET/H network module is mounted at slot 0 of the base unit.
The start I/O No. of the MELSECNET/H network module is set at "0".

POINT

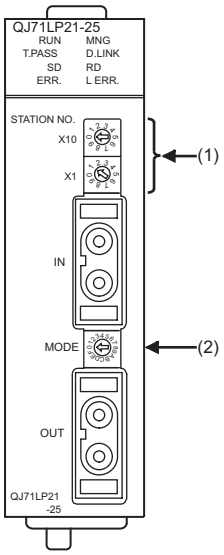
When connecting to Q170MCPU or Q170MSCPU(-S1)

When connected to Q170MCPU or Q170MSCPU(-S1), the start I/O No. of the MELSECNET/H network module is set to "70".

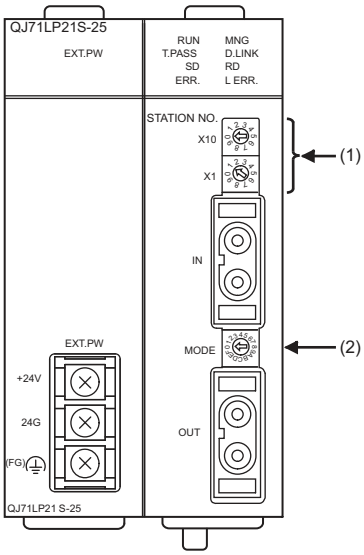
■ Switch setting of MELSECNET/H network module

Set the station number setting switch and mode setting switch.

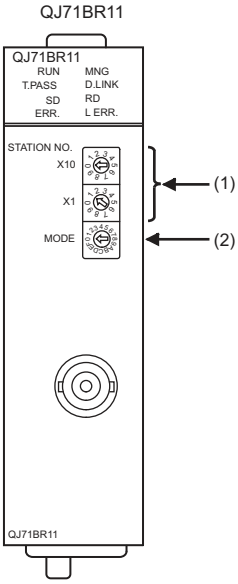
QJ71LP21, QJ71LP21-25



QJ71LP21S-25



QJ71BR11



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
STATION NO. X10 X1	Station number setting (Station No.1)*1	1	○

○: Necessary △: As necessary ×: Not necessary

*1 Do not set the same station No. as that of the GOT.

(2) Mode setting switch

Mode setting switch	Description	Set value	Setting necessity at GOT connection
MODE	Mode setting (Online: 10Mbps)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

POINT

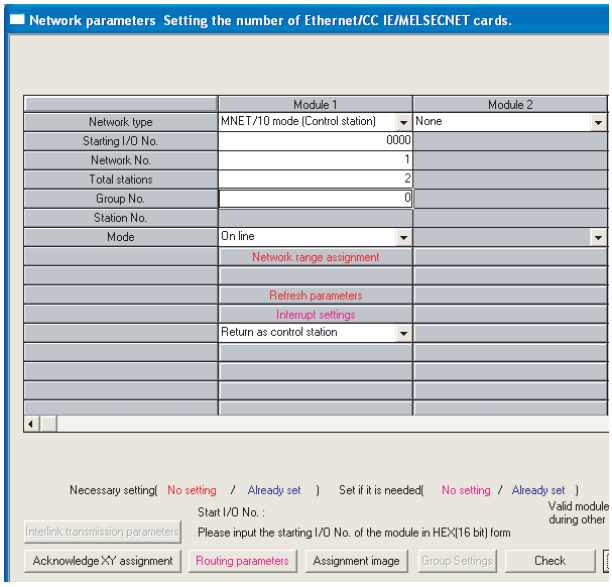
When the switch setting has been changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ Parameter setting (when connecting to MELSEC-Q or QS series)

(1) [Network parameter] of GX Developer

(a) Network parameter



Item	Set value	Setting necessity at GOT connection
Network type	MNET/10 mode (Control station) (fixed)	○
Starting I/O No.*1	0000H	○
Network No.*2	1	○
Total stations	2	○
Group No.	0 (fixed)	○
Mode	Online (fixed)	○
Network range assignment	Refer to (b)	△
Refresh parameters	(Use default value)	△
Interrupt settings		×
Control station return setting		△
Redundant settings*3		△
Interlink transmission parameters		×
Routing parameters	Refer to (c)	△

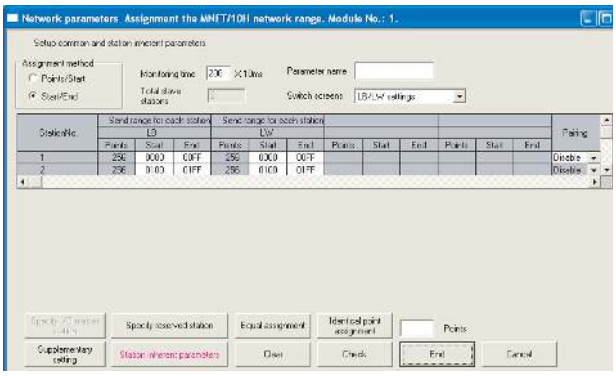
○: Necessary △: As necessary ×: Not necessary

*1 When using Q170MCPU, set it according to the system configuration.

*2 Specify the same network No. as that of the GOT.

*3 Set it when the MELSECNET/H network module is used in the redundant QnPRHCPU system.

(b) Network range assignment



Item				Set value	Setting necessity at GOT connection
Monitoring time				200	△
LB/LW setting*1	Send range for station (LB)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	Send range for station (LW)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	Pairing setting*2			Disable	△
LX/LY setting*1				No setting	△
Specify I/O master station*1				No setting	△
Specify reserved station				No setting	△
Supplementary setting				(Use default value)	△
Station inherent parameters					△

○: Necessary △: As necessary ×: Not necessary

*1 Be sure to set it to perform the cyclic transmission.

*2 Set it when the MELSECNET/H network module is used in the redundant QnPRHCPU system.

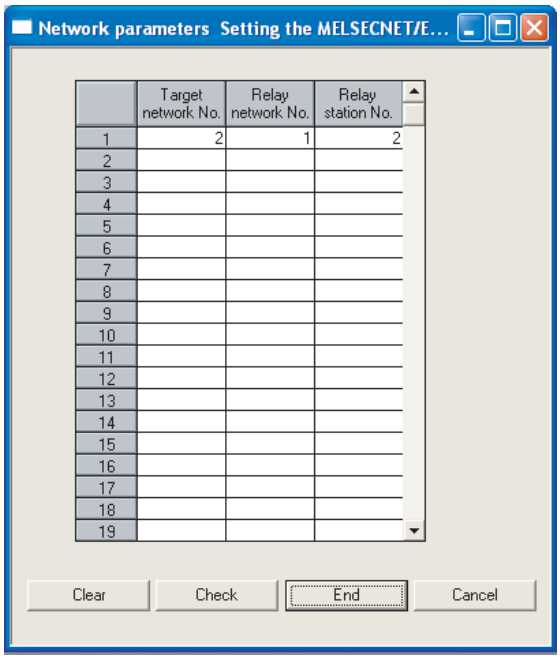
POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(c) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set. However, the same transfer network number cannot be set twice or more (multiple times). Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 64

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.

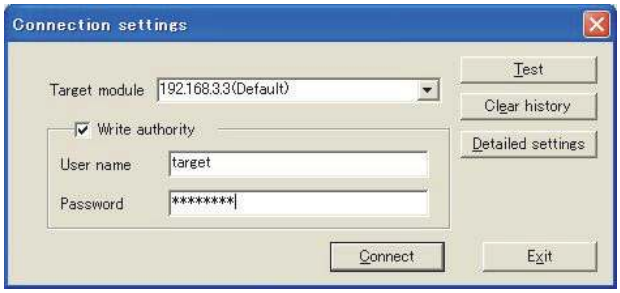
For the setting, refer to the following.

☞ 9.3.3 Routing parameter setting

■ Parameter setting (when connecting to C Controller module)

Use SW3PVC-CCPU-E Ver.3.05F or later for the MELSECNET/H utility.

(1) Connection settings



Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3 (Default)	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

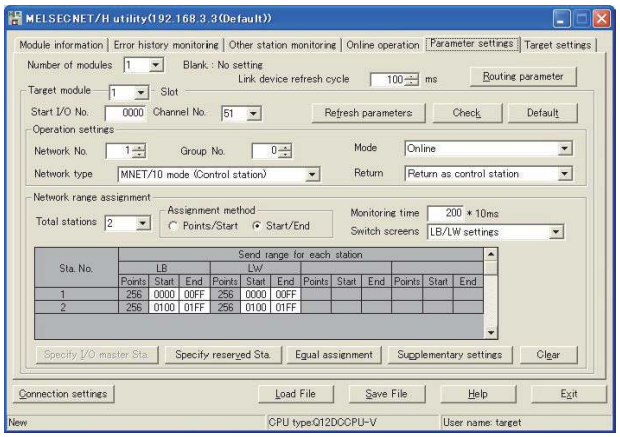
○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

(2) MELSECNET/H Utility's [Parameter Settings]

(a) Parameter settings



Item	Set value	Setting necessity at GOT connection
Number of modules	1	○
Link device refresh cycle	(Use default value)	△
Routing parameter	Refer to (b).	△
Target module	1	○
Start I/O No.	0000H	○
Channel No.	(Use default value)	○

Item				Set value	Setting necessity at GOT connection
Operation settings	Network type			MNET/10 mode (Control station)	○
	Network No.*1			1	○
	Group No.			0	○
	Mode			Online	○
	Return			(Use default value)	△
Refresh parameters				(Use default value)	△
Network range assignment	Total stations			2	○
	Assignment method			Start/End	○
	LB/LW settings*2	Send range for each station LB	Sta. No.1 Start	0000H	△
			Sta. No.1 End	00FFH	△
			Sta. No.2 Start	0100H	△
			Sta. No.2 End	01FFH	△
		Send range for each station LW	Sta. No.1 Start	0000H	△
			Sta. No.1 End	00FFH	△
			Sta. No.2 Start	0100H	△
			Sta. No.2 End	01FFH	△
	(LX/LY) settings*2			No setting	△
	Monitoring time			(Use default value)	△
	Specify I/O master Sta.*2			No setting	△
	Specify reserved Sta.			No setting	△
	Supplementary settings			(Use default value)	△

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same network No. as that of the GOT.

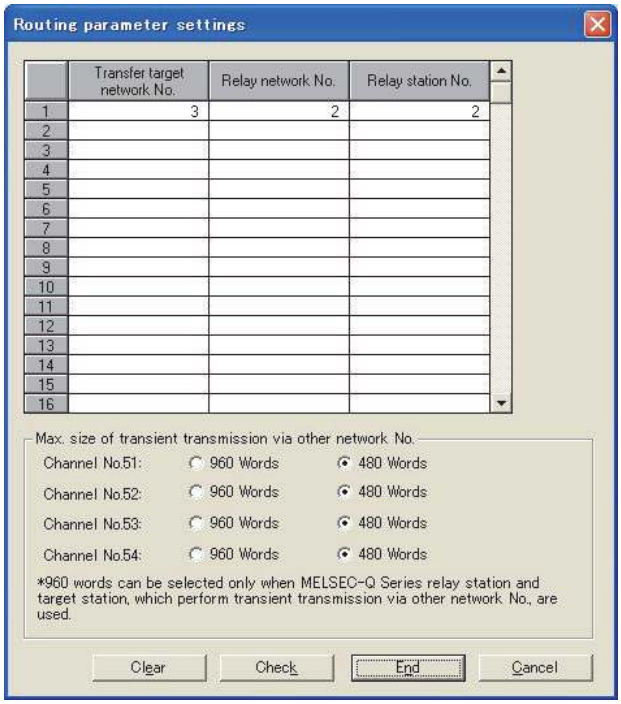
*2 Be sure to set the setting to perform the cyclic transmission.

POINT

When changing the network parameter

After writing the network parameter to the C Controller module, either turn the C Controller module OFF and then ON or reset it.

(b) Routing parameter setting
Up to 64 [Transfer Network No.]s can be set. However, the same transfer network number cannot be set twice or more (multiple times). Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Transfer target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 120

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.
For the setting, refer to the following.

☞ 9.3.3 Routing parameter setting

■ [Controller Setting] of GT Designer3

Item	Set value (Use default)
Retry	3times
Timeout Time	3sec

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

■ Setting of the MELSECNET/10 communication unit

Item	Set value
Network number setting switch	1: Network No.1
Group number setting switch	0: No group setting (fixed)
Station number setting switch	2: Station No.2
Mode setting switch	0: Online (fixed)

POINT

Setting of the MELSECNET/10 communication unit

For the setting method of the MELSECNET/10 communication unit, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

9.5.2 Connecting to MELSECNET/10 network module (QnA Series)

This section describes the settings of the GOT and MELSECNET/10 network module (QnA series) in the following case of system configuration.

In this section, the network parameter (common parameter) of GX Developer is taken as an example to provide explanations.

POINT

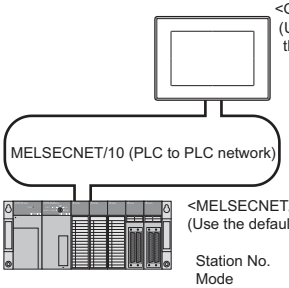
MELSECNET/10 network module (QnA Series)

For details of the MELSECNET/10 network module (QnA Series), refer to the following manual.

☞ For QnA/Q4AR MELSECNET/10 Network System Reference Manual

■ System configuration

☞ ■ [Controller Setting] of GT Designer3
■ Setting of the MELSECNET/10 communication unit



<GOT>
(Use the default value for settings other than the following.)

Station No. : 2
Mode : Online
Network No. : 1
Network range assignment: B0100H to B01FFH
W0100H to W01FFH

<MELSECNET/10 network module> *1
(Use the default value for settings other than the following.)

Station No. : 1
Mode : Online
Network type : MNET/10 (Control station)
Network No. : 1
Total stations : 2
Network range assignment: B0000H to B00FFH
W0000H to W00FFH

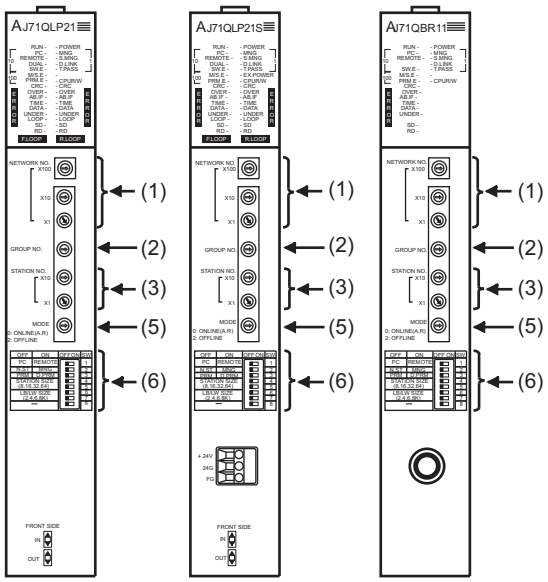
☞ ■ Switch setting of MELSECNET/10 network module
■ [Network parameter] of GX Developer

*1 The MELSECNET/10 network module is mounted at slot 0 of the base unit.
The start I/O No. of the MELSECNET/10 network module is set at "0".

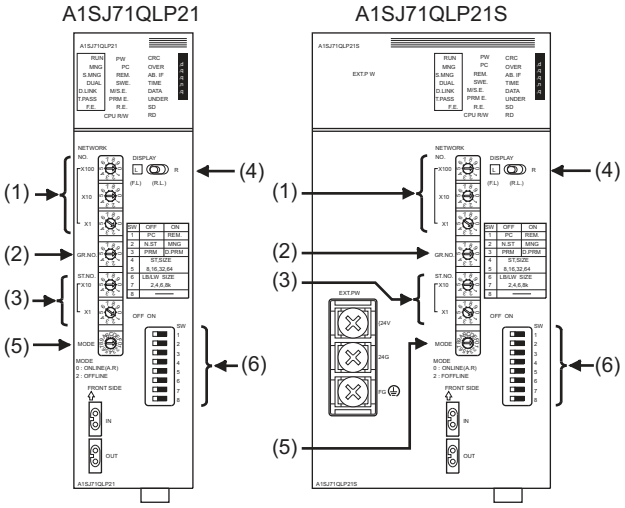
■ Switch setting of MELSECNET/10 network module

Set for each setting switch.

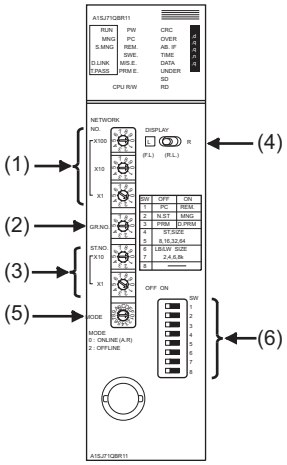
AJ71QLP21 AJ71QLP21S AJ71QBR11



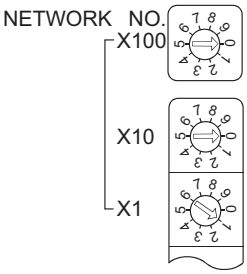
A1SJ71QLP21 A1SJ71QLP21S



A1SJ71QBR11



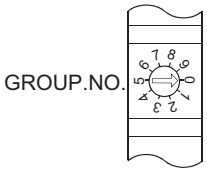
(1) Network number setting switch

Network number setting switch	Description	Set value	Setting necessity at GOT connection
	Network No. setting (Network No.1)*1	1	○

○: Necessary △: As necessary ×: Not necessary

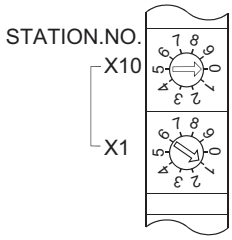
*1 Specify the same network No. as that of the GOT.

(2) Group number setting switch

Group number setting switch	Description	Set value	Setting necessity at GOT connection
	Group No. setting (No group setting)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

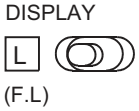
(3) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
	Station number setting (Station No.1)*2	1	○

○: Necessary △: As necessary ×: Not necessary

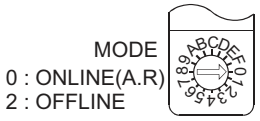
*2 Do not set the same station No. as that of the GOT.

(4) LED indication select switch

LED indication select switch	Description	Set value	Setting necessity at GOT connection
	LED indication select	L (F.L.)	△

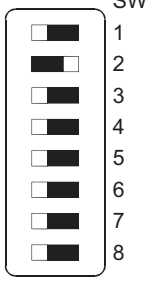
○: Necessary △: As necessary ×: Not necessary

(5) Mode setting switch

Mode setting switch	Description	Set value	Setting necessity at GOT connection
	Mode setting (Online)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(6) Condition setting switches

Condition setting switches	Setting switch	Description	Set value	Setting necessity at GOT connection
	SW1	Network type (PLC to PLC net-work (PC))	OFF (fixed)	○
	SW2	Station type (Control station (MNG))	ON (fixed)	○
	SW3	Parameter for using*1 (common parameter (PRM))	OFF (fixed)	○
	SW4	No. of stations*1	OFF (fixed)	×
	SW5			
	SW6	B/W Total BW points*1	OFF (fixed)	×
	SW7			
	SW8	Not used	OFF (fixed)	×

○: Necessary △: As necessary ×: Not necessary

*1 The MELSECNET/10 network module can be communicated by default parameters.
For details, refer to the following manual.

For QnA/Q4AR MELSECNET/10 Network System Reference Manual

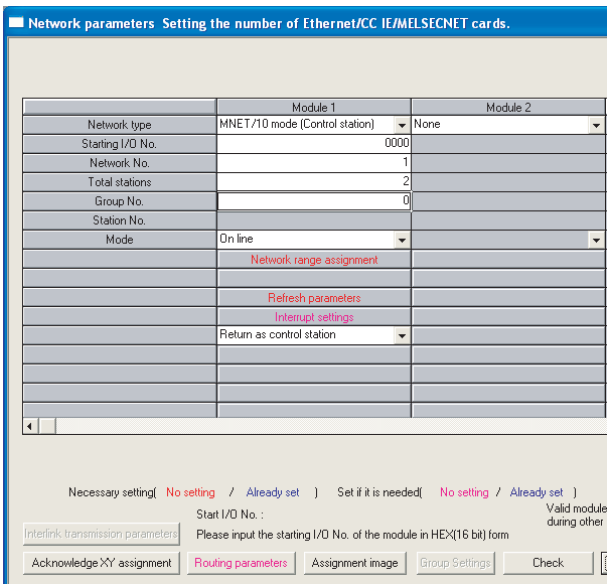
POINT

When the switch setting (other than the LED indication select switch) is changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ [Network parameter] of GX Developer

(1) Network parameter

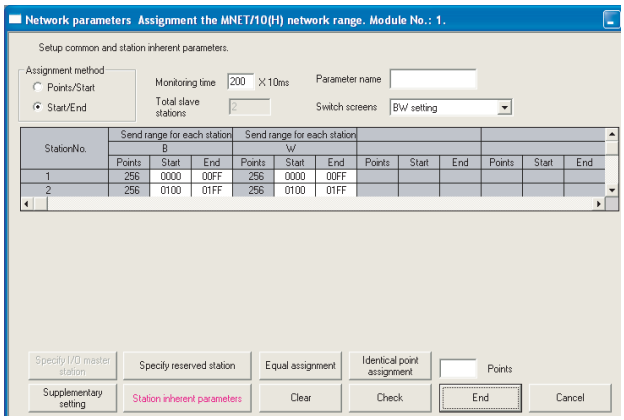


Item	Set value	Setting necessity at GOT connection
Network type	MNET/10 (Control station) (fixed)	○
Start I/O No.	0000H	○
Network No.*1	1	○
Total stations	2	○
Network range assignment	Refer to (2)	△
Refresh parameters	(Use default value)	△
Interlink transmission parameters		×
Routing parameters	Refer to (3)	△

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same network No. as that of the network number setting switch of the MELSECNET/10 network module.

(2) Network range assignment



Item				Set value	Setting necessity at GOT connection
Monitoring time				200	△
BW setting*1	Send range for each station (LB)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	Send range for each station (LW)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
XY setting*1				No setting	△
Specify I/O master station*1				No setting	△
Specify reserved station				No setting	△
Supplementary setting				(Use default value)	△
Station inherent parameters					△

○: Necessary △: As necessary ×: Not necessary

*1 Be sure to set it to perform the cyclic transmission.

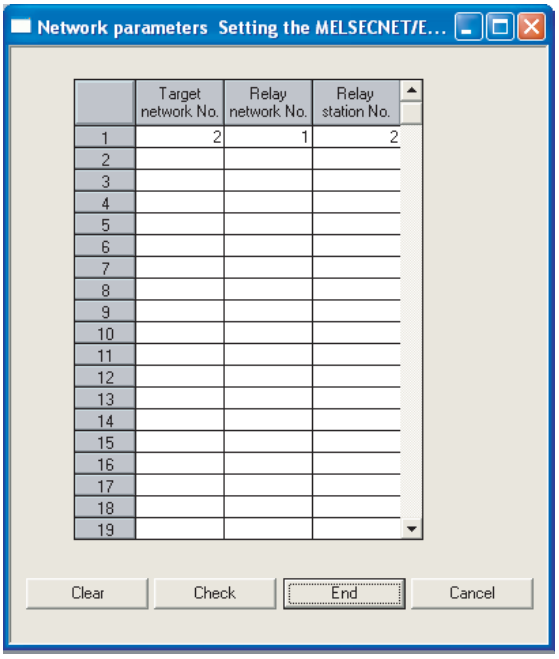
POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(3) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.
However, the same transfer network number cannot be set twice or more (multiple times).
Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 64

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.
For the setting, refer to the following.

☞ 9.3.3 Routing parameter setting

■ [Controller Setting] of GT Designer3

Item	Set value (Use default)
Retry	3times
Timeout Time	3sec

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

■ Setting of the MELSECNET/10 communication unit

Item	Set value
Network number setting switch	1: Network No.1
Group number setting switch	0: No group setting (fixed)
Station number setting switch	2: Station No.2
Mode setting switch	0: Online (fixed)

POINT

Setting of the MELSECNET/10 communication unit

For the setting method of the MELSECNET/10 communication unit, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

9.5.3 Connecting to MELSECNET/10 network module (A Series)

This section describes the settings of the GOT and MELSECNET/10 network module (A Series) in the following case of system configuration.

In this section, the network parameter (common parameter) of GX Developer is taken as an example to provide explanations.

POINT

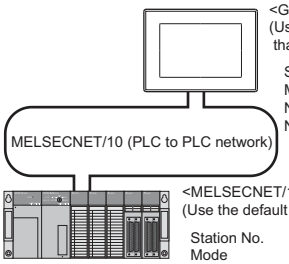
MELSECNET/10 network module (A Series)

For details of the MELSECNET/10 network module (A Series), refer to the following manual.

Type MELSECNET/10 Network system (PLC to PLC network) Reference Manual

■ System configuration

■ [Controller Setting] of GT Designer3
■ Setting of the MELSECNET/10 communication unit



<GOT>
(Use the default value for settings other than the following.)

Station No. : 2
Mode : Online
Network No. : 1
Network range assignment: LB0100H to LB01FFH
LW0100H to LW01FFH

<MELSECNET/10 network module> *1
(Use the default value for settings other than the following.)

Station No. : 1
Mode : Online
Network type : MNET/10 (Control station)
Network No. : 1
Total stations : 2
Network range assignment: LB0000H to LB00FFH
LW0000H to LW00FFH

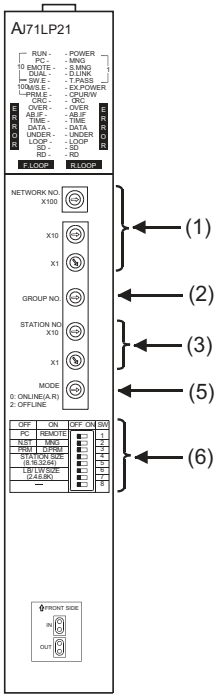
■ Switch setting of MELSECNET/10 network module
■ [Network parameter] of GX Developer

*1 The MELSECNET/10 network module is mounted at slot 0 of the base unit.
The start I/O No. of the MELSECNET/10 network module is set at "0".

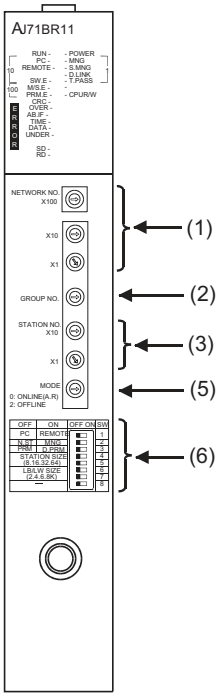
■ Switch setting of MELSECNET/10 network module

Set for each setting switch.

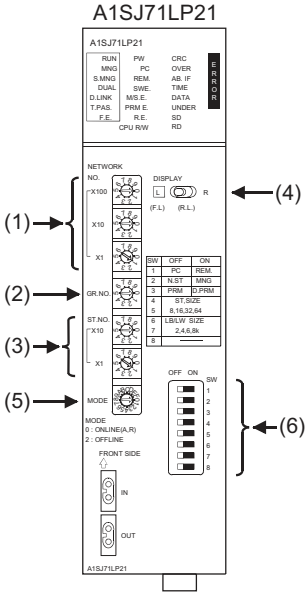
AJ71LP21



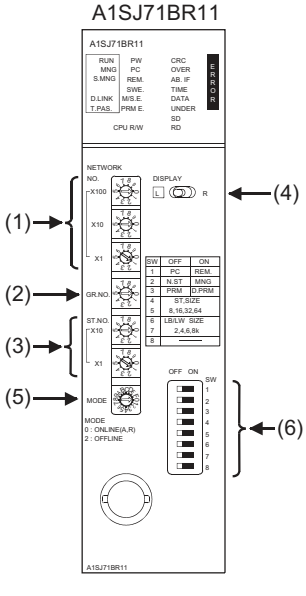
AJ71BR11



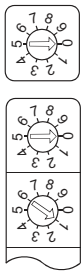
A1SJ71LP21



A1SJ71BR11



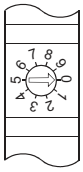
(1) Network number setting switch

Network number setting switch	Description	Set value	Setting necessity at GOT connection
NETWORK NO. X100 X10 X1 	Network No. setting (Network No.1)*1*2	1	○

○: Necessary △: As necessary ×: Not necessary

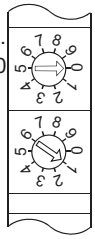
*1 Specify the same network No. as that of the GOT.
*2 Do not specify a number between 240 and 255.

(2) Group number setting switch

Group number setting switch	Description	Set value	Setting necessity at GOT connection
GROUP.NO. 	Group No. setting (No group setting)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(3) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
STATION.NO. X10 X1 	Station number setting (Station No.1)*3	1	○

○: Necessary △: As necessary ×: Not necessary

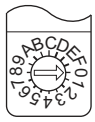
*3 Do not set the same station No. as that of the GOT.

(4) LED indication select switch

LED indication select switch	Description	Set value	Setting necessity at GOT connection
DISPLAY L  R (F.L) (R.L.)	LED indication select	L (F.L.)	△

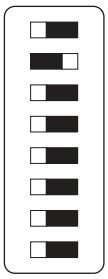
○: Necessary △: As necessary ×: Not necessary

(5) Mode setting switch

Mode setting switch	Description	Set value	Setting necessity at GOT connection
MODE 0:ONLINE(A.R) 2:OFFLINE 	Mode setting (Online)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(6) Condition setting switches

Condition setting switches	Setting switch	Description	Set value	Setting necessity at GOT connection
OFF ON SW 1 2 3 4 5 6 7 8 	SW1	Network type (PLC to PLC net-work (PC))	OFF (fixed)	○
	SW2	Station type (Control station (MNG))	ON (fixed)	○
	SW3	Parameter for using*1 (common parameter (PRM))	OFF (fixed)	○
	SW4 SW5	No. of stations*1	OFF (fixed)	×
	SW6 SW7	Total B/W points*1	OFF (fixed)	×
	SW8	Not used	OFF (fixed)	×

○: Necessary △: As necessary ×: Not necessary

*1 The MELSECNET/10 network module can be communicated by default parameters.
For details, refer to the following manual.

Type MELSECNET/10 Network system (PLC to PLC network) Reference Manual

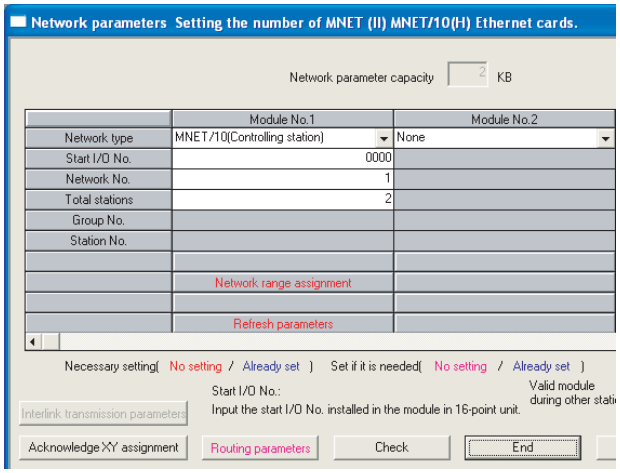
POINT

When the switch setting (other than the LED indication select switch) is changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ [Network parameter] of GX Developer

(1) Network parameter

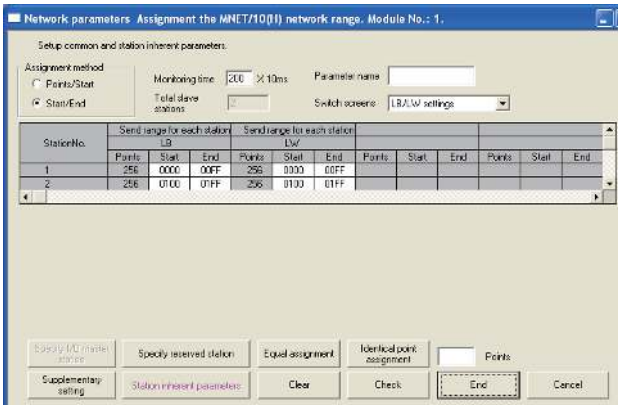


Item	Set value	Setting necessity at GOT connection
Network type	MNET/10 (Control station) (fixed)	○
Start I/O No.	0000H	○
Network No.*1	1	○
Total stations	2	○
Network range assignment	Refer to (2)	△
Refresh parameters	(Use default value)	△
Interlink transmission parameters		×
Routing parameters	Refer to (3)	△

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same network No. as that of the network number setting switch of the MELSECNET/10 network module.

(2) Network range assignment



Item				Set value	Setting necessity at GOT connection
Monitoring time				200	△
LB/LW setting*1	Send range for each station (LB)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	Send range for each station (LW)	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
LX/LY setting*1				No setting	△
Specify I/O master station*1				No setting	△
Specify reserved station				No setting	△
Supplementary setting				(Use default value)	△
Station inherent parameters					△

○: Necessary △: As necessary ×: Not necessary

*1 Be sure to set it to perform the cyclic transmission.

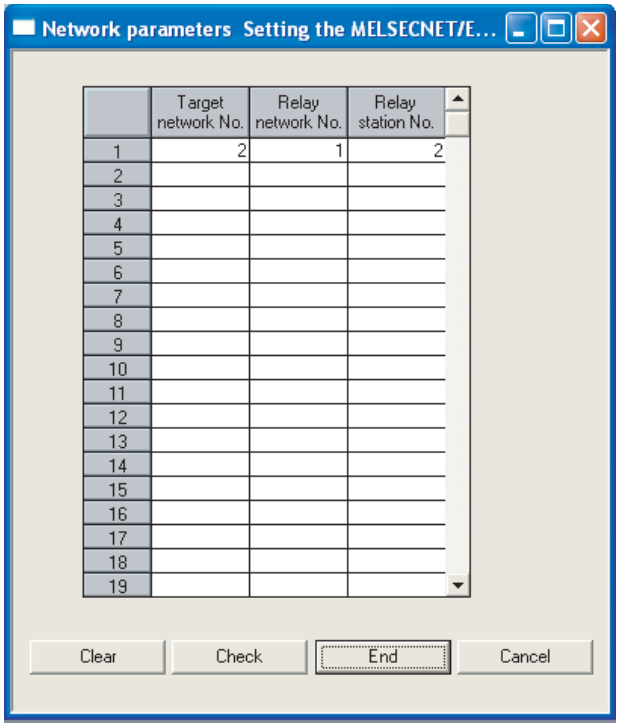
POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(3) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.
However, the same transfer network number cannot be set twice or more (multiple times).
Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 64

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.
For the setting, refer to the following.

☞ 9.3.3 Routing parameter setting

■ [Controller Setting] of GT Designer3

Item	Set value (Use default)
Retry	3times
Timeout Time	3sec

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

■ Setting of the MELSECNET/10 communication unit

Item	Set value
Network number setting switch	1: Network No.1
Group number setting switch	0: No group setting (fixed)
Station number setting switch	2: Station No.2
Mode setting switch	0: Online (fixed)

POINT

Setting of the MELSECNET/10 communication unit

For the setting method of the MELSECNET/10 communication unit, refer to the following.

☞ 9.3.1 Setting communication interface (Communication settings)

9.6 Precautions

Network configuration

Use MELSECNET/H connection (PLC to PLC network), MELSECNET/H connection (PLC to PLC network) in the MNET/10 mode, or MELSECNET/10 connection (PLC to PLC network) to configure a network including the GOT.

The following networks including the GOT cannot be configured.

- MELSECNET/H (Remote I/O network)
- MELSECNET/10 (Remote I/O network)

Network type setting

- Specify all the network modules on the same network as the same network type. (MELSECNET/H Mode and MELSECNET/H Extended Mode cannot be mixed.)
- When connecting to MELSECNET/H in the QCPU redundant system, [MELSECNET/H Extended Mode] cannot be specified as the network type.

Monitoring range

Only PLC CPU of the same networks No. can be monitored in GOT.

For details, refer to the following manual.

GT Designer3 (GOT2000) Help

GOT startup in the MELSECNET/H or MELSECNET/10 connection

In the MELSECNET/H or MELSECNET/10 connection, the data link is started approximately 10 seconds after the GOT startup.

When a network error occurs in the system alarm

In the MELSECNET/H or MELSECNET/10 connection, when a network error occurs in the system alarm, the system alarm message cannot be canceled even though the causes are removed.

To cancel the system alarm display, restart the GOT.

MELSECNET/H network module version

For version restrictions of the MELSECNET/H network module, refer to the following manual.

Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

Connection in the multiple CPU system

When the GOT is connected to multiple CPU system, the following time is taken until when the PLC runs.

QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more

MELDAS C70: 18 seconds or more

When the GOT starts before the PLC runs, a system alarm occurs.Adjust the opening screen time in the GOT setup so that no system alarm occurs.

GT Designer3 (GOT2000) Help

Connection to QCPU (Q mode)

Use function version B or later of the MELSECNET/H network module and QCPU (Q mode).

Connection to Q17nDCPU, Q170MCPU, Q170MSCPU(-S1), CNC C70, or CRnQ-700

The Q17nDCPU, Q170MCPU, Q170MSCPU(-S1), CNC C70, and CRnQ-700 are applicable to the MELSECNET/H connection (PLC to PLC network) only. For connecting the GOT to the MELSECNET/10 network system (PLC to PLC network), set the MELSECNET/H network system (PLC to PLC network) to the MELSECNET/10 mode.

Connection to QSCPU

The GOT can only read device data and sequence programs by the ladder monitor function in the QSCPU.

The GOT cannot write any data to the QSCPU.

■ Connection to Q170MCPU or Q170MSCPU(-S1)

Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

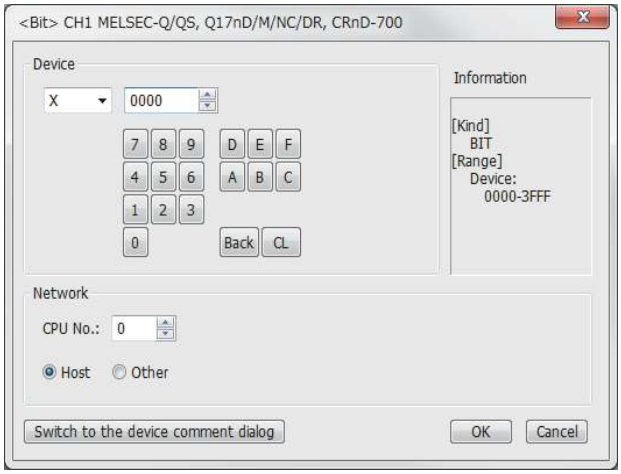
When the CPU No. is set to "0" or "1", the device on the PLC CPU area (CPU No.1) is monitored.

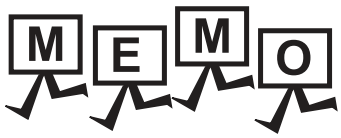
When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device




MEMO

10

CC-Link IE CONTROLLER NETWORK CONNECTION

10. CC-Link IE CONTROLLER NETWORK CONNECTION

10.1 Connectable Model List

10.1.1 PLC/Motion controller CPU

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU	○	CC-Link IE	GT27 GT23 GS	10.2
	Q00CPU*1				
	Q01CPU*1				
	Q02CPU*1				
	Q02HCPU*1				
	Q06HCPU*1				
	Q12HCPU*1				
	Q25HCPU*1				
	Q02PHCPU				
	Q06PHCPU				
	Q12PHCPU				
	Q25PHCPU				
	Q12PRHCPU (Main base)				
	Q25PRHCPU (Main base)				
	Q12PRHCPU (Extension base)	○	-	GT27 GT23 GS	-
	Q25PRHCPU (Extension base)				
	Q00UJCPU	○	CC-Link IE	GT27 GT23 GS	10.2
	Q00UCPU				
	Q01UCPU				
	Q02UCPU				
	Q03UDCPU				
	Q04UDHCPU				
	Q06UDHCPU				
	Q10UDHCPU				
	Q13UDHCPU				
	Q20UDHCPU				
	Q26UDHCPU				
	Q03UDECPU				
	Q04UDEHCPU				
	Q06UDEHCPU				
	Q10UDEHCPU				
	Q13UDEHCPU				
	Q20UDEHCPU				
	Q26UDEHCPU				

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q50UDEHCPU Q100UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	○	CC-Link IE	GT27 GT23 GS	10.2
C Controller module	Q12DCCPU-V*1 Q24DHCCPU-V Q24DHCCPU-LS	○	CC-Link IE	GT27 GT23 GS	10.2
MELSEC-QS	QS001CPU	○	CC-Link IE	GT27 GT23 GS	10.2
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P	○	-	GT27 GT23 GS	-
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	-	GT27 GT23 GS	-
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	○	-	GT27 GT23 GS	-
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	-	GT27 GT23 GS	-
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU A2NCPUP21	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 Use a module with the upper five digits later than 12042.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A (AnCPU)	A2NCPUP21	○	-	GT27 GT23 GS	
	A2NCPUR21				
	A2NCPU-S1				
	A2NCPUP21-S1				
	A2NCPUR21-S1				
	A3NCPU				
	A3NCPUP21				
	A3NCPUR21				
MELSEC-A (AnSCPU)	A2USCPU	○	-	GT27 GT23 GS	-
	A2USCPU-S1				
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU				
	A2SCPU-S1				
	A2SHCPU				
	A2SHCPU-S1				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A	A0J2HCPU	×	-	GT27 GT23 GS	-
	A0J2HCPUP21				
	A0J2HCPUR21				
	A0J2HCPU-DC24				
	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				

Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (Q Series)	Q172CPU	○	-	GT27 GT23 GS	-
	Q173CPU				
	Q172CPUN				
	Q173CPUN				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU	○	CC-Link IE	GT27 GT23 GS	10.2
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*1				
	Q170MSCPU*2				
	Q170MSCPU-S1*2				
	MR-MQ100	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 Only the first step can be used on the extension base unit (Q52B/Q55B).

*2 The extension base unit (Q5□B/Q6□B) can be used.

Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	-	GT27 GT23 GS	-
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU				
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	×	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	-	GT27 GT23 GS	-
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	GT27 GT23 GS	-
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	GT27 GT23 GS	-
CNC C70	Q173NCCPU	○	CC-Link IE	GT27 GT23 GS	10.2
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	CC-Link IE	GT27 GT23 GS	10.2
MELSEC-FX	FX_0	×	-	GT27 GT23 GS	-
	FX_{0S}				
	FX_{0N}				
	FX_1				
	FX_2	×			
	FX_{2C}				
	FX_{1S}	○			
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	×			
	FX_{3S}	○			
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

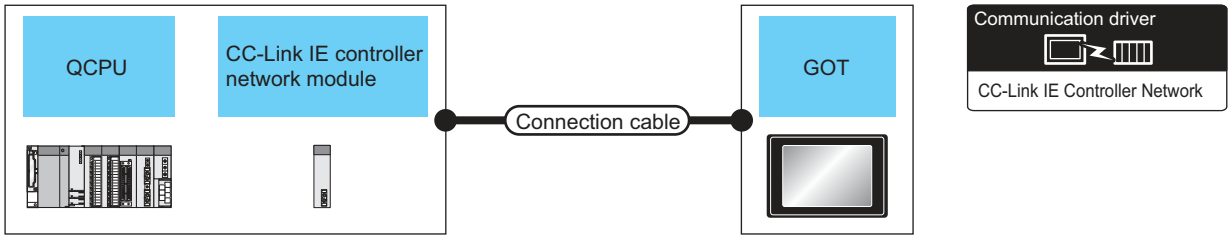
10.1.2 CC-Link IE Controller Network communication unit

CPU series	CC-Link IE Controller Network communication unit*1
MELSEC-Q (Q mode) C Controller module MELSEC-QS Motion controller CPU (Q Series) CNC C70 Robot controller (CRnQ-700)	 QJ71GP21-SX QJ71GP21S-SX

*1 When the CC-Link IE Controller Network is in the extended mode, use a unit with the upper five digits of the serial No. 12052 or later.

10.2 System Configuration

10.2.1 Connecting to optical loop system



PLC			Connection cable		GOT		Number of connectable equipment
Model name*5	CC-Link IE controller network communication unit*1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q C Controller module MELSEC-QS	QJ71GP21-SX QJ71GP21S-SX	CC-Link IE	Optical fiber cable *2	*3	GT15-J71GP23-SX*6	GT27 GT23 GS	119 GOTs*4

*1 When the CC-Link IE Controller Network is in the extended mode, use a unit with the upper five digits of the serial No. 12052 or later.
For the system configuration on the CC-Link IE Controller Network module side, refer to the following manual.
CC-Link IE Controller Network Reference Manual

*2 For the optical fiber cable, refer to the following manual.
CC-Link IE Controller Network Reference Manual

*3 The overall extension cable length and the length between stations vary depending on the cable type to be used and the total number of stations.
For details, refer to the following manual.
CC-Link IE Controller Network Reference Manual

*4 When Universal model QCPUs is a control station, up to 119 GOTs can be connected.
When a QCPU other than Universal model QCPU is the control station, the number of connectable GOTs is 63 units (at most).
Basic model QCPU and the QSCPU cannot be used as the control station.

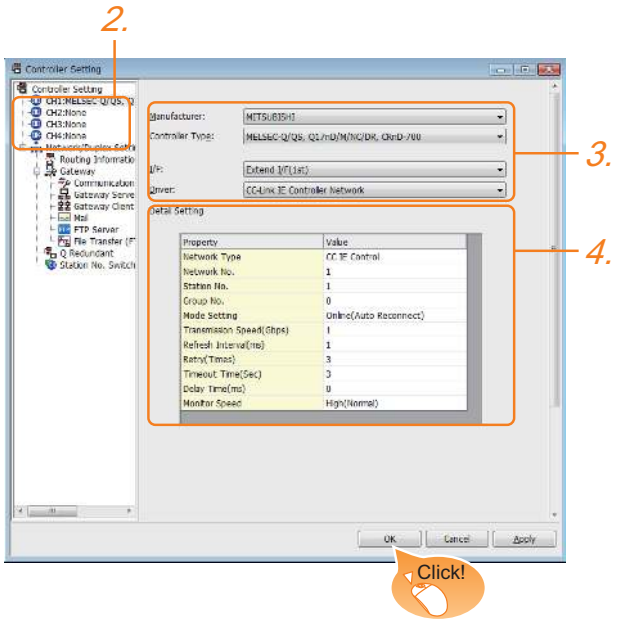
*5 When the CC-Link IE Controller Network is in the extended mode, only MELSEC-Q series Universal model QCPU can be used.

*6 When the CC-Link IE Controller Network is in the extended mode, use a module with the serial No. 02910908******* or later.

10.3 GOT side settings

10.3.1 Setting communication interface (Communication settings)

Set the channel of connecting equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: CC-Link IE Controller Network
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   10.3.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

10.3.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
Network Type	CC IE Control
Network No.	1
Station No.	1
Group No.	0
Mode Setting	Online(Auto Reconnect)
Transmission Speed(Gbps)	1
Refresh Interval(ms)	1
Retry(Times)	3
Timeout Time(Sec)	3
Delay Time(ms)	0
Monitor Speed	High(Normal)

Item	Description	Range
Network Type*4	Set the network Type (Default: CC IE Control)	• CC IE Control • CC IE Control extended mode
Network No.	Set the network No. (Default: 1)	1 to 239
Station No.	Set the station No. of the GOT. (Default: 1)	1 to 120
Group No.	-	0 (fixed)
Mode Setting	Set the operation mode of the GOT. (Default: Online (auto. reconnection))	• Online (auto. reconnection) • Offline • Test station*1 • Self-loopback test*1 • Internal self-loopback test*1 • Line test*1 • H/W test*1
Transmission Speed	-	1 Gbps (fixed)
Refresh Interval	Set the number of refreshes to secure the send/receive data in station units during communication. (Default: 1ms) Valid when [Block data assurance per station is available.] is checked by the control station side network parameters of the CC-Link IE Controller Network.	1 to 1000ms
Retry	Set the number of retries to be performed when a communication timeout occurs. When no response is received after retries, a communication times out. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 300ms

Item	Description	Range
Monitor Speed	Set the monitor speed for the CC-Link IE controller network. This setting is not valid in all systems. (Default: High)	High(Norton)*2/ Middle/Low*3

*1 For details, refer to the following manual.

CC-Link IE Controller Network Reference Manual

*2 This range is effective when collecting a large amount of data (such as logging and recipe function) on other than the monitor screen.
However, the range may affect the sequence scan time when connecting to Q00UJ/Q00U/Q01U/Q02UCPU or Q00J/Q00/Q01CPU.
If you want to avoid the influence on the sequence scan time, do not set [High(Normal)].
(This setting hardly affects QCPUs other than the above.)

*3 Set this item if you want to avoid the influence on the sequence scan time further than the [Middle] setting when connecting to Q00UJ/Q00U/Q01U/Q02UCPU or Q00J/Q00/Q01CPU.
However, the monitor speed may be reduced.

*4 When the CC-Link IE Controller Network is in the extended mode, set to [CC IE Control extended mode]. The extended mode can be used in GT Designer3 version 1.22Y or later.

POINT

(1) Switch setting example
For the switch setting example, refer to the following.

10.4 PLC Side Setting

(2) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

GOT2000 Series User's Manual (Utility)

(3) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

(4) Network type
Be sure to set the same network types for the CPU side and the GOT side. If the net work types of the CPU side and the GOT side are different, an error is displayed in the system alarm of the GOT side.

10.3.3 Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.

However, the same transfer network number cannot be set twice or more (multiple times).

Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.

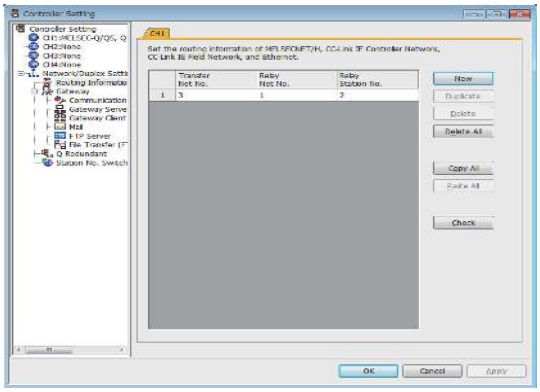
POINT

Routing parameter setting

When communicating within the host network, routing parameter setting is unnecessary.

For details of routing parameters, refer to the following manual.

CC-Link IE Controller Network Reference Manual



Item		Range
Transfer Network No.		1 to 239
Relay Network No.		1 to 239
Relay Station No.	Universal model QCPU	1 to 120
	QCPU other than Universal model QCPU*1	1 to 64

*1 Basic model QCPU and the QSCPU are not included.

POINT

(1) Routing parameter setting of relay station
Routing parameter setting is also necessary for the relay station.
For the setting, refer to the following.

10.4 PLC Side Setting

(2) Parameter reflection function of MELSOFT Navigator

(a) The color of the cells for the items which are reflected to GT Designer3 from MELSOFT Navigator changes to green. Set items, which are displayed in green cells, from the MELSOFT Navigator.

(b) When the settings of Transfer network No., Relay network No. or Relay station No. are reflected to the parameter from the MELSOFT Navigator, those settings are added. Items set in advance are not deleted.However, if the target network No. overlaps, the item set in advance is overwritten.

(c) The routing information is used manually by the user when the data is created. Therefore, after changing the network configuration by MELSOFT Navigator, create a routing information again. For details of the creation of the routing information, refer to the MELSOFT Navigator help.

10.4 PLC Side Setting

This section describes the settings of the GOT and CC-Link IE controller network module in the following case of system configuration.

POINT

CC-Link IE Controller Network module

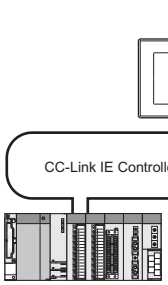
For details of the CC-Link IE Controller Network module, refer to the following manual.

☞ CC-Link IE Controller Network Reference Manual

■ System configuration1

(Network Type: CC IE Control)

☞ ■ GT Designer3 [Communication settings] of System configuration1 (Network Type: CC IE Control)



<GOT>
(Use the default value for settings other than the following.)

Network type : CC IE Control
Network No. : 1
Station No. : 2
Made Setting : Online (auto,reconnection)
Network range assignment : LB0100H to LB01FFH
LW00100H to LW001FFH
Monitor Speed : High

<CC-Link IE Controller Network module> *1
(Use the default value for settings other than the following.)

Station No. : 1
Mode : Online
Network type : CC IE Control (Control station)
Network No. : 1
Total stations : 2
Network range assignment : LB0000H to LB00FFH
LW00000H to LW000FFH

☞ ■ [Network parameter] of GX Developer

*1 The CC-Link IE Controller Network module is mounted on slot 0 of the base unit.
The start I/O No. of the CC-Link IE Controller Network module is set at [0].

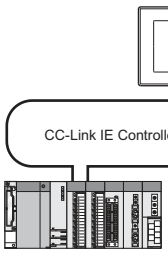
POINT

When connecting to Q170MCPU or Q170MSCPU(-S1)

When connected to Q170MCPU or Q170MSCPU(-S1), the start I/O No. of the CC-Link IE Controller Network module is set to "70".

■ System configuration2

(Network Type: CC IE Control extended mode)



<GOT>
(Use the default value for settings other than the following.)

Network type : CC IE Control extended mode
Network No. : 1
Station No. : 2
Made Setting : Online (auto,reconnection)
Network range assignment : LB0100H to LB01FFH
LW00100H to LW001FFH
Monitor Speed : High

<CC-Link IE Controller Network module> *1
(Use the default value for settings other than the following.)

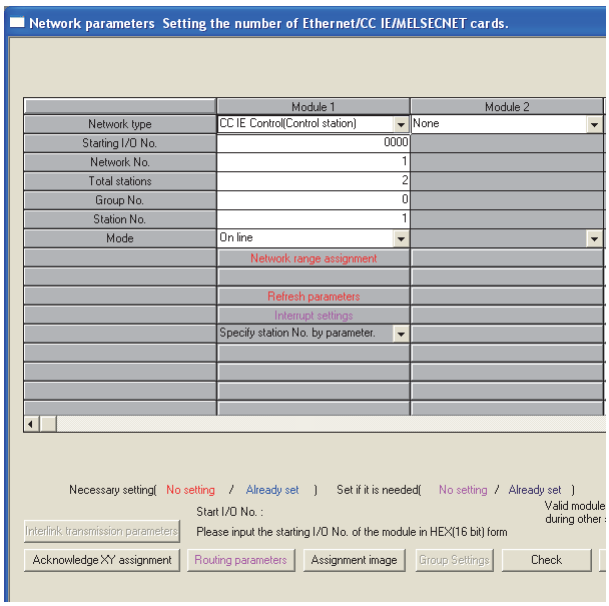
Station No. : 1
Mode : Online
Network type : CC IE Control extended mode (Control station)
Network No. : 1
Total stations : 2 LB0000H to LB00FFH
Network range assignment : LW00000H to LW000FFH

*1 The CC-Link IE Controller Network module is mounted on slot 0 of the base unit.
The start I/O No. of the CC-Link IE Controller Network module is set at [0].

■ Parameter settings (Connection to MELSEC-Q, QS series) of System configuration1 (Network Type: CC IE Control)

(1) [Network parameter] of GX Developer

(a) Network parameter

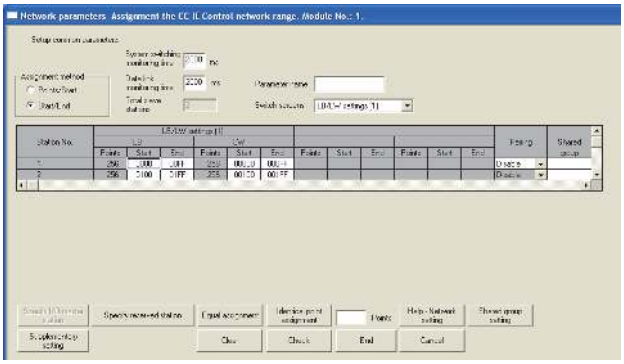


Item	Set value	Setting necessity at GOT connection
Network type	CC IE Control (Control station) (fixed)	○
Starting I/O No.*1	0000H	○
Network No.*2	1	○
Total stations	2	○
Group No.	0 (fixed)	○
Station No.	1	○
Mode*3	Online	○
Network range assignment	Refer to (b)	△
Refresh parameters	(Use default value)	△
Interrupt settings		×
Interlink transmission parameters		×
Routing parameters	Refer to (c)	△

○: Necessary △: As necessary ×: Not necessary

*1 When using Q170MCPU or Q170MSCPU(-S1), set it according to the system configuration.
*2 Specify the same network No. as that of the GOT.
*3 Set the same mode setting as that of the GOT.

(b) Network range assignment



Item				Set value	Setting necessity at GOT connection
Monitoring time				2000	△
LB/LW setting(1) *1	LB	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	LW	Station No.1	Start	00000H	△
			End	000FFH	△
		Station No.2	Start	00100H	△
			End	001FFH	△
LX/LY setting*1				No setting	△
Specify I/O master station*1				No setting	△
Specify reserved station				No setting	△
Supplementary setting				(Use default value)	△

○: Necessary △: As necessary ×: Not necessary

*1 Be sure to set it to perform the cyclic transmission.

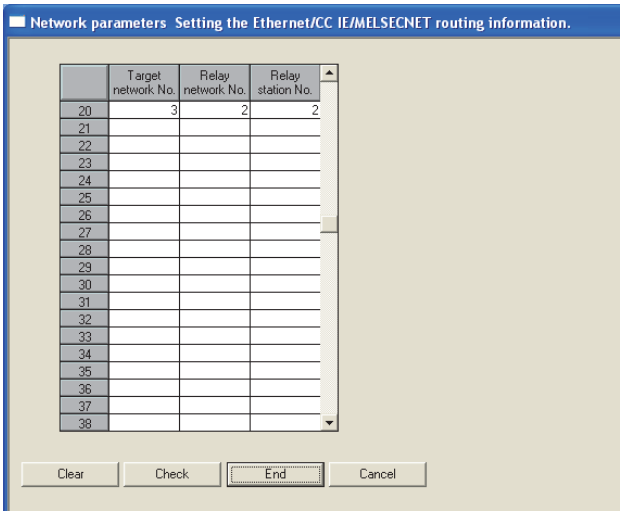
POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(c) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set. However, the same transfer network number cannot be set twice or more (multiple times). Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 120

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.

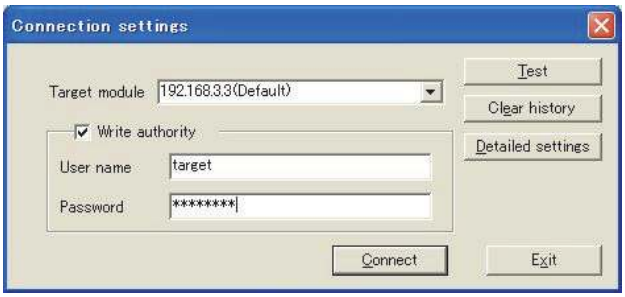
For the setting, refer to the following.

☞ 10.3.3 Routing parameter setting

■ Parameter setting (when connecting to C Controller module)

Use SW3PVC-CCPU-E Ver.3.05F or later for the CC IE Control utility.

(1) Connection settings between personal computer and C controller module



Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3 (Default)	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

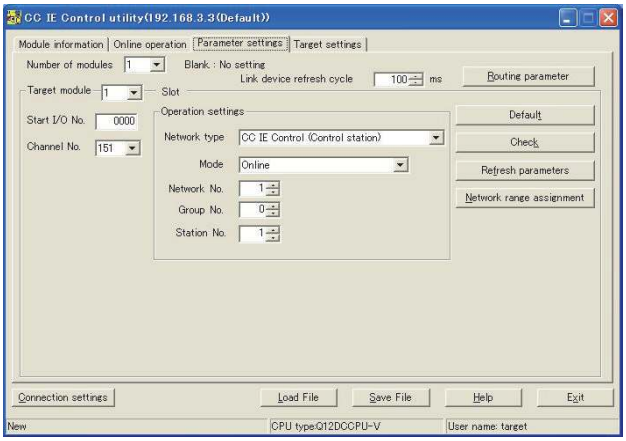
○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

(2) CC IE Control Utility's [Parameter Settings]

(a) Parameter settings



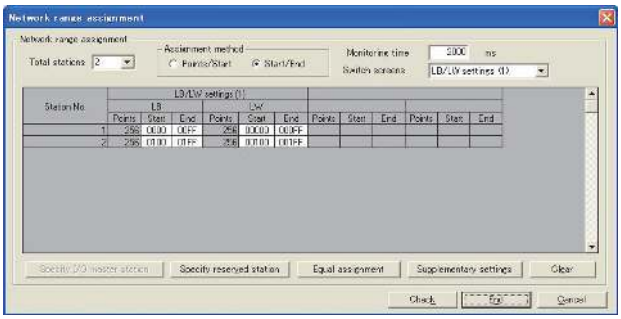
Item		Set value	Setting necessity at GOT connection
Number of modules		1	○
Link device refresh cycle		(Use default value)	△
Routing parameter		Refer to (c)	△
Target module		1	○
Start I/O No.		0000H	○
Channel No.		151	○
Operation settings	Network type	CC IE Control (Control station)	○
	Mode*1	Online	○
	Network No.*2	1	○
	Group No.	0	○
	Station No.	1	○
Refresh parameters		(Use default value)	△
Network range assignment		Refer to (b)	△

○: Necessary △: As necessary ×: Not necessary

*1 Set the same mode setting as that of the GOT.

*2 Specify the same network No. as that of the GOT.

(b) Network range assignment



Item				Set value	Setting necessity at GOT connection
Total stations				2	○
LB/LW settings (1)	LB	Station No.1	Start	0000H	△
			End	00FFH	△
		Station No.2	Start	0100H	△
			End	01FFH	△
	LW	Station No.1	Start	00000H	△
			End	000FFH	△
		Station No.2	Start	00100H	△
			End	001FFH	△
LX/LY settings*1				No setting	△
Monitoring time				(Use default value)	△
Specify I/O master station*1				No setting	△
Specify reserved station				No setting	△
Supplementary settings				(Use default value)	△

○: Necessary △: As necessary ×: Not necessary

*1 Be sure to set it to perform the cyclic transmission.

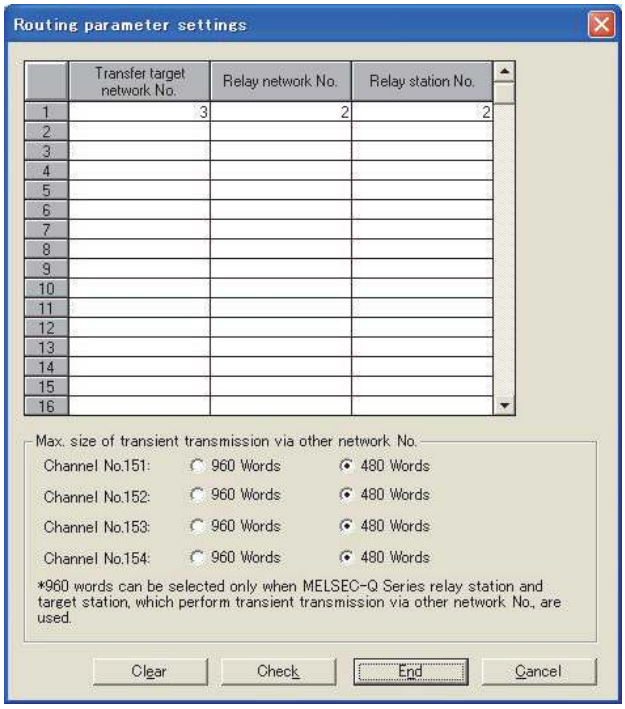
POINT

When changing the network parameter

After writing the network parameter to the C Controller module, either turn the C Controller module OFF and then ON or reset it.

(c) Routing parameter setting

Up to 64 [Transfer Network No.]s can be set. However, the same transfer network number cannot be set twice or more (multiple times). Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Transfer target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	1 to 120

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.

For the setting, refer to the following.

☞ 10.3.3 Routing parameter setting

■ GT Designer3 [Communication settings] of System configuration1 (Network Type: CC IE Control)

Item	Set value
Network Type	CC IE Control
Network No.	1: Network No.1
Station No.	2: Station No.2
@@@	0 (fixed)
Mode Setting	Online (auto. reconnection)
@@@	1 Gbps (fixed)
Refresh Interval	1ms (Use default value)
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)
Monitor Speed	High (@@@) (Use default value)

POINT

[Controller Setting] of GT Designer3

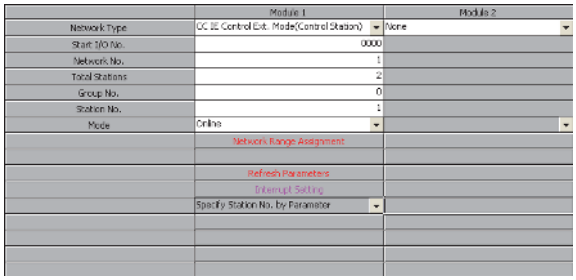
For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 10.3.1 Setting communication interface (Communication settings)

■ Parameter settings (Connection to Universal model QCPU) of System configuration2 (Network Type: Extended mode)

(1) [Network parameter] of GX Works2

(a) Network parameter



Item	Set value	Setting necessity at GOT connection
Network Type	CC IE Control Ext. Mode (Control station) (fixed)	○
Start I/O No.*1	0000H	○
Network No.*2	1	○
Total Stations	2	○
Group No.	0 (Fixed)	○
Station No.	1	○
Mode*3	Online	○
Network Range Assignment	Same as the following setting ☞ [Network parameter] of GX Developer	△
Refresh Parameters	(Use default value)	△
Interrupt Setting		×
Interlink transmission parameters		×
Routing parameters	Same as the following setting ☞ [Network parameter] of GX Developer	△

○: Necessary △: As necessary ×: Not necessary

(2) [Controller Setting] of GT Designer3

Item	Set value
Network type	CC IE Control extended mode
Network No.	1: Network No.1
Station No.	2: Station No.2
@@@	0 (Fixed)
Mode	Online (auto. reconnection)
Refresh Interval	High (Use default value)
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	1ms (Use default value)
Monitor Speed	High (@@@) (Use default value)

POINT

(1) Network type of the GOT side
When the network is in the extended mode, be sure to set the network type of the GOT side to [CC IE Control extended mode].
For [Controller Setting], of GT Designer3, refer to the following.

☞ 10.3.1 Setting communication interface (Communication settings)

(2) Network type of the PLC side
Only GX Works2 can set [CC IE Control extended mode (control station)] or [CC IE Control extended mode (ordinary station)]. The CPU which is compatible with the extended mode is Universal model QCPU only.

10.5 Precautions

■ GOT startup in CC-Link IE Controller Network connection

For the CC-Link IE Controller Network connection, the data link is started approximately 13 seconds after the GOT startup.

■ When a network error occurs in the system alarm

In the CC-Link IE Controller Network connection, when a network error occurs in the system alarm, the system alarm display cannot be canceled even though the causes are removed.

To cancel the system alarm display, restart the GOT.

■ Connection in the multiple CPU system

When the GOT is connected to multiple CPU system, the following time is taken until when the PLC runs.

QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more

MELDAS C70: 18 seconds or more

When the GOT starts before the PLC runs, a system alarm occurs. Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ CC-Link IE Controller Network module version

For version restrictions of the CC-Link IE Controller Network module, refer to the following manual.

☞ CC-Link IE Controller Network Reference Manual

■ Connection to QSCPU

The GOT can only read device data and sequence programs by the ladder monitor function in the QSCPU.

The GOT cannot write any data to the QSCPU.

■ Connection to Q170MCPU or Q170MSCPU(-S1)

Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

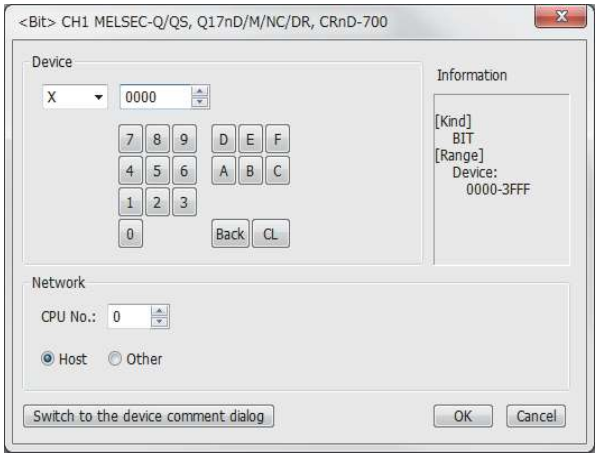
When the CPU No. is set to "0" or "1", the device on the PLC CPU area (CPU No.1) is monitored.

When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device



11

CC-Link IE FIELD NETWORK CONNECTION

11. CC-Link IE FIELD NETWORK CONNECTION

11.1 Connectable Model List

11.1.1 PLC/Motion controller CPU

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU	○	-	GT27 GT23 GS	-
	Q00CPU*1				
	Q01CPU*1				
	Q02CPU*1				
	Q02HCPU*1				
	Q06HCPU*1				
	Q12HCPU*1				
	Q25HCPU*1				
	Q02PHCPU				
	Q06PHCPU				
	Q12PHCPU				
	Q25PHCPU				
	Q12PRHCPU(Main base)				
	Q25PRHCPU(Main base)				
	Q12PRHCPU(Extension base)	○	-	GT27 GT23 GS	-
	Q25PRHCPU(Extension base)				
	Q00UJCPU	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS	11.2
	Q00UCPU				
	Q01UCPU				
	Q02UCPU				
	Q03UDCPU				
	Q04UDHCPU				
	Q06UDHCPU				
	Q10UDHCPU				
	Q13UDHCPU				
	Q20UDHCPU				
	Q26UDHCPU				
	Q03UDECPU				
	Q04UDEHCPU				
	Q06UDEHCPU				
	Q10UDEHCPU				
	Q13UDEHCPU				
	Q20UDEHCPU				
	Q26UDEHCPU				

(Continued to next page)

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q50UDEHCPU Q100UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS	11.2
C Controller module	Q12DCCPU-V*1 Q24DHCCPU-V Q24DHCCPU-LS	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS	11.2
MELSEC-QS	QS001CPU*3	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS	11.2
MELSEC-L	L02CPU*2 L06CPU L26CPU L26CPU-BT*2 L02CPU-P*2 L06CPU-P L26CPU-P L26CPU-PBT*2 L02SCPU L02SCPU-P	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS	11.2
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	-	GT27 GT23 GS	-
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	○	-	GT27 GT23 GS	-
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	-	GT27 GT23 GS	-
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 Use a module with the upper five digits later than 12042.
*2 Use a module with the upper five digits later than 13012.
*3 Use a module with the upper five digits later than "13042". Use GX Developer of Version 8.98C or later.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A (AnCPU)	A2NCPUP21	○	-	GT27 GT23 GS	-
	A2NCPUR21				
	A2NCPU-S1				
	A2NCPUP21-S1				
	A2NCPUR21-S1				
	A3NCPU				
	A3NCPUP21				
	A3NCPUR21				
MELSEC-A (AnSCPU)	A2USCPU	○	-	GT27 GT23 GS	-
	A2USCPU-S1				
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU				
	A2SCPU-S1				
	A2SHCPU				
	A2SHCPU-S1				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A	A0J2HCPU	×	-	GT27 GT23 GS	-
	A0J2HCPUP21				
	A0J2HCPUR21				
	A0J2HCPU-DC24				
	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				

Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (Q Series)	Q172CPU	○	-	GT27 GT23 GS	-
	Q173CPU				
	Q172CPUN				
	Q173CPUN				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS o	-
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*1			GT27 GT23 GS *2	11.2
	Q170MSCPU*3				
	Q170MSCPU-S1*3				

(Continued to next page)

*1 Only the first step can be used on the extension base unit (Q52B/Q55B).

*2 For the PLC CPU area, use a module with the upper five digits later than 12012. Only the PLC CPU area can be monitored.

*3 The extension base unit (Q5□B/Q6□B) can be used.

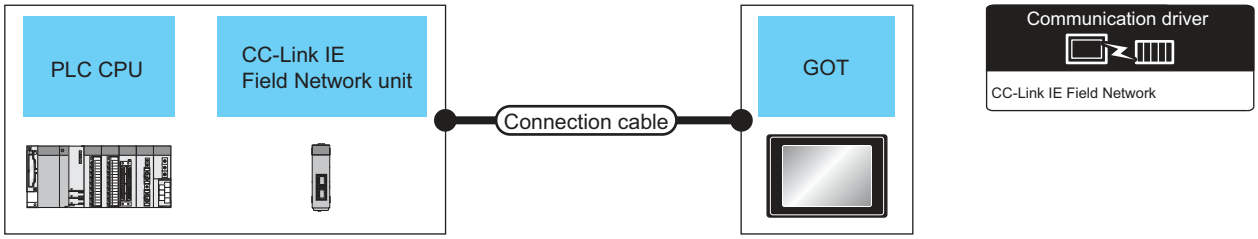
Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	-	GT27 GT23 GS	-
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU				
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	-	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	-	GT27 GT23 GS	-
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	CC-Link IE FIELD NETWORK	GT27 GT23 GS	☞ 11.2
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	CC-Link IE FIELD NETWORK	GT27 GT23 GS	☞ 11.2
CNC C70	Q173NCCPU	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS	☞ 11.2
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	CC-Link IE FIELD NETWORK	GT27 GT23 GS	☞ 11.2
MELSEC-FX	FX_0	×	-	GT27 GT23 GS	-
	FX_{0S}				
	FX_{0N}				
	FX_1				
	FX_2	×			
	FX_{2C}				
	FX_{1S}	○			
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	×			
	FX_{3S}	○			
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

11.1.2 CC-Link IE Field Network communication unit

CPU series	CC-Link IE Field Network communication unit
MELSEC-Q(Universal model)	QJ71GF11-T2, QD77GF16
MELSEC-L	LJ71GF11-T2
MELSEC-QS	QS0J71GF11-T2

11.2 System Configuration

11.2.1 Connecting to CC-Link IE Field Network communication unit



PLC			Connection cable		GOT		Number of connectable equipment
Model name	CC-Link IE Field Network communication unit	Communication type	Cable model*2	Max distance*1	option device	Model	
MELSEC-Q (Universal model) Q170MCPU C Controller module	QJ71GF11-T2 QD77GF16*3	CC-Link IE Field Network	Ethernet cable that meets the 1000BASE-T standard: Category 5e or higher, (double-shielded, STP) straight cable.	12100m	GT15-J71GF13-T2	GT27 GT23 GS	120 GOTs
MELSEC-QS	QS0J71GF11-T2						
MELSEC-L	LJ71GF11-T2						
CC-Link IE Field Network head module	-						
Ethernet adapter module	-						

*1 The overall extension cable length and the length between stations vary depending on the connection method (line, star or ring), the system configuration, etc.
For details, refer to the following manual.

CC-Link IE Field Network Master/Local Module User's Manual

*2 Use hubs that satisfy the following conditions.

- Compliance with the IEEE802.3 (1000BASE-T)
- Supporting the auto MDI/MDI-X function
- Supporting the auto-negotiation function
- Switching hub (A repeater hub is not available.)

Recommended switching hub (Mitsubishi electric products)

Type	Model name
Industrial switching hub	NZ2EHG-T8

For details, refer to the following manual.

CC-Link IE Field Network Master/Local Module User's Manual

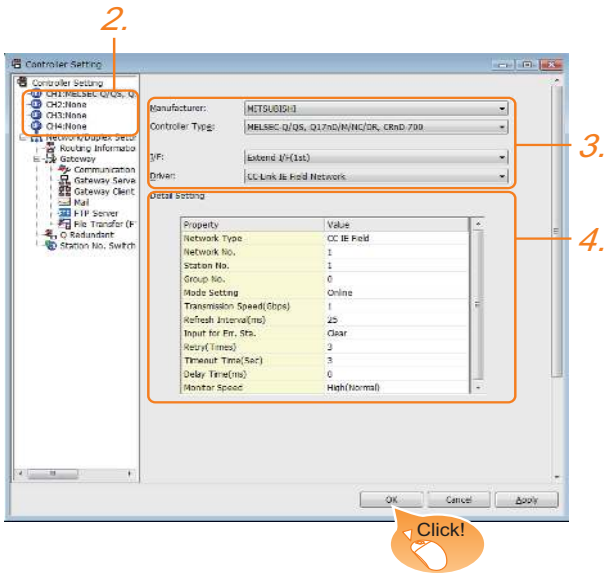
*3 When connecting to the QD77GF16, refer to the following manual.

MELSEC-Q QD77GF Simple Motion Module User's Manual

11.3 GOT side settings

11.3.1 Setting communication interface (Communication settings)

Set the channel of connecting equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: CC-Link IE Field Network
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   11.3.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

11.3.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
Network Type	CC IE Field
Network No.	1
Station No.	1
Group No.	0
Mode Setting	Online
Transmission Speed(Gbps)	1
Refresh Interval(ms)	25
Input for Err. Sta.	Clear
Retry(Times)	3
Timeout Time(Sec)	3
Delay Time(ms)	0
Monitor Speed	High(Normal)

Item	Description	Range
Network Type*4	Set the network Type	• CC IE Field
Network No.	Set the network No. of the GOT. (Default: 1)	1 to 239
Station No.	Set the station No. of the GOT. (Default: 1)	1 to 120
Group No.	-	0 (fixed)
Mode Setting	Set the operation mode of the GOT. (Default: Online (auto. reconnection))	• Online • Offline • H/W test*1 • Self-loopback test*1
Tramsmission Speed	-	1 Gbps (fixed)
Reflesh Interval	Set the number of refreshes to secure the send/receive data in station units during communication. (Default: 25ms)	1 to 1000ms
Input for Error Station	Set the hold/clear of input from the station where the data link is faulty due to some reason such as turning the power OFF. (Default: Clear)	Clear/Hold
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	3 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 300ms
Monitor Speed	Set the monitor speed for the CC-Link IE field network. This setting is not valid in all systems. (Default: High(Normal))	High(Normal)*2/ Middle/Low*3

*1 For details, refer to the following manual.

CC-Link IE Field Network Master/Local Module User's Manual

*2 This range is effective when collecting a large amount of data (such as logging and recipe function) on other than the monitor screen.
However, the range may affect the sequence scan time when connecting to Q00UJ/Q00U/Q01U/Q02UCPU.
If you want to avoid the influence on the sequence scan time, do not set [High(Normal)].
(This setting hardly affects QCPUs other than the above.)

*3 Set this range if you want to avoid the influence on the sequence scan time further than the [Middle] setting when connecting to Q00UJ/Q00U/Q01U/Q02UCPU.
However, the monitor speed may be reduced.

POINT

(1) Switch setting example
For the switch setting example, refer to the following.

11.4 PLC Side Setting

(2) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

GOT2000 Series User's Manual (Utility)

(3) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

(4) Network type
Be sure to set the same network types for the CPU side and the GOT side. If the network types of the CPU side and the GOT side are different, an error is displayed in the system alarm of the GOT side.

11.3.3 Routing parameter setting

Up to 64 [Transfer Network No.]s can be set.

However, the same transfer network number cannot be set twice or more (multiple times).

Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.

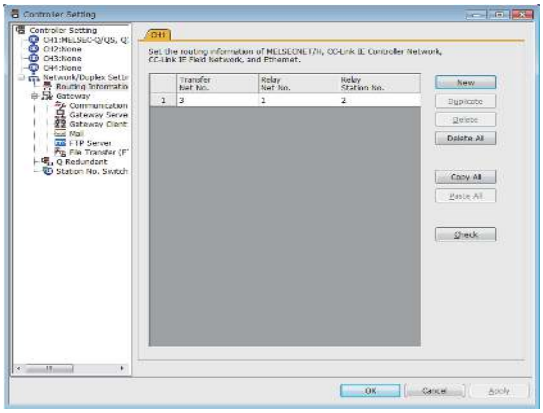
POINT

Routing parameter setting

When communicating within the host network, routing parameter setting is unnecessary.

For details of routing parameters, refer to the following manual.

CC-Link IE Field Network Master/Local Module User's Manual



Item		Range
Transfer Network No.		1 to 239
Relay Network No.		1 to 239
Relay Station No.	MELSEC-Q (Universal model) Q170MCPU, Q170MSCPU(-S1) C Controller Module	0 to 120

*1 Basic model QCPU and the QSCPU are not included.

POINT

(1) Routing parameter setting of relay station
Routing parameter setting is also necessary for the relay station.
For the setting, refer to the following.

11.4 PLC Side Setting

(2) Parameter reflection function of MELSOFT Navigator

(a) The color of the cells for the items which are reflected to GT Designer3 from MELSOFT Navigator changes to green. Set items, which are displayed in green cells, from the MELSOFT Navigator.

(b) When the settings of Transfer network No., Relay network No. or Relay station No. are reflected to the parameter from the MELSOFT Navigator, those settings are added. Items set in advance are not deleted. However, if the target network No. overlaps, the item set in advance is overwritten.

(c) The routing information is used manually by the user when the data is created. Therefore, after changing the network configuration by MELSOFT Navigator, create a routing information again. For details of the creation of the routing information, refer to the MELSOFT Navigator help.

11.4 PLC Side Setting

This section describes the settings of the GOT and CC-Link IE controller network module in the following case of system configuration.

POINT

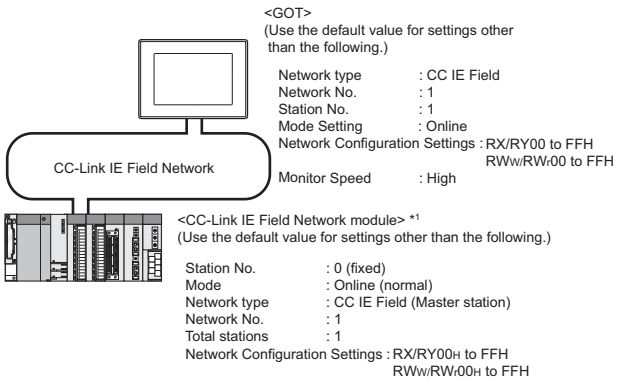
CC-Link IE Field Network Module

For details of the CC-Link IE Field Network module, refer to the following manual.

☞ CC-Link IE Field Network Master/Local Module User's Manual

■ System configuration (Network Type: CC IE Field)

☞ ■ GT Designer3 [Communication setting] of System configuration1 (Network Type: CC IE Field)



☞ ■ [Network parameter] of GX Works2

*1 The CC-Link IE Field Network module is mounted on slot 0 of the base unit.
The start I/O No. of the CC-Link IE Field Network module is set at [0].

POINT

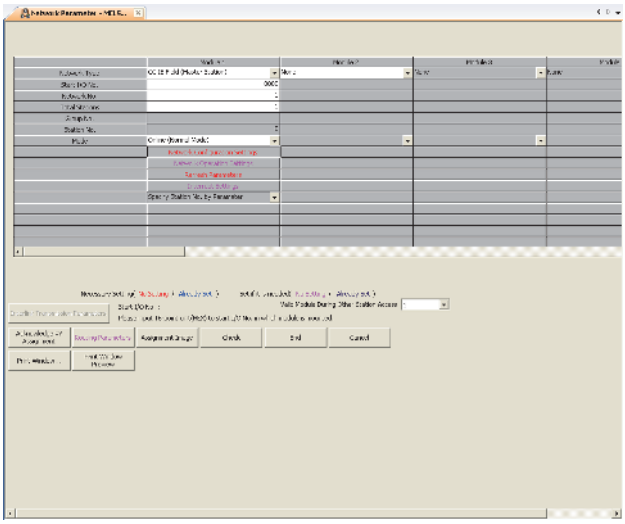
When connecting to Q170MCPU or Q170MSCPU(-S1)

When connected to Q170MCPU or Q170MSCPU(-S1), the start I/O No. of the CC-Link IE Field Network communication unit is set to "70".

■ Parameter settings (Connection to MELSEC-Q, QS series) of System configuration (Network Type: CC IE Field)

(1) Network parameter] of GX Works2
Use GX Works2 of Version 1.31H or later.

(a) Network parameter

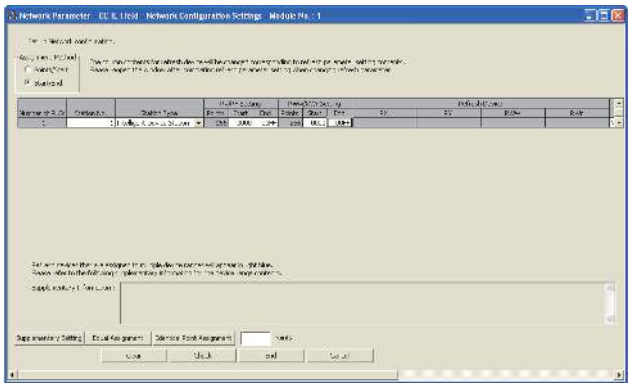


Item	Set value	Setting necessity at GOT connection
Network type	CC IE Field (Master station) (fixed)	○
Starting I/O No.*1	0000H	○
Network No.*2	1	○
Total stations	1	○
Station No.	0 (fixed)	○
Mode*3	Online (Normal mode)	○
Network Configuration Settings	Refer to (b)	△
Refresh parameters	(Use default value)	△
Interrupt settings		×
Interlink transmission parameters		×
Routing parameters	Refer to (c)	△

○: Necessary △: As necessary ×: Not necessary

*1 When using Q170MCPU or Q170MSCPU(-S1), set it according to the system configuration.
*2 Specify the same network No. as that of the GOT.
*3 Set the same mode setting as that of the GOT.

(b) Network Configuration Settings



Item				Set value	Setting necessity at GOT connection
Rx/RY, RWw/RWr setting(1)*1	Rx/RY setting	Station No.1	Start	0000H	△
			End	00FFH	△
	RWw/RWr setting	Station No.1	Start	00000H	△
			End	000FFH	△
Reserved/Error Invalid Station				No setting	△

○: Necessary △: As necessary ×: Not necessary

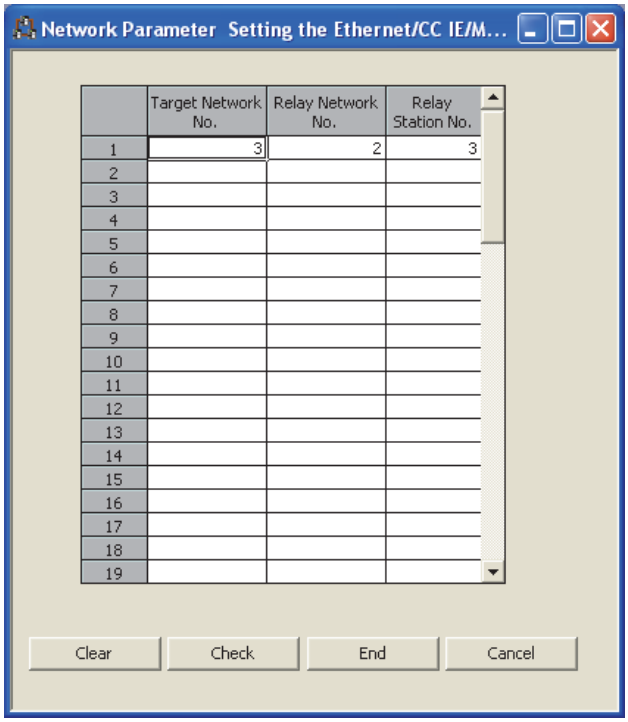
*1 Be sure to set it to perform the cyclic transmission.

POINT

(1) When changing the network parameter
After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(2) GOT station type
Set the GOT as an intelligent device station.

(c) Routing parameter setting
Up to 64 [Transfer Network No.]s can be set. However, the same transfer network number cannot be set twice or more (multiple times). Therefore, the one that can access to other station from the request source host GOT is 64 kinds of [Transfer Network No.]s.



Item	Range
Transfer target network No.	1 to 239
Relay network No.	1 to 239
Relay station No.	0 to 120

POINT

Routing parameter setting of request source

Routing parameter setting is also necessary for the request source GOT.
For the setting, refer to the following.

☞ 11.3.3 Routing parameter setting

■ GT Designer3 [Communication settings] of System configuration (Network Type: CC IE Field)

Item	Set value
Network Type	CC IE Field
Network No.	1: Network No.1
Station No.	1: Station No.1
Group No.	0 (fixed)
Mode Setting	Online
Refresh Interval	25ms (Use default value)
Input for Err. Sta.	Clear (Use default value)
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)
Monitor Speed	High(Normal) (Use default value)

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 11.3.1 Setting communication interface (Communication settings)

11.5 Precautions

■ GOT startup in CC-Link IE Field Network connection

For the CC-Link IE Field Network connection, the data link is started approximately 15 seconds after the GOT startup.

■ When a network error occurs in the system alarm

In the CC-Link IE Field Network connection, when a network error occurs in the system alarm, the system alarm display cannot be canceled even though the causes are removed.

To cancel the system alarm display, restart the GOT.

■ CC-Link IE Field Network module version

For version restrictions of the CC-Link IE Field Network module, refer to the following manual.

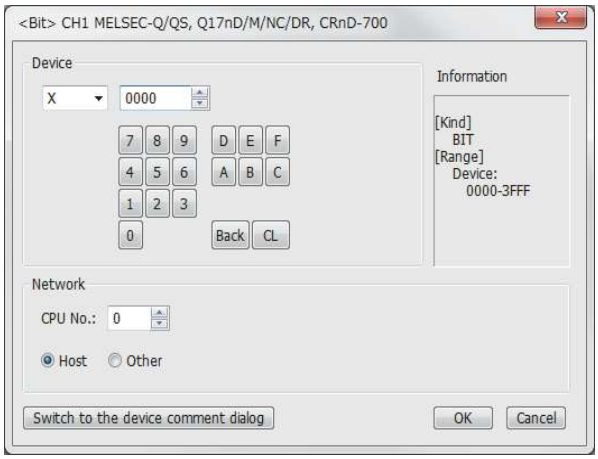
☞ CC-Link IE Field Network Master/Local Module User's Manual

■ Connection to Q170MCPU or Q170MSCPU(-S1)

The Motion CPU area (CPU No.2) cannot be monitored.
Set the CPU No. to "0" or "1".
The device of the PLC CPU area (CPU No.1) is monitored.
For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device



■ Data link failure in other stations at GOT startup

At GOT startup, the data link failure may occur in other stations.
However, after the failure occurrence, the GOT reconnects automatically and monitors the devices properly.
To avoid such data link failure, start up the GOT 10 seconds earlier than the master station.
However, if the master station does not complete startup when GOT starts monitoring (10 seconds after the GOT startup), the communication timeout occurs in the GOT side.
For details, refer to the following manual.

☞ CC-Link IE Field Network Master/Local Module User's Manual

■ Data link failure in all stations at GOT startup or cable connection/disconnection

At GOT startup, the communication is broken temporarily between PORT1 and PORT2 in the CC-Link IE Field module which is installed on the GOT. Thus, as the GOT or a station between the GOT and the master station is reconnected, the data link failure may occur on all stations.

POINT

GOT startup

GOT startup indicates the startups after the following operations:

- Turning ON the GOT
- Resetting the GOT main unit
- Operating the utility
- Downloading the project including the communication settings
- Downloading the OS

■ When the output is required to be held at the data link failure

Set the GOT to hold the input from the data link faulty stations in the communication setting. Set "Input for Error Station" to "Hold".

☞ 11.3.2 Communication detail settings

12

CC-Link CONNECTION (INTELLIGENT DEVICE STATION)

12. CC-Link CONNECTION (INTELLIGENT DEVICE STATION)

12.1 Connectable Model List

12.1.1 PLC/Motion controller CPU

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU	○	CC-Link(ID)	GT27 GT23 GS	12.2
	Q00CPU*1				
	Q01CPU*1				
	Q02CPU*1				
	Q02HCPU*1 Q06HCPU*1 Q12HCPU*1 Q25HCPU*1 Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU				
	Q12PRHCPU (Main base)				
	Q25PRHCPU (Main base)				
	Q12PRHCPU (Extension base)				
	Q25PRHCPU (Extension base)				
	Q00UJCPU				
	Q00UCPU Q01UCPU Q02UCPU Q03UDCPU				
	Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU				
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU				
	Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU				
C Controller module	Q12DCCPU-V*2	○	CC-Link(ID)	GT27 GT23 GS	12.2
	Q24DHCCPU-V				
	Q24DHCCPU-LS				

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.
*2 Use a module with the upper five digits later than 12042.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-QS	QS001CPU	○	-	GT27 GT23 GS	-
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-B L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P	○	CC-Link(ID)	GT27 GT23 GS	☞ 12.2.2
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	CC-Link(ID)	GT27 GT23 GS	☞ 12.2.1
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	○	CC-Link(ID)	GT27 GT23 GS	☞ 12.2.1
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	CC-Link(ID)	GT27 GT23 GS	☞ 12.2.1
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU A2NCPUP21 A2NCPUR21 A2NCPU-S1 A2NCPUP21-S1 A2NCPUR21-S1 A3NCPU A3NCPUP21 A3NCPUR21	○	CC-Link(ID)	GT27 GT23 GS	☞ 12.2.1
MELSEC-A (AnSCPU)	A2USCPU A2USCPU-S1 A2USHCPU-S1 A1SCPU A1SCPUC24-R2 A1SHCPU A2SCPU A2SCPU-S1 A2SHCPU A2SHCPU-S1 A1SJCPU A1SJCPU-S3 A1SJHCPU	○	CC-Link(ID)	GT27 GT23 GS	☞ 12.2.1

(Continued to next page)

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A	A0J2HCPU	×	CC-Link(ID)	GT27 GT23 GS	12.2.1
	A0J2HCPUP21				
	A0J2HCPUR21				
	A0J2HCPU-DC24				
	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*1*2	○	CC-Link(ID)	GT27 GT23 GS	12.2
	Q173CPU*1*2				
	Q172CPUN*1				
	Q173CPUN*1				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*3				
	Q170MSCPU*4				
	Q170MSCPU-S1*4				
	MR-MQ100	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00H or later
- SW6RN-SV22Q□: 00H or later
- SW6RN-SV43Q□: 00B or later

*2 Use main modules with the following product numbers.
- Q172CPU: Product number N******* or later
- Q173CPU: Product number M******* or later

*3 Only the first step can be used on the extension base unit (Q52B/Q55B).

*4 The extension base unit (Q5□B/Q6□B) can be used.

Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	CC-Link(ID)	GT27 GT23 GS	12.2.1
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU				
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	×	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	-	GT27 GT23 GS	-
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	GT27 GT23 GS	-
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	GT27 GT23 GS	-
CNC C70	Q173NCCPU	○	CC-Link(ID)	GT27 GT23 GS	12.2
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	CC-Link(ID)	GT27 GT23 GS	12.2
MELSEC-FX	FX_0	×	-	GT27 GT23 GS	-
	FX_{0S}				
	FX_{0N}				
	FX_1				
	FX_2	×	-		
	FX_{2C}				
	FX_{1S}	○	-		
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	×	-		
	FX_{3S}	○	-		
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

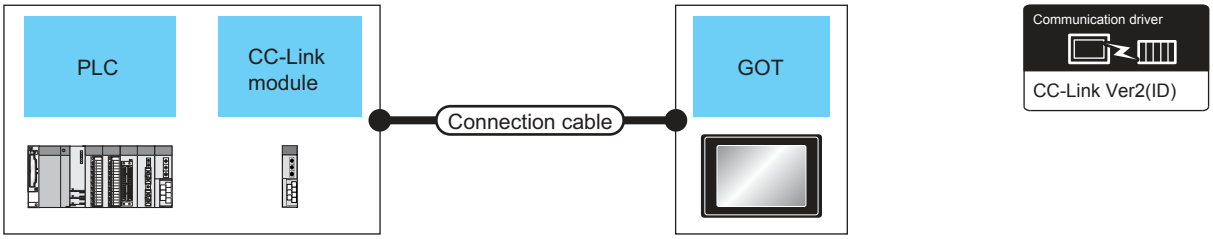
12.1.2 CC-Link module

CPU series	CC-Link module
MELSEC-Q (Q mode) C Controller module Motion controller CPU (Q Series) CNC C70 Robot controller (CRnQ-700)	QJ61BT11 QJ61BT11N
MELSEC-L	LJ61BT11
MELSEC-QnA	AJ61QBT11*1 A1SJ61QBT11*1
MELSEC-Q (A mode) MELSEC-A Motion controller CPU (A Series)	AJ61BT11*1 A1SJ61BT11*1

*1 Transient communication can be performed to only CC-Link modules of function version B or later and software version J or later.

12.2 System Configuration

12.2.1 Connecting with CC-Link Ver.1 compatible



PLC			Connection cable		GOT		Number of connectable equipment
Model name	CC-Link module *1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q	QJ61BT11 QJ61BT11N	CC-Link (Ver.1)	CC-Link dedicated cable *2	*3	GT15-J61BT13 *5	GT27 GT23 GS	26 GOTs
C Controller module	QJ61BT11 QJ61BT11N						
MELSEC-L	LJ61BT11						
MELSEC-L (L26CPU-BT)	-						
MELSEC-QnA	AJ61QBT11 A1SJ61QBT11*4						
MELSEC-A	AJ61BT11 A1SJ61BT11*4						

*1 For the system configuration of the CC-Link module, refer to the following manuals.

CC-Link System Master/Local Module User's Manual QJ61BT11N
Control & Communication Link System Master/Local Module Type AJ61QBT11/A1SJ61QBT11 User's Manual
Control & Communication Link System Master/Local Module Type AJ61BT11/A1SJ61BT11 User's Manual
MELSEC-L CC-Link System Master/Local Module User's Manual

*2 For the specifications and inquiries of the CC-Link dedicated cable, refer to the following.

CC-Link Partner Association's home page: http://www.cc-link.org/

*3 The maximum overall extension cable length and the length between stations vary depending on the cable type to be used and the transmission speed.
For details, refer to the following manual.

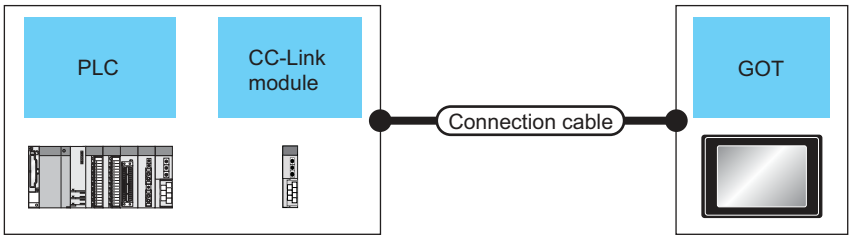
CC-Link System Master/Local Module User's Manual QJ61BT11N
Control & Communication Link System Master/Local Module Type AJ61QBT11/A1SJ61QBT11 User's Manual
Control & Communication Link System Master/Local Module Type AJ61BT11/A1SJ61BT11 User's Manual
MELSEC-L CC-Link System Master/Local Module User's Manual

*4 Transient transmission can be performed to only CC-Link modules of function version B or later and software version J or later.

*5 Specify Ver.1 as the mode setting in the Communication Settings to use it.
For details of the settings, refer to the following the manual.

12.3.1 Setting communication interface (Communication settings)

12.2.2 Connecting with CC-Link Ver.2 compatible



PLC			Connection cable		GOT		Number of connectable equipment
Model name	CC-Link module *1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q C Controller module	QJ61BT11N	CC-Link (Ver.2)	CC-Link dedicated cable *2	*3	GT15-J61BT13 *4	GT27 GT23 GS	26 GOTs
MELSEC-L	LJ61BT11						
MELSEC-L (L26CPU-BT) (L26CPU-PBT)	-						

*1 For the system configuration of the CC-Link module, refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N
MELSEC-L CC-Link System Master/Local Module User's Manual

*2 For the specifications and inquiries of the CC-Link dedicated cable, refer to the following.

CC-Link Partner Association's home page: http://www.cc-link.org/

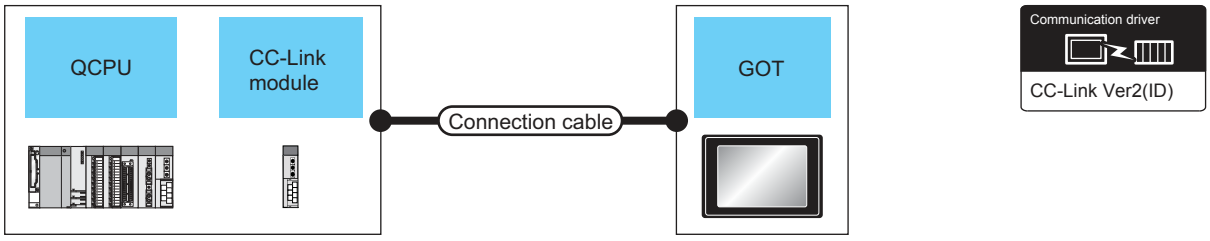
*3 The maximum overall extension cable length and the length between stations vary depending on the cable type to be used and the transmission speed.
For details, refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N
MELSEC-L CC-Link System Master/Local Module User's Manual

*4 Specify Ver.2 as the mode setting in the Communication Settings to use it.
For details of the settings, refer to the following the manual.

12.3.1 Setting communication interface (Communication settings)

12.2.3 Connecting with CC-Link Ver.1/Ver.2 compatibles mixed



PLC			Connection cable		GOT		Number of connectable equipment
Model name	CC-Link module *1	Communication type	Cable model	Max. distance	Option device	Model	
MELSEC-Q	QJ61BT11N	CC-Link (Ver.2)	CC-Link dedicated cable *2	*3	GT15-J61BT13 *4	GT27 GT23 GS	26 GOTs
		CC-Link (Ver.1)	CC-Link dedicated cable *2	*3	GT15-J61BT13 *5	GT27 GT23 GS	
C Controller module	QJ61BT11N	CC-Link (Ver.2)	CC-Link dedicated cable *2	*3	GT15-J61BT13 *4	GT27 GT23 GS	
		CC-Link (Ver.1)	CC-Link dedicated cable *2	*3	GT15-J61BT13 *5	GT27 GT23 GS	

*1 For the system configuration of the CC-Link module, refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N

*2 For the specifications and inquiries of the CC-Link dedicated cable, refer to the following.

CC-Link Partner Association's home page: http://www.cc-link.org/

*3 The maximum overall extension cable length and the length between stations vary depending on the cable type to be used and the transmission speed.
For details, refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N

*4 Specify Ver.2 as the mode setting in the Communication Settings to use it.
For details of the settings, refer to the following the manual.

12.3.1 Setting communication interface (Communication settings)

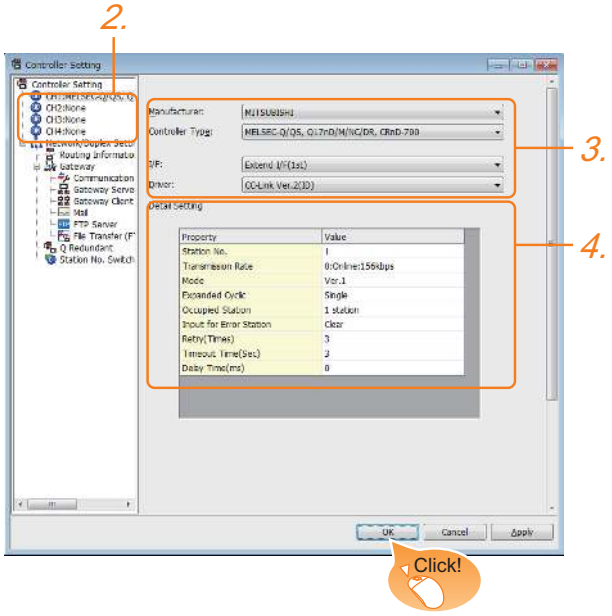
*5 Specify Ver.1 as the mode setting in the Communication Settings to use it.
For details of the settings, refer to the following the manual.

12.3.1 Setting communication interface (Communication settings)

12.3 GOT Side Settings

12.3.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver:CC-Link Ver2 (ID)
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   12.3.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

12.3.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
Station No.	1
Transmission Rate	0:Online:156kbps
Mode	Ver.1
Expanded Cyclic	Single
Occupied Station	1 station
Input for Error Station	Clear
Retry(Times)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Station No.	Set the station No. of the GOT. (Default: 1)	1 to 64
Transmission Rate*1	Set the transmission speed and the mode of the GOT. (Default: 0)	0 to E
Mode	Set the mode of CC-Link. (Default: Ver.1)	Ver.1/Ver.2/ Additional/Offline
Expanded Cyclic	Set the cyclic point expansion. (Default: Single)	Single/Double/ Quadruple/Octuple
Occupied Station	Set the number of stations occupied by the GOT. (Default: 1 Station)	1 Station/4 Stations
Input for Error Station	Set Clear/Hold at an error occurrence. (Default: Clear)	Clear/Hold
Retry	Set the number of retries to be performed when a communication timeout occurs. When no response is received after retries, a communication times out. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	3 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 300 (ms)

*1 Transmission speed settings
The following lists the transmission speed settings of the CC-Link communication.

Set value	Description
0	Online: 156kbps
1	Online: 625kbps
2	Online: 2.5Mbps
3	Online: 5Mbps
4	Online: 10Mbps
5	Line test: 156kbps
6	Line test: 625kbps
7	Line test: 2.5Mbps
8	Line test: 5Mbps
9	Line test: 10Mbps
A	Hardware test: 156kbps
B	Hardware test: 625kbps
C	Hardware test: 2.5Mbps
D	Hardware test: 5Mbps
E	Hardware test: 10Mbps

For details of the hardware test, refer to the following manual.

☞ CC-Link System Master/Local Module User's Manual for CC-Link module to be used

POINT

(1) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)

(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

12.4 PLC Side Setting

The GOT operates as the stations of which are shown below in the CC-Link system.

Station data	Description
Station type	Intelligent device station, Ver.1 intelligent device station or Ver.2 intelligent device station
Number of stations occupied	Station 1 or Station 4

The switch settings and parameter settings of the PLC side (CC-Link module) are described in 12.4.1 to 12.4.7.

Model name			Refer to
CC-Link module (Q Series)	Connecting with Ver.1 compatible	QJ61BT11, QJ61BT11N	12.4.1
	Connecting with Ver.2 compatible	QJ61BT11N	12.4.2
	Connecting with Ver.1/ Ver.2 compatibles mixed	QJ61BT11N	12.4.3
CC-Link module (QnA Series)		AJ61QBT11, A1SJ61QBT11	12.4.6
CC-Link module (A Series)		AJ61BT11, A1SJ61BT11	12.4.7

HINT

Number of stations occupied

The number of stations occupied is setting for determining number of link device points (RX/RY/RWw/RWr) used by the GOT.

To use multiple numbers of link device points in the case of cyclic transmission between the GOT and CC-Link module, set the number of stations occupied as the exclusive station 4.

The number of link device points at the exclusive station 1 and 4 is shown below.

CC-Link Ver.2

Link device	Expanded cyclic setting							
	Single		Double		Quadruple		Octuple	
	Exclusive station 1	Exclusive station 4	Exclusive station 1	Exclusive station 4	Exclusive station 1	Exclusive station 4	Exclusive station 1	Exclusive station 4
Remote input (RX)	32 points	128 points	32 points	224 points	64 points	448 points	128 points	896 points
Remote output (RY)	32 points	128 points	32 points	224 points	64 points	448 points	128 points	896 points
Remote register (RWw)	4 points	16 points	8 points	32 points	16 points	64 points	32 points	128 points
Remote register (RWr)	4 points	16 points	8 points	32 points	16 points	64 points	32 points	128 points

CC-Link Ver.1

Link device	Number of stations occupied	
	Exclusive station	Exclusive station 4
Remote input (RX)	32 points	128 points
Remote output (RY)	32 points	128 points
Remote register (RWw)	4 points	16 points
Remote register (RWr)	4 points	16 points

12.4.1 Connecting to CC-Link module (Q Series) with Ver.1 compatible

This section describes the settings of the GOT and the CC-Link module (Q Series) with Ver.1 compatible in the following system configuration.

POINT

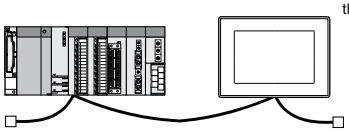
CC-Link module (Q Series)

For details of the CC-Link module (Q Series), refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N

■ System configuration

■ [Controller Setting] of GT Designer3
■ Setting of the CC-Link communication unit



<GOT>
(Use the default value for settings other than the following.)

Station type	: Intelligent device station
Station No.	: Station No.1
Number of stations occupied	: Exclusive station 1
Transmission speed	: 156kbps

<CC-Link module> *1
(Use the default value for the settings other than the following.)

Type	: Master station
Station No.	: Station No.0
Mode	: Remote net (Ver.1 mode)
All connect count	: 1
Transmission speed	: 156kbps

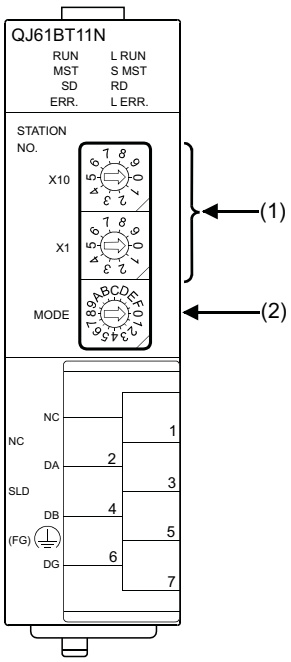
■ Switch setting of CC-Link module (Q Series)
■ [Network parameter] of GX Developer

*1 The CC-Link module is mounted on the base unit slot 0. The Start I/O No. of the CC-Link module is set to "0"

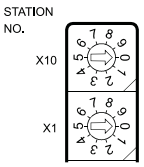
■ Switch setting of CC-Link module (Q Series)

Set the station number setting switch, transmission speed / mode setting switch.

QJ61BT11, QJ61BT11N

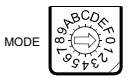


(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
	Station number setting (master station)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) Transmission rate/mode setting switch

Transmission rate/mode setting switch	Description	Set value	Setting necessity at GOT connection
	Transmission rate/ mode setting (Online: 156kbps)*1	0	○

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same transmission speed as that of the GOT.

POINT

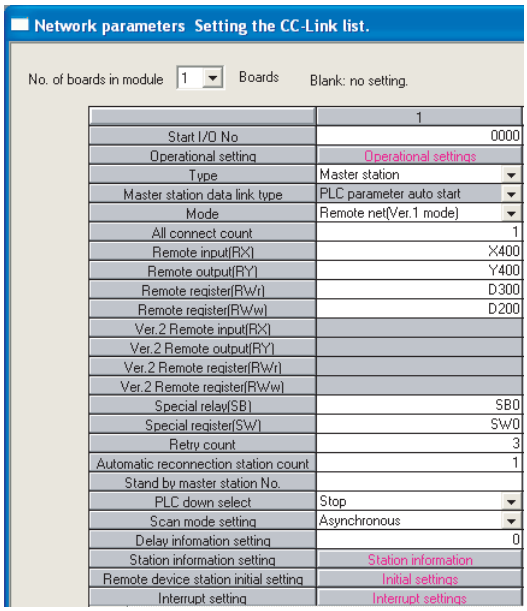
When the switch setting is changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ Parameter setting (when connecting to MELSEC-Q or QS series)

(1) [Network parameter] of GX Developer

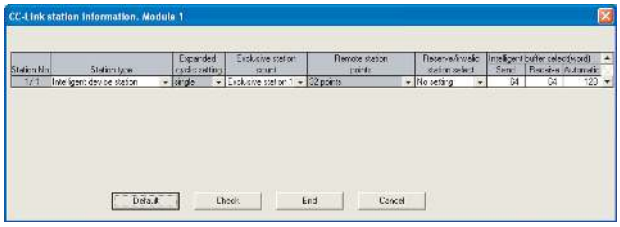
(a) Network parameter



Item	Set value	Setting necessity at GOT connection
No. of boards in module	1	○
Start I/O No.	0000H	○
Operation setting	(Use default value)	△
Type	Master station (fixed)	○
Mode	Remote net (Ver.1 mode)	○
All connect count	1	○
Remote input (RX)	X400	△
Remote output (RY)	Y400	△
Remote register (RWr)	D300	△
Remote register (RWw)	D200	△
Special relay (SB)	SB0	△
Special register (SW)	SW0	△
Retry count	(Use default value)	△
Automatic reconnection station count		△
Stand by master station No.		×
PLC down select		△
Scan mode setting		△
Delay information setting		△
Station information setting	Refer to (b).	○
Remote device station initial settings	(Use default value)	×
Interrupt setting		×

○: Necessary △: As necessary ×: Not necessary

(b) Station information setting



Item*1	Set value	Setting necessity at GOT connection
Station type	Intelligent device station (fixed)	○
Exclusive station count*2	Exclusive station 1	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 1 mode)], [Remote station points] cannot be set.

*2 Set the same number of occupied stations as that on the GOT.

POINT

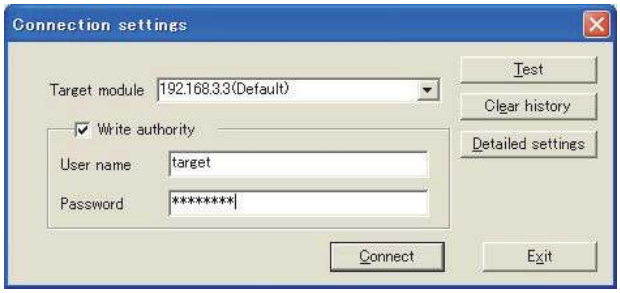
When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

■ Parameter setting (when connecting to C Controller module)

Use SW3PVC-CCPU-E Ver.3.05F or later for the CC-Link utility.

(1) Connection settings



Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3 (Default)	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

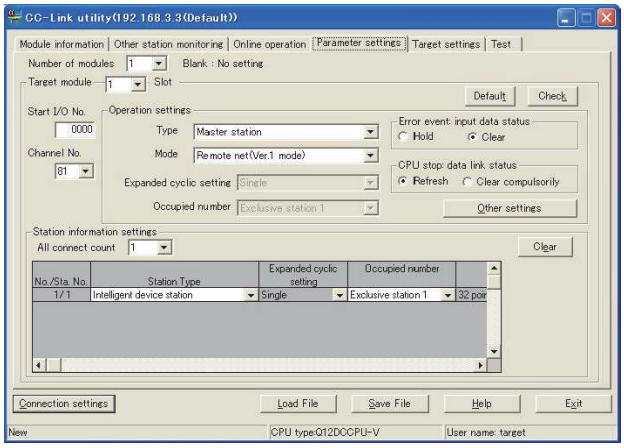
○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

(2) CC-Link Utility's [Parameter Settings]

(a) Parameter settings



Item*1			Set value	Setting necessity at GOT connection
Number of modules			1	○
Target module			1	○
Start I/O No.			0000H	○
Channel No.			(Use default value)	○
Operation settings	Type		Master station (fixed)	○
	Mode		Remote net (Ver.1 mode)	○
	Expanded cyclic setting		Single	△
	Occupied number		Exclusive station 1	△
	Error event: input data status		Clear	△
	CPU stop: data link status		Refresh	△
	Other settings		(Use default value)	△
Station information settings	All connect count		1	○
	Station Type	Sta. No.1	Intelligent device station	○
	Occupied number*2	Sta. No.1	Exclusive station 1	○
	Reserve/invalid station select	Sta. No.1	No setting	○
	Intelligent buffer select (word)		(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 1 mode)], [Remote station points] cannot be set.

*2 Set the same number of occupied stations as that on the GOT.

POINT

When changing the network parameter

After writing the network parameter to the C Controller module, either turn the C Controller module OFF and then ON or reset it.

■ [Controller Setting] of GT Designer3

Item	Set value
Station No.	1: Station No.1
Transmission Rate	0: Online 156kbps
Mode	Ver.1: Remote net (Ver.1 mode)
Expanded Cyclic	Single (Use default value)
Number of stations occupied	1 Station
Input for Error Station	0: Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

12.3.1 Setting communication interface (Communication settings)

12.4.2 Connecting to CC-Link module (Q Series) with Ver.2 compatible

This section describes the settings of the GOT and CC-Link module (Q Series) in the following case of system configuration.

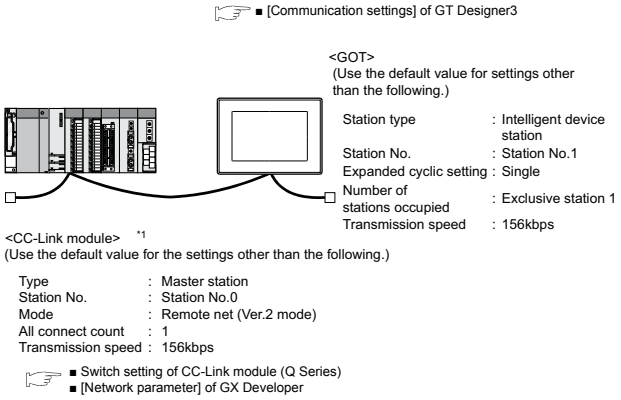
POINT

CC-Link module (Q Series)

For details of the CC-Link module (Q Series), refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N

■ System configuration



*1 The CC-Link module is mounted on the base unit slot 0. The Start I/O No. of the CC-Link module is set to "0"

POINT

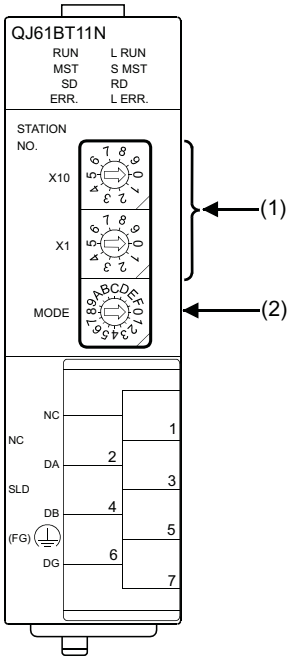
When connecting to Q170MCPU or Q170MSCPU(-S1)

When connected to Q170MCPU or Q170MSCPU(-S1), the start I/O No. of the CC-Link module is set to "70".

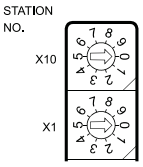
■ Switch setting of CC-Link module (Q Series)

Set the station number setting switch, transmission speed / mode setting switch.

QJ61BT11N

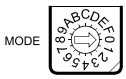


(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
	Station number setting (master station)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) Transmission rate/mode setting switch

Transmission rate/mode setting switch	Description	Set value	Setting necessity at GOT connection
	Transmission rate/mode setting (Online: 156kbps)*1	0	○

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same transmission speed as that of the GOT.

POINT

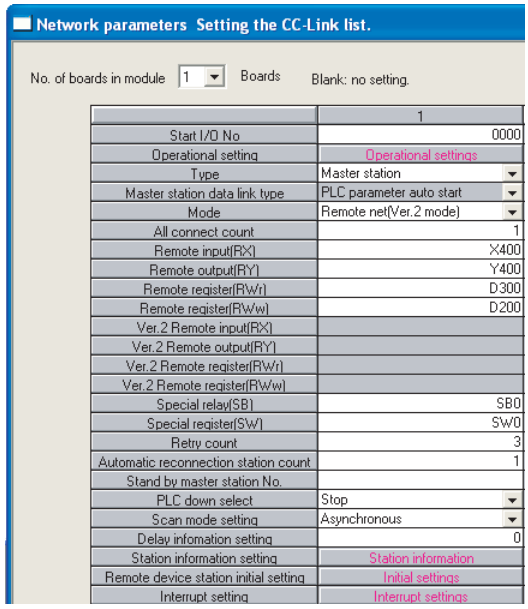
When the switch setting has been changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ Parameter setting (when connecting to MELSEC-Q or QS series)

(1) [Network parameter] of GX Developer

(a) Network parameter

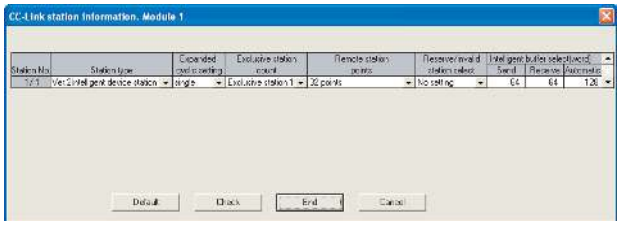


Item	Set value	Setting necessity at GOT connection
No. of boards in module	1	○
Start I/O No.*1	0000H	○
Operation setting	(Use default value)	△
Type	Master station	○
Mode	Remote net (Ver.2 mode)	○
All connect count	1	○
Remote input (RX)	X400	△
Remote output (RY)	Y400	△
Remote register (RWr)	D300	△
Remote register (RWw)	D200	△
Special relay (SB)	SB0	△
Special register (SW)	SW0	△
Retry count	(Use default value)	△
Automatic reconnection station count		△
Stand by master station No.		×
PLC down select		△
Scan mode setting		△
Delay information setting		△
Station information setting	Refer to (b)	○
Remote device station initial setting	(Use default value)	×
Interrupt setting		×

○: Necessary △: As necessary ×: Not necessary

*1 When using Q170MCPU, Q170MSCPU(-S1), set it according to the system configuration.

(b) Station information setting



Item*1	Set value	Setting necessity at GOT connection
Station type	Ver.2 intelligent device station (fixed)	○
Expanded cyclic setting*2	Single	○
Exclusive station count*2	Exclusive station 1	○
Remote station points	32 points (fixed)	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 2 mode)], [Remote station points] can be set. [Remote station points] is a setting for the remote I/O station. The default value (32 points) must be used on the GOT.

*2 Set the same setting as that of the GOT.

POINT

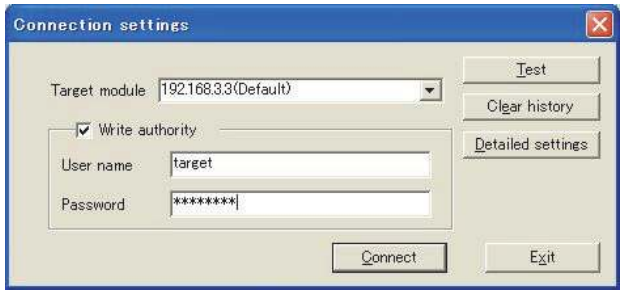
When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

■ Parameter setting (when connecting to C Controller module)

Use SW3PVC-CCPU-E Ver.3.05F or later for the CC-Link utility.

(1) Connection settings



Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3 (Default)	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

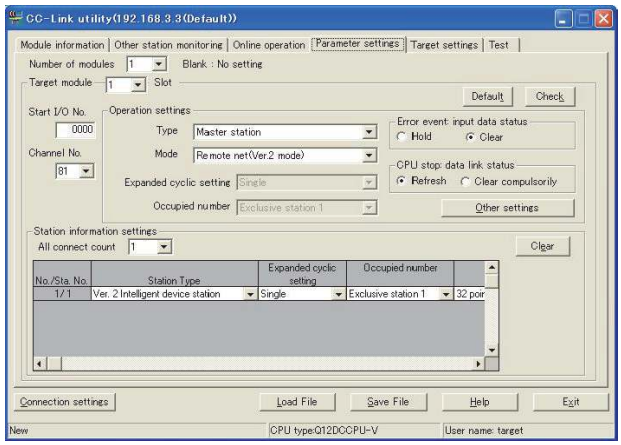
○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

(2) CC-Link Utility's [Parameter Settings]

(a) Parameter settings



Item*1	Set value	Setting necessity at GOT connection
Number of modules	1	○
Target module	1	○
Start I/O No.	0000H	○
Channel No.	(Use default value)	○

	Item*1		Set value	Setting necessity at GOT connection
Operation settings	Type		Master station	○
	Mode		Remote net (Ver.2 mode)	○
	Expanded cyclic setting		Single	△
	Occupied number		Exclusive station 1	△
	Error event: input data status		Clear	△
	CPU stop: data link status		Refresh	△
	Other settings		(Use default value)	△
Station information settings	All connect count		1	○
	Station Type	Sta. No.1	Ver.2 intelligent device station	○
	Expanded cyclic setting*2	Sta. No.1	Single	○
	Occupied number*2	Sta. No.1	Exclusive station 1	○
	Remote station points	Sta. No.1	32 points	○
	Reserve/invalid station select	Sta. No.1	No setting	○
	Intelligent buffer select (word)		(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 2 mode)], [Remote station points] can be set. [Remote station points] is a setting for the remote I/O station. The default value (32 points) must be used on the GOT.

*2 Set the same setting as that of the GOT.

POINT

When changing the network parameter

After writing the network parameter to the C Controller module, either turn the C Controller module OFF and then ON or reset it.

■ [Communication settings] of GT Designer3

Item	Set value
Station No.	1: Station No.1
Transmission Rate	0: Online 156kbps
Mode	Ver.2: Remote net (Ver.2 mode)
Expanded Cyclic	Single
Number of stations occupied	1 Station
Input for Error Station	Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 12.3.1 Setting communication interface (Communication settings)

12.4.3 Connecting to CC-Link module (Q Series) with Ver.1/Ver.2 compatibles mixed

This section describes the setting of the GOT and CC-Link module (Q Series) with Ver.1/Ver.2 compatibles mixed in the following system configuration.

POINT

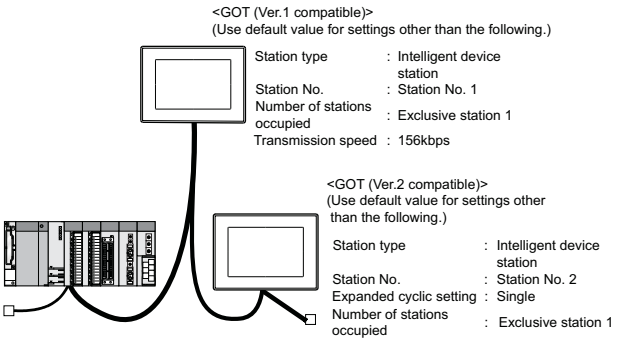
CC-Link module (Q Series)

For details of the CC-Link module (Q Series), refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N

■ System configuration

■ [Controller Setting] of GT Designer3



■ Switch setting of CC-Link module (Q Series)
■ [Network parameter] of GX Developer

*1 The CC-Link module is mounted on the base unit slot 0. The Start I/O No. of the CC-Link module is set to "0"

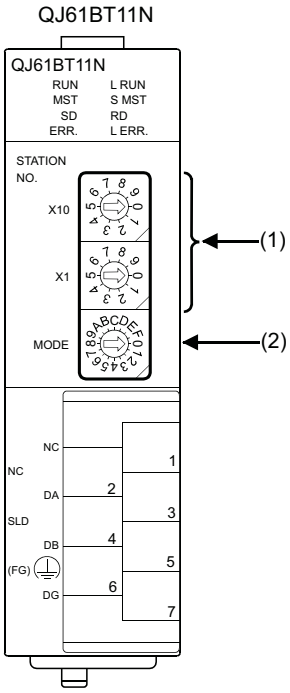
POINT

When connecting to Q170MCPU or Q170MSCPU(-S1)

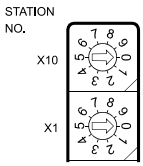
When connected to Q170MCPU or Q170MSCPU(-S1), the start I/O No. of the CC-Link module is set to "70".

■ Switch setting of CC-Link module (Q Series)

Set the station number setting switch, transmission speed / mode setting switch.



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
	Station number setting (master station)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) Transmission rate/mode setting switch

Transmission rate/mode setting switch	Description	Set value	Setting necessity at GOT connection
	Transmission rate/ mode setting (Online: 156kbps)*1	0	○

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same transmission speed as that of the GOT.

POINT

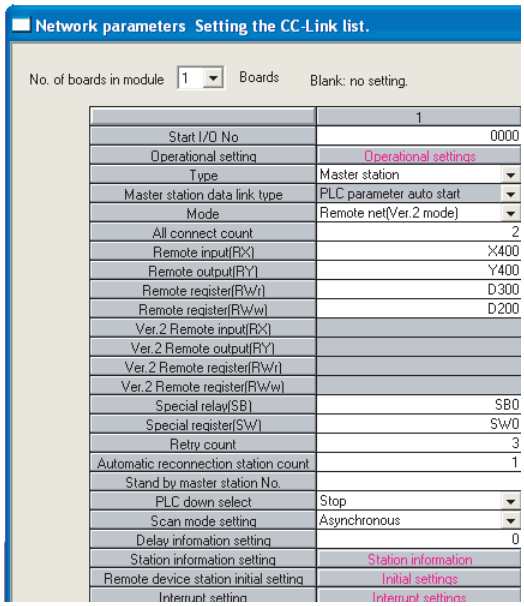
When the switch setting has been changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ Parameter setting (when connecting to MELSEC-Q or QS series)

(1) [Network parameter] of GX Developer

(a) Network parameter

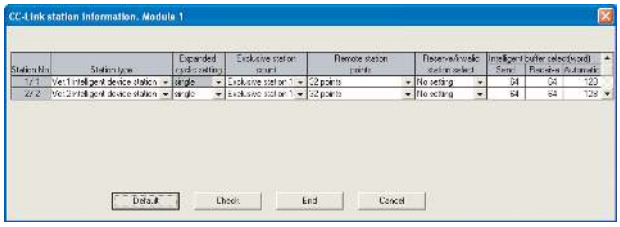


Item	Set value	Setting necessity at GOT connection
No. of boards in module	1	○
Start I/O No.*1	0000H	○
Operation setting	(Use default value)	△
Type	Master station (fixed)	○
Mode	Remote net (Ver.2 mode)	○
All connect count	2	○
Remote input (RX)	X400	△
Remote output (RY)	Y400	△
Remote register (RWr)	D300	△
Remote register (RWw)	D200	△
Special relay (SB)	SB0	△
Special register (SW)	SW0	△
Retry count	(Use default value)	△
Automatic reconnection station count		△
Stand by master station No.		×
PLC down select		△
Scan mode setting		△
Delay information setting		△
Station information setting	Refer to (b)	○
Remote device station initial setting	(Use default value)	×
Interrupt setting		×

○: Necessary △: As necessary ×: Not necessary

*1 When using Q170MCPU or Q170MSCPU(-S1), set it according to the system configuration.

(b) Station information setting



• Station information setting of station No.1 (GOT)

Item*1	Set value	Setting necessity at GOT connection
Station type	Ver.1 intelligent device station (fixed)	○
Exclusive station count*2	Exclusive station 1	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

• Station information setting of station No.2 (GOT)

Item*1	Set value	Setting necessity at GOT connection
Station type	Ver.2 intelligent device station (fixed)	○
Expanded cyclic setting*2	Single	○
Exclusive station count*2	Exclusive station 1	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 2 mode)], [Remote station points] can be set. [Remote station points] is a setting for the remote I/O station. The default value (32 points) must be used on the GOT.

*2 Set the same setting as that of the GOT.

POINT

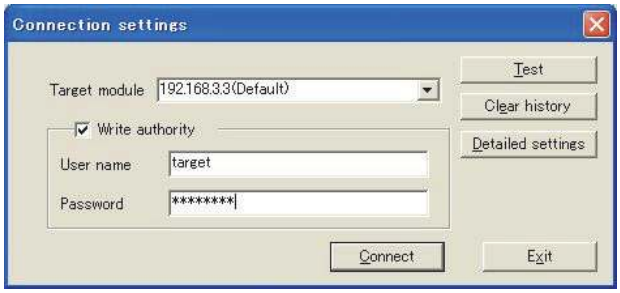
When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

■ Parameter setting (when connecting to C Controller module)

Use SW3PVC-CCPU-E Ver.3.05F or later for the CC-Link utility.

(1) Connection settings



Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3 (Default)	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

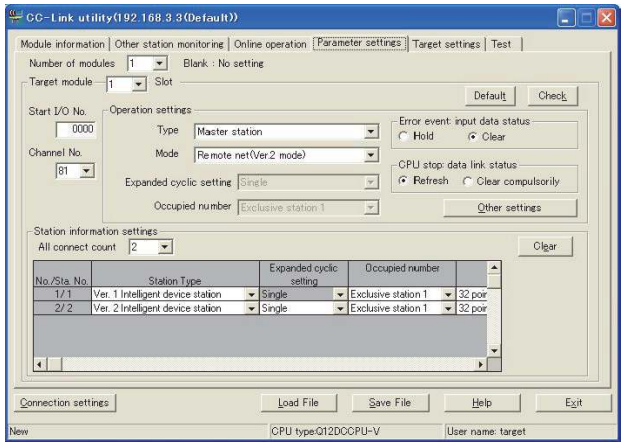
○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

(2) CC-Link Utility's [Parameter Settings]

(a) Parameter settings



Item*1			Set value	Setting necessity at GOT connection
Number of modules			1	○
Target module			1	○
Start I/O No.			0000H	○
Channel No.			(Use default value)	○
Operation settings	Type		Master station	○
	Mode		Remote net (Ver.2 mode)	○
	Expanded cyclic setting		Single	△
	Occupied number		Exclusive station 1	△
	Error event: input data status		Clear	△
	CPU stop: data link status		Refresh	△
	Other settings		(Use default value)	△
Station information settings	All connect count		2	○
	Station Type	Sta. No.1	Ver.1 intelligent device station	○
		Sta. No.2	Ver.2 intelligent device station	○
	Expanded cyclic setting*2	Sta. No.1	Single	△
		Sta. No.2	Single	○
	Occupied number*2	Sta. No.1	Exclusive station 1	○
		Sta. No.2	Exclusive station 1	○
	Remote station points	Sta. No.1	32 points	○
		Sta. No.2	32 points	○

Item*1			Set value	Setting necessity at GOT connection
Station information settings	Reserve/invalid station select	Sta. No.1	No setting	○
		Sta. No.2	No setting	○
	Intelligent buffer select (word)		(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 2 mode)], [Remote station points] can be set. [Remote station points] is a setting for the remote I/O station. The default value (32 points) must be used on the GOT.

*2 Set the same setting as that of the GOT.

POINT

When changing the network parameter

After writing the network parameter to the C Controller module, either turn the C Controller module OFF and then ON or reset it

■ [Controller Setting] of GT Designer3

(1) Communication Settings of station No.1 (GOT)

Item	Set value
Station No.	1: Station No.1
Transmission Rate	0: Online 156kbps
Mode	Ver.1: Remote net (Ver.1 mode)
Expanded Cyclic	Single (Use default value)
Number of stations occupied	1 Station
Input for Error Station	0: Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

(2) Communication Settings of station No.2 (GOT)

Item	Set value (Use default value)
Station No.	2: Station No.2
Transmission Rate	0: Online 156kbps
Mode	Ver.2: Remote net (Ver.2 mode)
Expanded Cyclic	Single
Number of stations occupied	1 Station
Input for Error Station	0: Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

12.4.4 Connecting to MELSEC-L series with CC-Link Ver.1 compatible

This section describes the settings of the GOT and MELSEC-L in the following case of the system configuration.

POINT

(1) CC-Link module (L Series)
For details of the CC-Link module (L Series), refer to the following manual.

☞ MELSEC-L CC-Link System Master/Local Module User's Manual

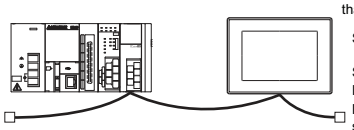
(2) CC-Link function built-in CPU
For details on the CC-Link function built-in CPU, refer to the following manual.

☞ MELSEC-L CC-Link System Master/Local Module User's Manual

■ System configuration

(Example when using CC-Link module (L Series))

☞ ■ [Controller Setting] of GT Designer3



<GOT>
(Use the default value for settings other than the following.)

Station type : Intelligent device station
Station No. : Station No.1
Expanded cyclic setting : Single
Number of stations occupied : Exclusive station
Transmission speed : 156kbps

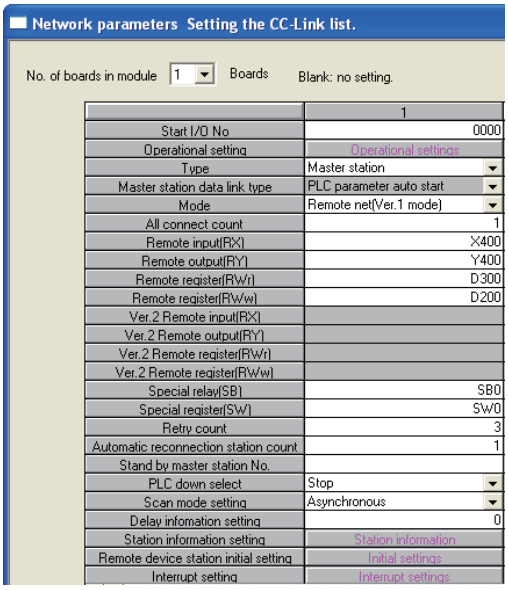
<CC-Link module> *1
(Use the default value for the settings other than the following.)

Type : Master station
Station No. : Station No.0
Mode : Remote net (Ver.1 mode)
All connect count : 1
Transmission speed : 156kbps

☞ ■ [Network parameter] of GX Developer

■ [Network parameter] of GX Developer

(1) Network parameter

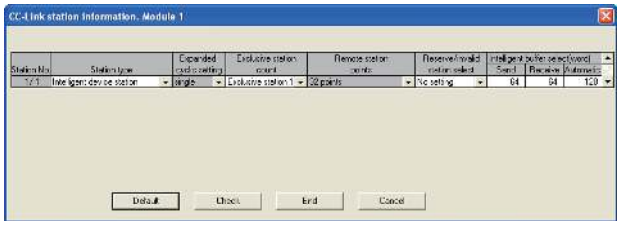


Item	Set value	Setting necessity at GOT connection
No. of boards in module	1	○
Start I/O No.*1	0000H	○
Operation setting	(Use default value)	△
Type	Master station (fixed)	○
Mode	Remote net (Ver.1 mode)	○
All connect count	1	○
Remote input (RX)	X400	△
Remote output (RY)	Y400	△
Remote register (RWr)	D300	△
Remote register (RWw)	D200	△
Special relay (SB)	SB0	△
Special register (SW)	SW0	△
Retry count	(Use default value)	△
Automatic reconnection station count		△
Stand by master station No.		×
PLC down select		△
Scan mode setting		△
Delay information setting		△
Station information setting	Refer to (2)	○
Remote device station initial setting	(Use default value)	×
Interrupt setting		×

○: Necessary △: As necessary ×: Not necessary

*1 Set the Start I/O No. of the CC-Link module according to the system configuration.

(2) Station information setting



Item*1	Set value	Setting necessity at GOT connection
Station type	Intelligent device station (fixed)	○
Exclusive station count*2	Exclusive station 1	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 1 mode)], [Remote station points] cannot be set.

*2 Set the same setting as that of the GOT.

POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

■ [Controller Setting] of GT Designer3

Item	Set value
Station No.	1: Station No.1
Transmission Rate	0: Online 156kbps
Mode	Ver.1: Remote net (Ver.1 mode)
Expanded Cyclic	Single (Use default value)
Number of stations occupied	1 Station
Input for Error Station	0: Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

12.3.1 Setting communication interface (Communication settings)

12.4.5 Connecting to MELSEC-L series with CC-Link Ver.2 compatible

This section describes the settings of the GOT and MELSEC-L in the following case of the system configuration.

POINT

(1) CC-Link module (L Series)
For details of the CC-Link module (L Series), refer to the following manual.

☞ MELSEC-L CC-Link System Master/Local Module User's Manual

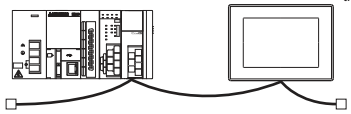
(2) CC-Link function built-in CPU
For details on the CC-Link function built-in CPU, refer to the following manual.

☞ MELSEC-L CC-Link System Master/Local Module User's Manual

■ System configuration

(Example when using CC-Link module (L Series))

☞ ■ [Controller Setting] of GT Designer3



<GOT>
(Use the default value for settings other than the following.)

Station type : Intelligent device station
Station No. : Station No.1
Expanded cyclic setting : Single
Number of stations occupied : Exclusive station
Transmission speed : 156kbps

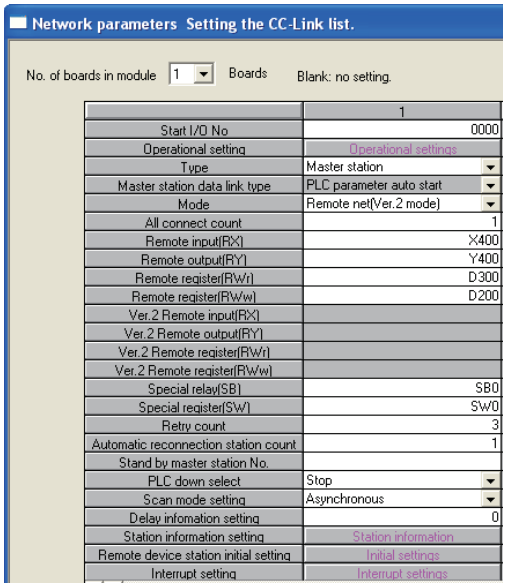
<CC-Link module> *1
(Use the default value for the settings other than the following.)

Type : Master station
Station No. : Station No.0
Mode : Remote net (Ver.3 mode)
All connect count : 1
Transmission speed : 156kbps

☞ ■ [Network parameter] of GX Developer

■ [Network parameter] of GX Developer

(1) Network parameter

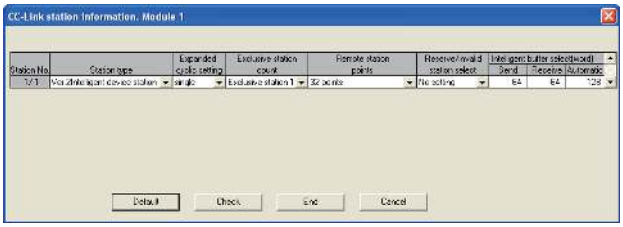


Item	Set value	Setting necessity at GOT connection
No. of boards in module	1	○
Start I/O No.*1	0000H	○
Operation setting	(Use default value)	△
Type	Master station (fixed)	○
Mode	Remote net (Ver.2 mode)	○
All connect count	1	○
Remote input (RX)	X400	△
Remote output (RY)	Y400	△
Remote register (RWr)	D300	△
Remote register (RWw)	D200	△
Special relay (SB)	SB0	△
Special register (SW)	SW0	△
Retry count	(Use default value)	△
Automatic reconnection station count		△
Stand by master station No.		×
PLC down select		△
Scan mode setting		△
Delay information setting		△
Station information setting	Refer to (2)	○
Remote device station initial setting	(Use default value)	×
Interrupt setting		×

○: Necessary △: As necessary ×: Not necessary

*1 Set the Start I/O No. of the CC-Link module according to the system configuration.

(2) Station information setting



Item*1	Set value	Setting necessity at GOT connection
Station type	Ver.2 intelligent device station (fixed)	○
Expanded cyclic setting*2	Single	○
Exclusive station count*2	Exclusive station 1	○
Remote station points	32 points (fixed)	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 2 mode)], [Remote station points] can be set. [Remote station points] is a setting for the remote I/O station. The default value (32 points) must be used on the GOT.

*2 Set the same setting as that of the GOT.

POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU either turning OFF and then ON or resetting.

■ [Controller Setting] of GT Designer3

Item	Set value
Station No.	1: Station No.1
Transmission Rate	0: Online 156kbps
Mode	Ver.2: Remote net (Ver.2 mode)
Expanded Cyclic	Single
Number of stations occupied	1 Station
Input for Error Station	0: Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

12.3.1 Setting communication interface (Communication settings)

12.4.6 Connecting to CC-Link module (QnA Series)

This section describes the settings of the GOT and CC-Link module (QnA Series) in the following case of system configuration.

POINT

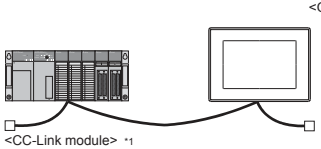
CC-Link module (QnA Series)

For details of the CC-Link module (QnA Series), refer to the following manual.

Control & Communication Link System Master/ Local Module Type AJ61QBT11/A1SJ61QBT11 User's Manual

■ System configuration

■ [Controller Setting] of GT Designer3



<GOT> (Use the default value for settings other than the following.)

Station type : Intelligent device station
Station No. : Station No.1
Number of stations occupied : Exclusive station 1
Transmission speed : 156kbps

<CC-Link module> *1
(Use the default value for settings other than the following.)

Station type : Master station
Station No. : Station No.0
Mode setting : Remote net mode
All connect count : 1
Transmission speed : 156kbps

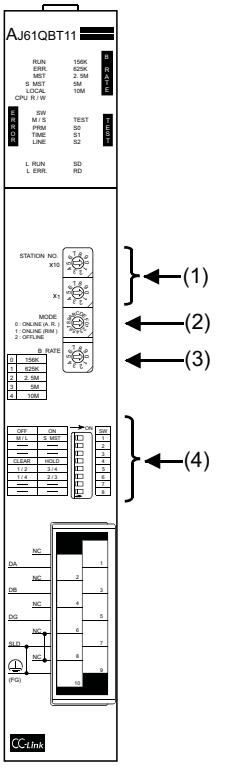
■ Switch settings of CC-Link module (QnA Series)
■ Parameter setting

*1 The CC-Link module is mounted on the base unit slot 0. The Start I/O No. of the CC-Link module is set to "0"

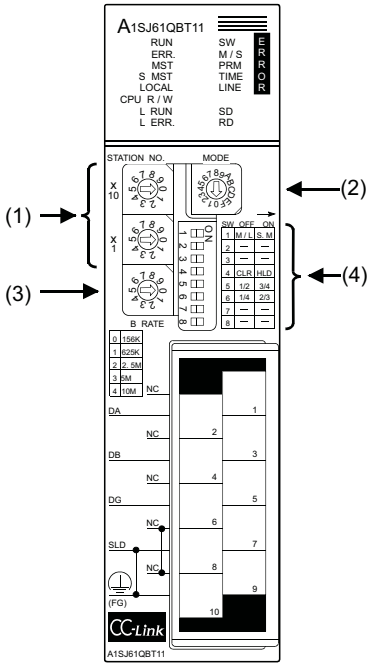
■ Switch settings of CC-Link module (QnA Series)

Set for each setting switch.

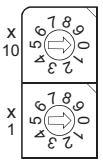
AJ61QBT11



A1SJ61QBT11



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
	Station number setting (master station)	0 (fixed)	○

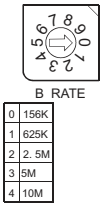
○: Necessary △: As necessary ×: Not necessary

(2) Mode setting switch

Mode setting switch	Description	Set value	Setting necessity at GOT connection
	Mode setting (Online: Remote net mode)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

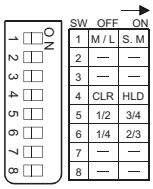
(3) Transmission speed setting switch

Transmission speed setting switch	Description	Set value	Setting necessity at GOT connection
	Transmission speed setting (156kbps)*1	0	○

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same transmission speed as that of the GOT.

(4) Condition setting switches

Condition setting switches	Setting switch	Description	Set value	Setting necessity at GOT connection
	SW1	Station type (Master station/Local station)	OFF (fixed)	○
	SW2	Not used	OFF (fixed)	×
	SW3			
	SW4	Input data status of the data link error station (clear)	OFF	△
	SW5	Number of stations occupied*2	OFF (fixed)	×
	SW6			
	SW7	Not used	OFF (fixed)	×
	SW8			

○: Necessary △: As necessary ×: Not necessary

*2 Will be valid when the CC-Link module is the local station.
In the case of the master station, turn off it.

POINT

When the switch setting has been changed
Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

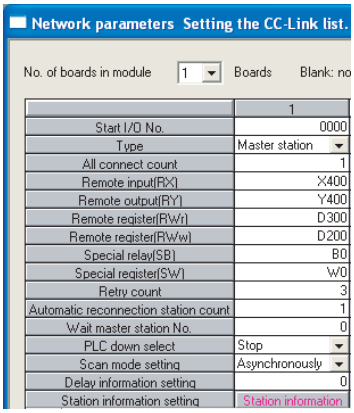
■ Parameter setting

There are two methods for the parameter setting: perform the setting from [Network parameter] of GX Developer and the sequence program.

Performing it from the [Network parameter] of the GX Developer can be set only when the PLC CPU and the CC-Link module use the function version B or later.

(1) Setting from [Network parameter] of GX Developer

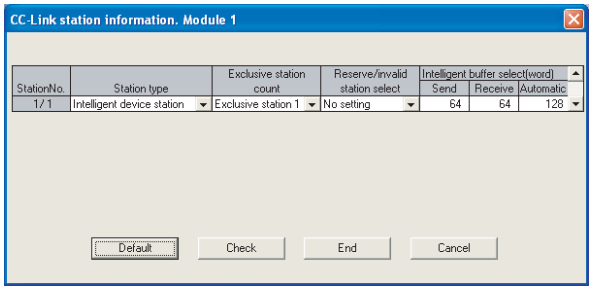
(a) Network parameter



Item	Set value	Setting necessity at GOT connection
No. of boards in module	1	○
Start I/O No.	0000H	○
Type	Master station (fixed)	○
All connect count	1	○
Remote input (RX)	X400	△
Remote output (RY)	Y400	△
Remote register (RWr)	D300	△
Remote register (RWw)	D200	△
Special relay (SB)	B0	△
Special register (SW)	W0	△
Retry count	(Use default value)	△
Automatic reconnection station count		△
Wait master station No.		×
PLC down select		△
Scan mode setting		△
Delay information setting		△
Station information setting	Refer to (2)	○

○: Necessary △: As necessary ×: Not necessary

(b) Station information setting



Item	Set value	Setting necessity at GOT connection
Station type	Intelligent device station (fixed)	○
Exclusive station count*1	Exclusive station 1	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same number of occupied stations as that of the GOT.

POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(2) Setting from sequence program

The parameter is written to the buffer memory, and the data link is automatically started when PLC CPU status changes from STOP to RUN.

(a) I/O signal of CC-Link module

☞ Control & Communication Link System Master/ Local Module Type AJ61QBT11/A1SJ61QBT11 User's Manual

(b) Device used by user

Device	Application
M100, M101	Flag for parameter setting
M102, M103	Flag for data link startup
D0	Number of connected modules
D1	Number of retry
D2	Automatic reconnection station count
D3	Operation specification in the case of CPU failure
D4	Reserved station specification (Station No. 1 to Station No. 16)
D5	Error invalid station specification (Station No. 1 to Station No. 16)
D6	Station data (first module)
D400	Error code in the case of data link startup failure

(c) Buffer memory settings used in the present example

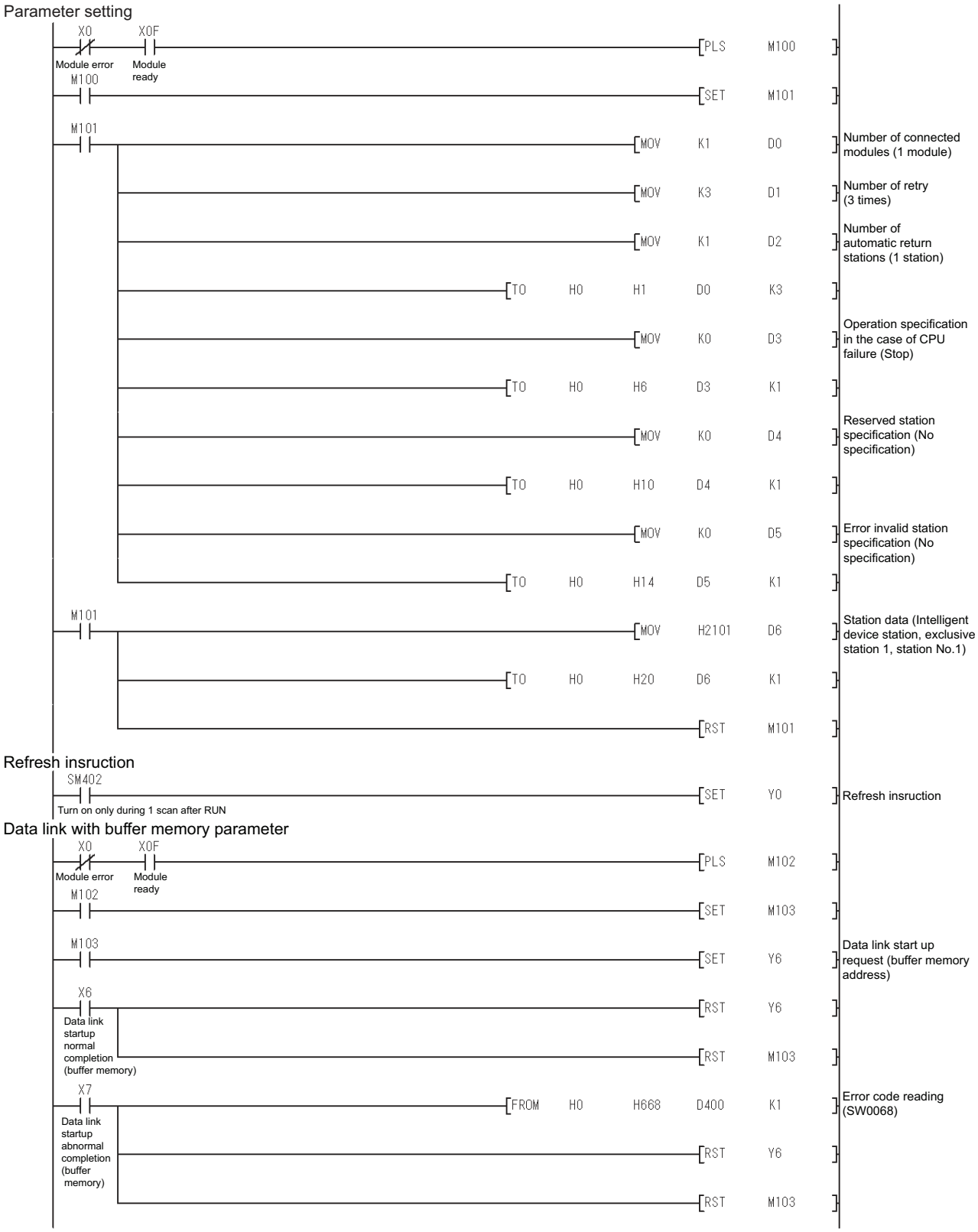
Buffer memory address Decimal (Hex)	Item	Set value
1(11 (1H))	Number of connected modules	1 (1 module)
2(22 (2H))	Number of retry	3 (3times)
3(33 (3H))	Automatic reconnection station count	1 (1 station)
6(66 (6H))	Operation specification in the case of CPU failure	0 (stop)
16(1016 (10H))	Reserved station specification (Station No. 1 to Station No. 16)	0 (No specification)
20(1420 (14H))	Error invalid station specification (Station No. 1 to Station No. 16)	0 (No specification)
32(2032 (20H))	Station data (first module)*1	2101H

*1 Details for the station data are shown below.
For 1) and 2), set the same station No. and number of station occupied as those of the GOT.
For 3), the setting is fixed.

b15 to b12	b11 to b8	b7 to b0
3)	2)	1)

1) Station No. (Set the same station No. as that of the GOT)
01H to 40H: Station No. 1 to Station No. 64
2) Number of stations occupied (Set the number of station occupied as that of the GOT)
1H: Exclusive station 1
2H: Exclusive station 2
3H: Exclusive station 3
4H: Exclusive station 4
3) Station type (2H: Set it to intelligent device station)
0H: Remote I/O station
1H: Remote device station
2H: Intelligent device station (Incl. local station)

(d) Example of sequence program



POINT

When changing the sequence program

After writing the sequence program to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

■ [Controller Setting] of GT Designer3

Item	Set value
Station No.	1: Station No.1
Transmission Rate	0: Online 156kbps
Mode	Ver.1: Remote net (Ver.1 mode)
Expanded Cyclic	Single (Use default value)
Number of stations occupied	1 Station
Input for Error Station	0: Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 12.3.1 Setting communication interface (Communication settings)

12.4.7 Connecting to CC-Link module (A Series)

This section describes the settings of the GOT and CC-Link module (A Series) in the following case of system configuration.

POINT

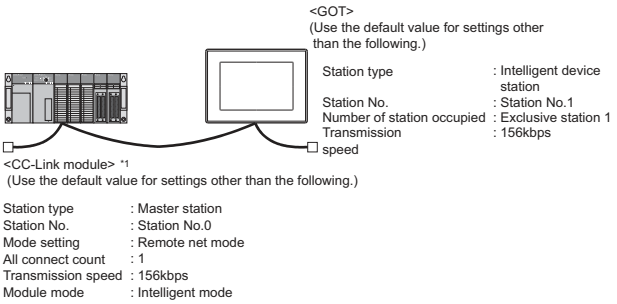
CC-Link module (A Series)

For details of the CC-Link module (A Series), refer to the following manual.

☞ Control & Communication Link System Master/ Local Module Type AJ61BT11/A1SJ61BT11 User's Manual

■ System configuration

☞ ■ [Controller Setting] of GT Designer3

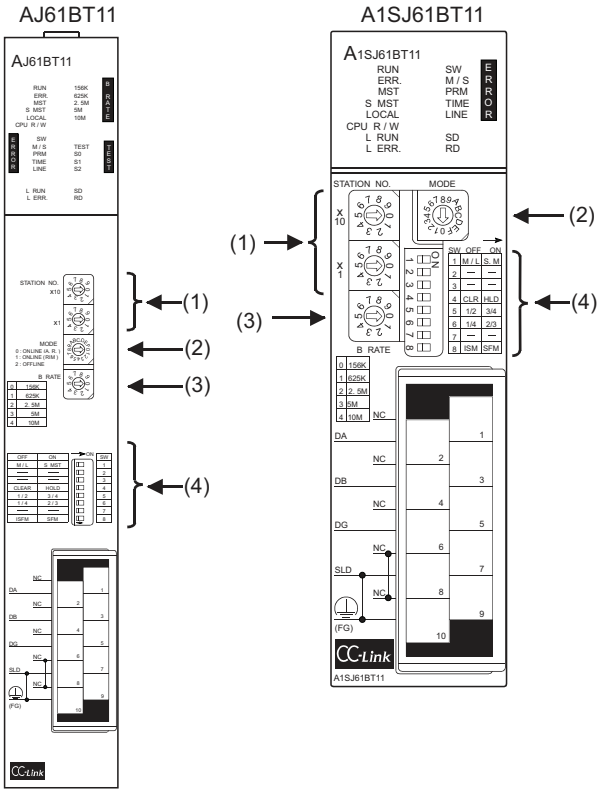


☞ ■ Settings of CC-Link module (A Series)
■ Sequence program

*1 The CC-Link module is mounted on the base unit slot 0. The Start I/O No. of the CC-Link module is set to "0"

■ Settings of CC-Link module (A Series)

Set for each setting switch.



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
STATION NO. x10 x1	Station number setting (master station)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) Mode setting switch

Mode setting switch	Description	Set value	Setting necessity at GOT connection
MODE	Mode setting (Online: Remote net mode)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(3) Transmission speed setting switch

Transmission speed setting switch	Description	Set value	Setting necessity at GOT connection
B RATE 0 156K 1 625K 2 2. 5M 3 5M 4 10M	Transmission speed setting (156kbps)*1	0	○

○: Necessary △: As necessary ×: Not necessary

*1 Specify the same transmission speed as that of the GOT.

(4) Condition setting switches

Condition setting switches	Setting switch	Description	Set value	Setting necessity at GOT connection
ON SW OFF ON 1 M / L S. M 2 — — 3 — — 4 CLR HLD 5 1/2 3/4 6 1/4 2/3 7 — — 8 ISM SFM	SW1	Station type (Master station/Local station)	OFF (fixed)	○
	SW2	Not used	OFF (fixed)	×
	SW3			
	SW4	Input data status of the data link error station (clear)	OFF	△
	SW5	Number of stations occupied*2	OFF (fixed)	×
	SW6			
	SW7	Not used	OFF (fixed)	×
	SW8	Module mode (Intelligent mode)	OFF (fixed)	○

○: Necessary △: As necessary ×: Not necessary

*2 Will be valid when the CC-Link module is a local station.
In the case of the master station, turn off it.

POINT

When the switch setting has been changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

■ Sequence program

The parameter setting and the sequence program of the data link startup request is required.

(1) Programming condition (with CC-Link dedicated instructions)

The program sets the network parameter and automatic refresh parameter when PLC CPU status changes from STOP to RUN, and automatically starts the data link with CC-Link dedicated instructions.

(a) I/O signal of CC-Link module

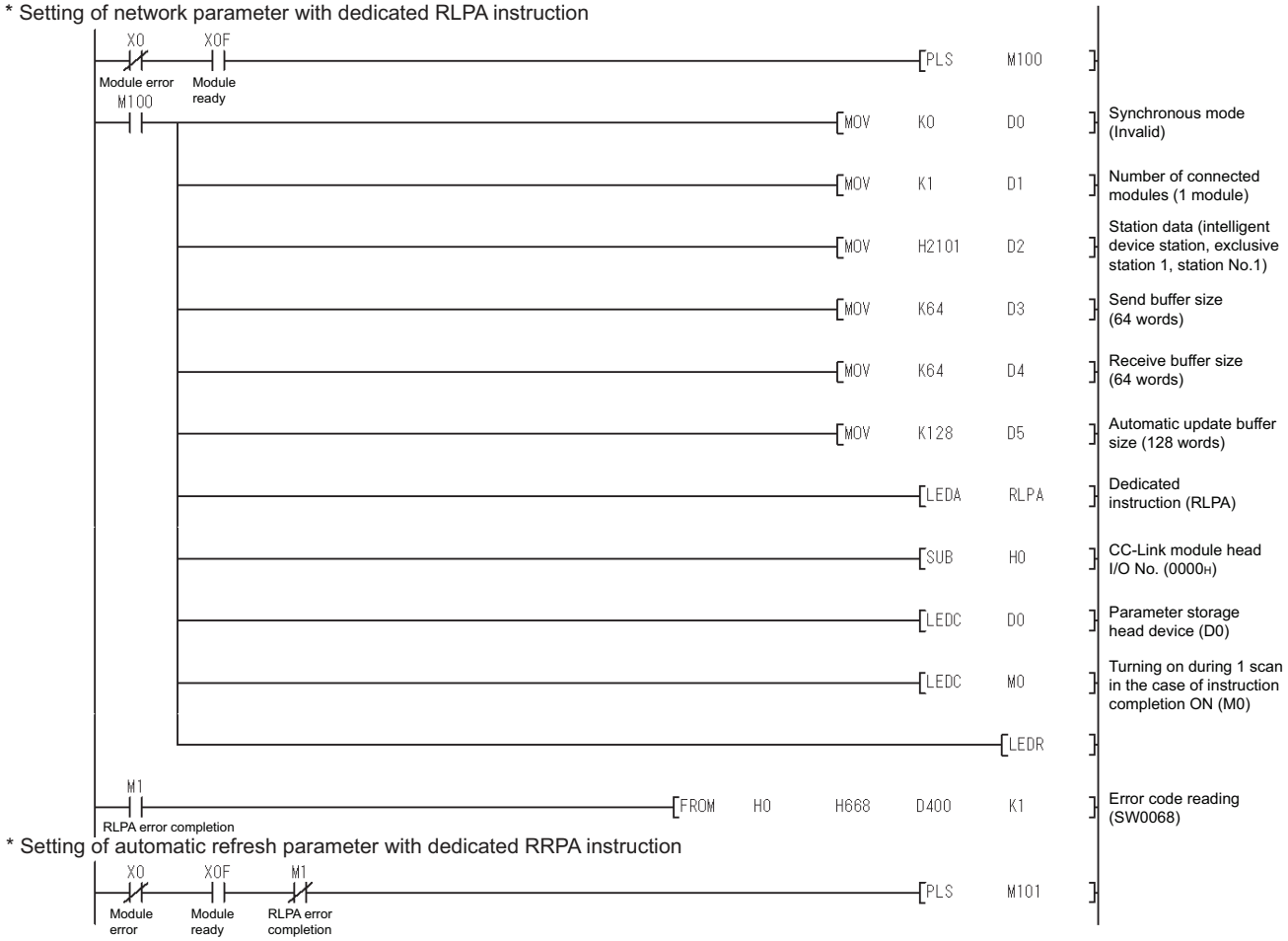
☞ Control & Communication Link System Master/ Local Module Type AJ61BT11/A1SJ61BT11 User's Manual

(b) Device used by user

Device	Application
M0	RLPA instruction normal completion flag
M1	RLPA instruction error completion flag
M100	Network parameter setting flag
M101	Automatic refresh parameter setting flag
D0	Synchronous mode valid/invalid
D1	Number of connected modules
D2	Station data
D3	Send buffer size
D4	Receive buffer size
D5	Automatic update buffer size
D400	Error code in the case of error completion of RLPA instruction
D100 to D103	Automatic refresh setting (RX)
D104 to D107	Automatic refresh setting (RY)
D108 to D111	Automatic refresh setting (RW)
D112 to D115	Automatic refresh setting (SB)
D116 to D119	Automatic refresh setting (SW)

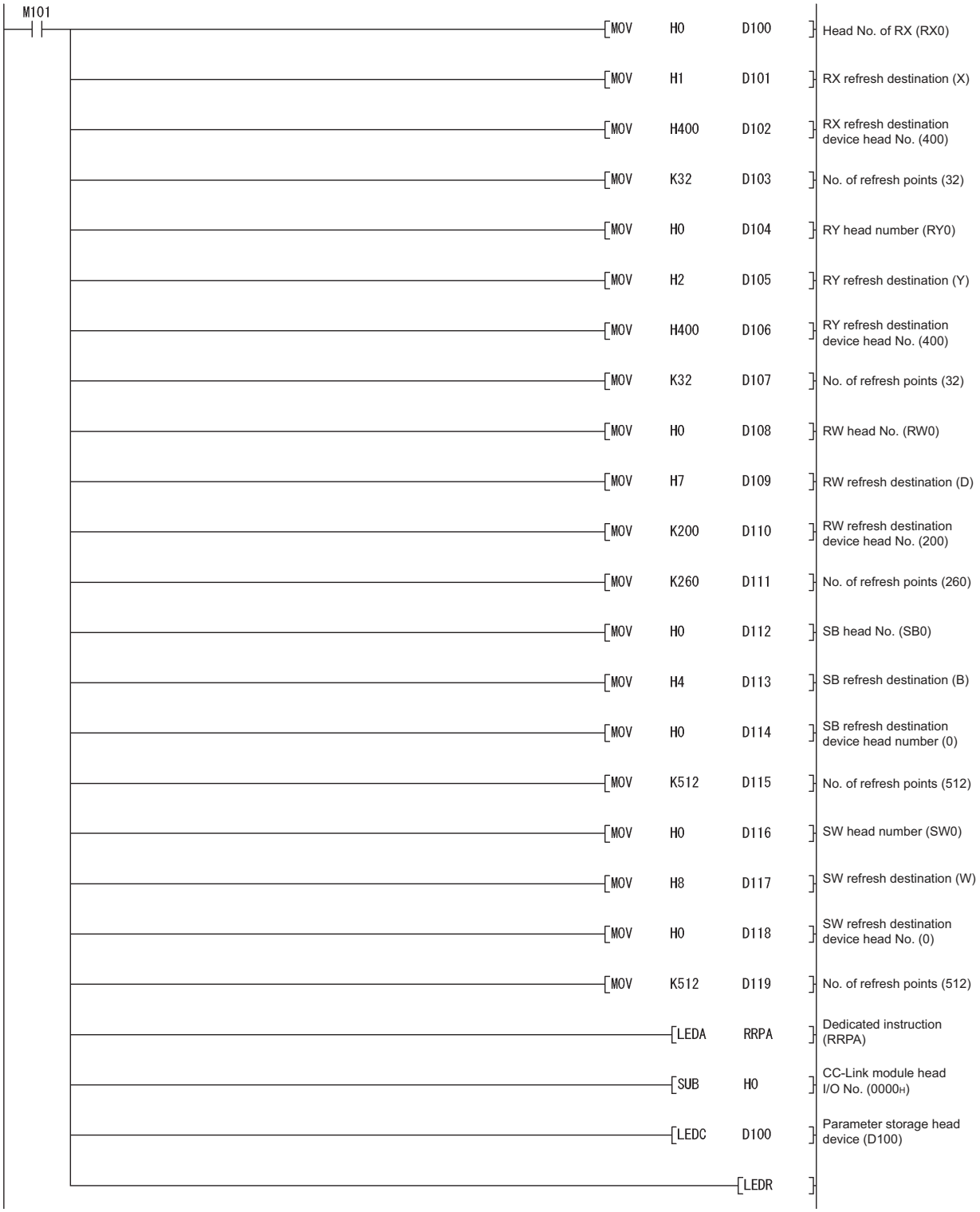
(c) Example of sequence program (CC-Link dedicated instruction)

* Setting of network parameter with dedicated RLPA instruction



* Setting of automatic refresh parameter with dedicated RRPA instruction

(Continued to next page)



POINT

When changing the sequence program

After writing the sequence program to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(2) Program condition (for FROM/TO instruction)
This program writes parameters to the buffer memory when PLC CPU status changes from STOP to RUN and automatically starts the data link with FROM/TO instruction.

(a) I/O signal of CC-Link module

☞ Control & Communication Link System Master/ Local Module Type AJ61BT11/A1SJ61BT11 User's Manual

(b) Devices used by user

Device	Application
M100, M101	Flag for parameter setting
M102, M103	Flag for data link startup
D0	Number of connected modules
D1	Number of retry
D2	Automatic reconnection station count
D3	Operation specification in the case of CPU failure
D4	Reserved station specification (Station No. 1 to Station No. 16)
D5	Error invalid station specification (Station No. 1 to Station No. 16)
D6	Station data (first module)
D400	Error code in the case of data link startup failure

(c) Buffer memory settings used in the present example

Buffer memory address Decimal (Hex)	Item	Set value
1 (1H)	Number of connected modules	1 (1 module)
2 (2H)	Number of retry	3 (3times)
3 (3H)	Automatic reconnection station count	1 (1 station)
6 (6H)	Operation specification in the case of CPU failure	0 (stop)
16 (10H)	Reserved station specification (Station No. 1 to Station No. 16)	0 (No specification)
20 (14H)	Error invalid station specification (Station No. 1 to Station No. 16)	0 (No specification)
32 (20H)	Station data (first module)*1	2101H

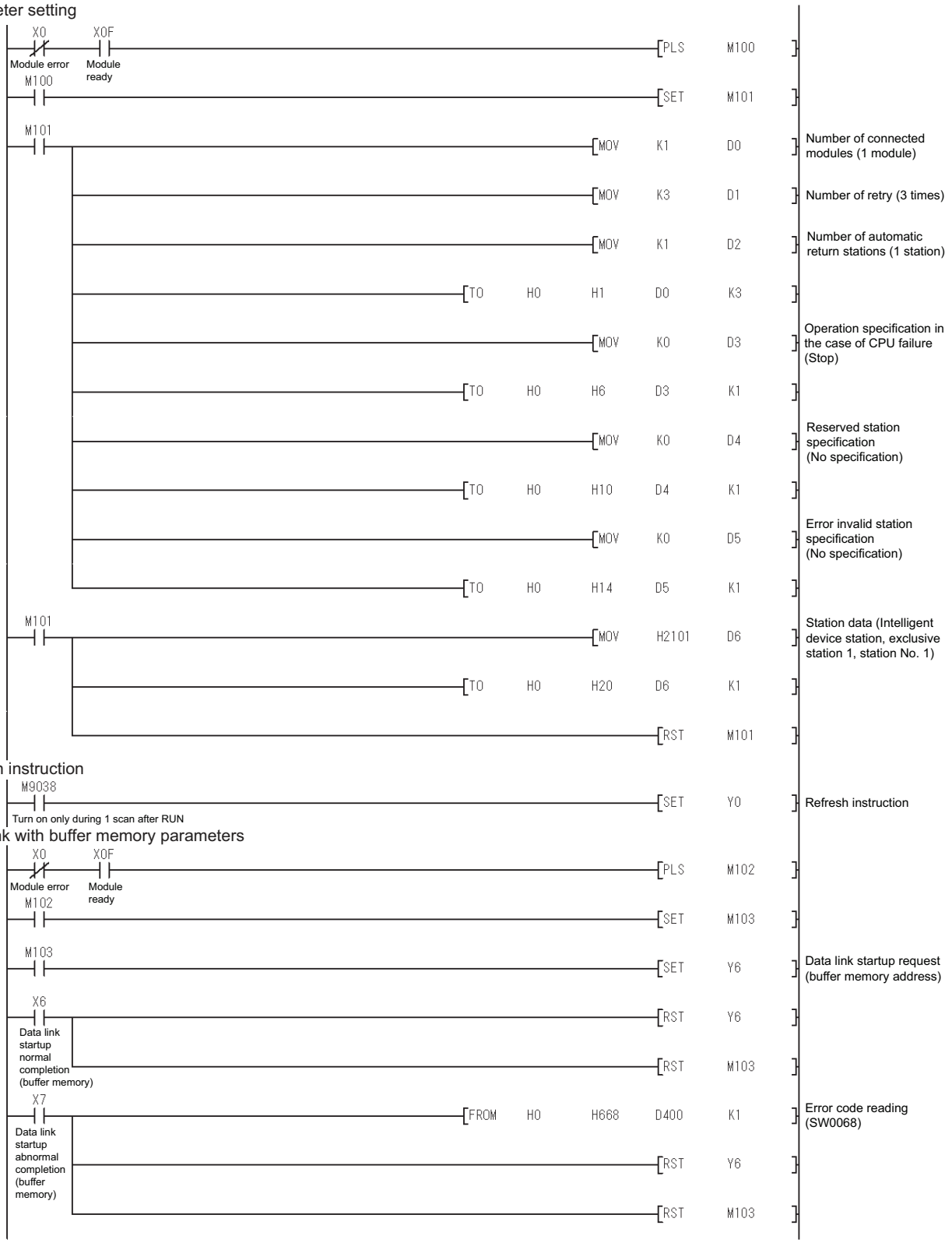
*1 Details for the station data are shown below.
For 1) and 2), set the same station No. and number of station occupied settings as those of the GOT.
For 3), the setting is fixed.

b15 to b12	b11 to b8	b7 to b0
3)	2)	1)

1) Station No. (Set the same station No. as that of the GOT.)
01H to 40H: Station No. 1 to Station No. 64
2) Number of stations occupied (Set the same setting of the number of station occupied as that of the GOT.)
1H: Exclusive station 1
2H: Exclusive station 2
3H: Exclusive station 3
4H: Exclusive station 4
3) Station type (2H: Set it to intelligent device station.)
0H: Remote I/O station
1H: Remote device station
2H: Intelligent device station (Incl. local station)

(d) Example of sequence program (FROM/TO instruction)

* Parameter setting



* Refresh instruction

* Data link with buffer memory parameters

POINT

When changing the sequence program

After writing the sequence program to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

■ [Controller Setting] of GT Designer3

Item	Set value
Station No.	1: Station No.1
Transmission Rate	0: Online 156kbps
Mode	Ver.1: Remote net (Ver.1 mode)
Expanded Cyclic	Single (Use default value)
Number of stations occupied	1 Station
Input for Error Station	0: Clear
Retry	3times (Use default value)
Timeout Time	3sec (Use default value)
Delay Time	0ms (Use default value)

POINT

[Controller Setting] of GT Designer3

For the setting method of [Controller Setting] of GT Designer3, refer to the following.

☞ 12.3.1 Setting communication interface (Communication settings)

12.5 Precautions

■ Using cyclic transmission

(1) I/O signal for master station

Do not turn on the reserved output signals in the output signals (remote output: RY) to the GOT from the master station.

When the reserved output signal is turned on, the PLC system may be malfunctioned.

For the assignment of I/O signals in the GOT, refer to the following manual.

☞ MODEL GT15-J61BT13 CC-Link communication unit User's Manual

☞ GT15 CC-Link communication unit User's Manual

(2) Access range that can be monitored

The monitoring range of remote I/O (RX and RY) and that of the remote registers (RWr and RWw) vary according to the mode in the master station of the CC-Link system.

Mode of master station	Applicable of monitoring	
	Data for each station compatible with CC-Link ver.1	Data for each station compatible with CC-Link ver.2
Remote net mode	○	-
Remote net ver.1 mode	○	-
Remote net ver.2 mode	○	○*1
Remote net additional mode	○	○*1

○: Applicable ×: N/A(All "0") -: N/A of system configuration

*1 Monitoring is applicable only when MODEL GT15-J61BT13 CC-Link communication unit is used.

(3) When GOT malfunctions, the cyclic output status remains the same as before becoming faulty.

■ For transient transmission

(1) CC-Link module of target station

Mount the CC-Link module of function version B or later and software version J or later to the PLC CPU when performing the following CC-Link modules and transient transmission.

Only cyclic transmission can be communicated with the CC-Link module of function version A or before and software version I or before.

- AJ61BT11
- A1SJ61BT11
- AJ61QBT11
- A1SJ61QBT11

(2) Access range that can be monitored

The GOT can access to the PLC CPU mounting the master and local station of the CC-Link System.

It cannot access another network via the CC-Link module.

■ GOT startup in the CC-Link connection (intelligent device station)

For CC-Link connection (intelligent device station), the data link is started approximately 10 seconds after the GOT startup.

■ When a network error occurs in the system alarm

In the CC-Link connection (intelligent device station), when a network error occurs in the system alarm, the system alarm display cannot be canceled even though the causes are removed.

To cancel the system alarm display, restart the GOT.

■ Connection in the multiple CPU system

When the GOT is connected to multiple CPU system, the following time is taken until when the PLC runs.

QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more

MELDAS C70: 18 seconds or more

When the GOT starts before the PLC runs, a system alarm occurs.Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to LCPU

LCPU may diagnose (check file system, execute recovering process, etc.) the SD memory card when turning on the power or when resetting. Therefore, it takes time until the SD memory card becomes available. When the GOT starts before the SD card becomes available, a system alarm occurs. Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to Q17nDCPU, Q170MCPU, Q170MSCPU(-S1), CNC C70, or CRnQ-700

The Q17nDCPU, Q170MCPU, Q170MSCPU(-S1), CNC C70, and CRnQ-700 are applicable to CC-Link Ver.2 only.

For connecting to the CC-Link (ID) network system, set the CC-Link (ID) network system to the CC-Link Ver.2 mode.

■ Connection to Q170MCPU or Q170MSCPU(-S1)

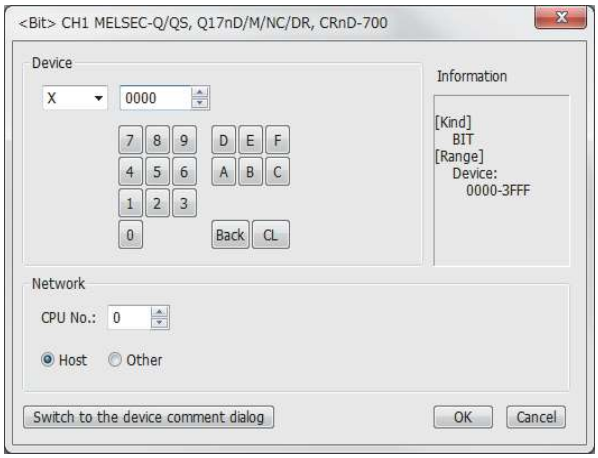
Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

When the CPU No. is set to "0" or "1", the device on the PLC CPU area (CPU No.1) is monitored.
When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device



13

CC-Link CONNECTION (Via G4)

13. CC-Link CONNECTION (Via G4)

13.1 Connectable Model List

13.1.1 PLC/Motion controller CPU

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-Q (Q mode)	Q00JCPU Q00CPU*1 Q01CPU*1 Q02CPU*1 Q02HCPU*1 Q06HCPU*1 Q12HCPU*1 Q25HCPU*1	○	CC-Link (G4)	GT27 GT23 GS	13.2.1
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU Q12PRHCPU (Main base) Q25PRHCPU (Main base) Q12PRHCPU (Extension base) Q25PRHCPU (Extension base)	○	CC-Link (G4)	GT27 GT23 GS	
	Q00UJCPU Q00UCPU Q01UCPU Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU	○	CC-Link (G4)	GT27 GT23 GS	

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.

Series	Model name	Clock	Communication type	Connectable model	Refer to
C Controller module	Q12DCCPU-V[*1] Q24DHCCPU-V Q24DHCCPU-LS	○	CC-Link(G4)	GT27 GT23 GS	13.2.1
MELSEC-QS	QS001CPU	○	-	GT27 GT23 GS	-
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P	○	CC-Link(G4)	GT27 GT23 GS	13.2.2
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	-	GT27 GT23 GS	-
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	○	-	GT27 GT23 GS	-
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	-	GT27 GT23 GS	-
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU A2NCPUP21 A2NCPUR21 A2NCPU-S1 A2NCPUP21-S1 A2NCPUR21-S1 A3NCPU A3NCPUP21 A3NCPUR21	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 Use only modules with the upper five digits of the serial No. later than 12042.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSEC-A (AnSCPU)	A2USCPU	○	-	GT27 GT23 GS	-
	A2USCPU-S1				
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU				
	A2SCPU-S1				
	A2SHCPU				
	A2SHCPU-S1				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A	A0J2HCPU	×	-	GT27 GT23 GS	-
	A0J2HCPUP21				
	A0J2HCPUR21				
	A0J2HCPU-DC24				
	A2CCPU	○	-	GT27 GT23 GS	-
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*1*2	○	CC-Link (G4)	GT27 GT23 GS	13.2.1
	Q173CPU*1*2				
	Q172CPUN*1				
	Q173CPUN*1				
	Q172HCPU				
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU*3				
	Q170MSCPU*4				
	Q170MSCPU-S1*4				
	MR-MQ100	○	-	GT27 GT23 GS	-

(Continued to next page)

*1 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00H or later
- SW6RN-SV22Q□: 00H or later
- SW6RN-SV43Q□: 00B or later

*2 Use main modules with the following product numbers.
- Q172CPU: Product number N******* or later
- Q173CPU: Product number M******* or later

*3 Only the first step can be used on the extension base unit (Q52B/Q55B).

*4 The extension base unit (Q5□B/Q6□B) can be used.

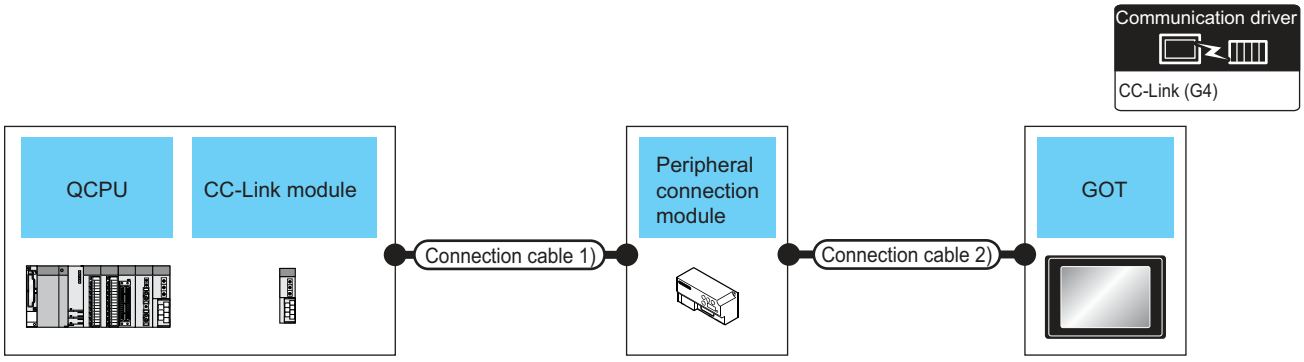
Series	Model name	Clock	Communication type	Connectable model	Refer to
Motion controller CPU (A Series)	A273UCPU	○	-	GT27 GT23 GS	-
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				
	A171SHCPU				
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	-	GT27 GT23 GS	-
	WS0-CPU1				
MELSECNET/H Remote I/O station	QJ72LP25-25	×	-	GT27 GT23 GS	-
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	GT27 GT23 GS	-
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	GT27 GT23 GS	-
CNC C70	Q173NCCPU	○	CC-Link (G4)	GT27 GT23 GS	13.2.1
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	CC-Link (G4)	GT27 GT23 GS	13.2.1
MELSEC-FX	FX0	×	-	GT27 GT23 GS	-
	FX0S				
	FX0N				
	FX1				
	FX2	×			
	FX2C				
	FX1S	○			
	FX1N				
	FX2N				
	FX1NC				
	FX2NC	×			
	FX3S	○			
	FX3G				
	FX3GC				
	FX3GE				
	FX3U				
	FX3UC				

13.1.2 CC-Link module/peripheral module

CPU series	Model name	
	CC-Link module	Peripheral module
MELSEC-Q (Q mode) C Controller module Motion controller CPU (Q Series) CNC C70 Robot controller (CRnQ-700)	QJ61BT11 QJ61BT11N	AJ65BT-G4-S3 AJ65BT-R2N
MELSEC-L	LJ61BT11	

13.2 System Configuration

13.2.1 Connecting to QCPU (Q mode)



PLC		Connection cable 1)		Peripheral connection module		Connection cable 2)		GOT		Number of connectable equipment
Model name	CC-Link module *1	Cable model	Max. distance	Model name	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
MELSEC-Q C Controller module	QJ61BT11 QJ61BT11N	CC-Link dedicated cable *2	*3	AJ65BT-R2N	RS-232	GT09-C30R2-9P or (User preparing) RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 peripheral connection module
								GT15-RS2-9P	GT27 GT23 GS	
				AJ65BT-G4-S3	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	
								GT15-RS4-9S	GT27 GT23 GS	

*1 For the system configuration of the CC-Link module, refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N

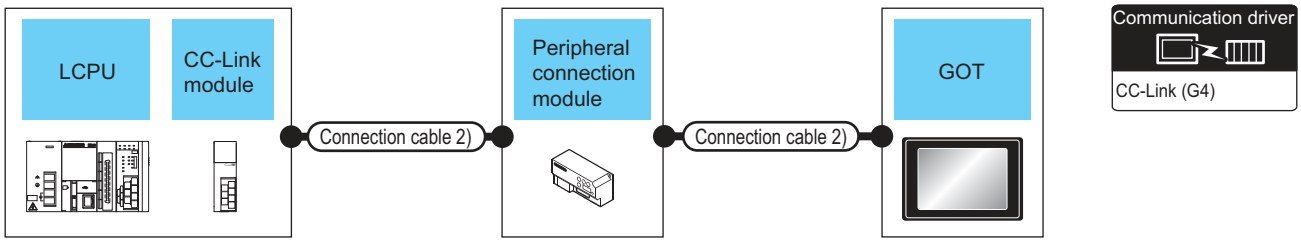
*2 For the specifications and inquiries of the CC-Link dedicated cable, refer to the following.RS232 connection diagram 1)

CC-Link Partner Association's home page: http://www.cc-link.org/

*3 The maximum overall extension cable length and the length between stations vary depending on the cable type to be used and the transmission speed.
For details, refer to the following manual.

CC-Link System Master/Local Module User's Manual QJ61BT11N

13.2.2 Connecting to LCPU



PLC		Connection cable 1)		Peripheral connection module		Connection cable 2)		GOT		Number of connectable equipment
Model name	CC-Link module *1	Cable model	Max. distance	Model name	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
L02CPU L26CPU -BT L02CPU-P L26CPU-PBT	LJ61BT11	CC-Link dedicated cable *2	*3	AJ65BT -R2N	RS-232	GT09-C30R2-9P or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 peripheral connection module
								GT15-RS2-9P	GT27 GT23 GS	
				AJ65BT -G4-S3	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	
								GT15-RS4-9S	GT27 GT23 GS	
L26CPU -BT L26CPU-PBT	-	CC-Link dedicated cable *2	*3	AJ65BT -R2N	RS-232	GT09-C30R2-9P or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 peripheral connection module
								GT15-RS2-9P	GT27 GT23 GS	
				AJ65BT -G4-S3	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30m	- (Built into GOT)	GT27 GT23 GS	
								GT15-RS4-9S	GT27 GT23 GS	

*1 For the system configuration of the CC-Link module, refer to the following manual.

MELSEC-L CC-Link System Master/Local Module User's Manual

*2 For the specifications and inquiries of the CC-Link dedicated cable, refer to the following.

CC-Link Partner Association's home page: http://www.cc-link.org/

*3 The maximum overall extension cable length and the length between stations vary depending on the cable type to be used and the transmission speed.
For details, refer to the following manual.

MELSEC-L CC-Link System Master/Local Module User's Manual

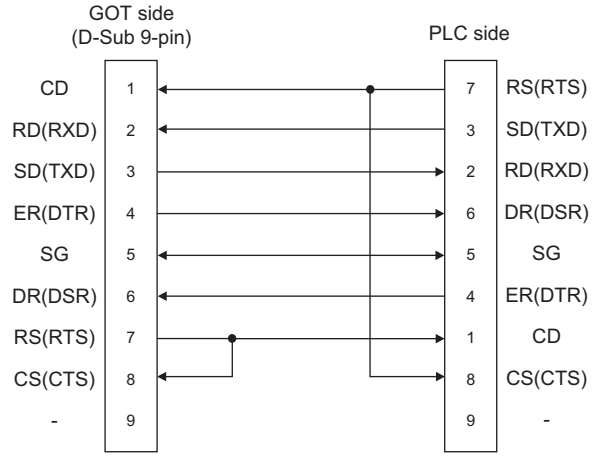
13.3 Connection Diagram

The following diagram shows the connection between the GOT and the PLC.

13.3.1 RS-232 cable

■ Connection diagram

(1) RS232 connection diagram 1)



■ Precautions when preparing a cable

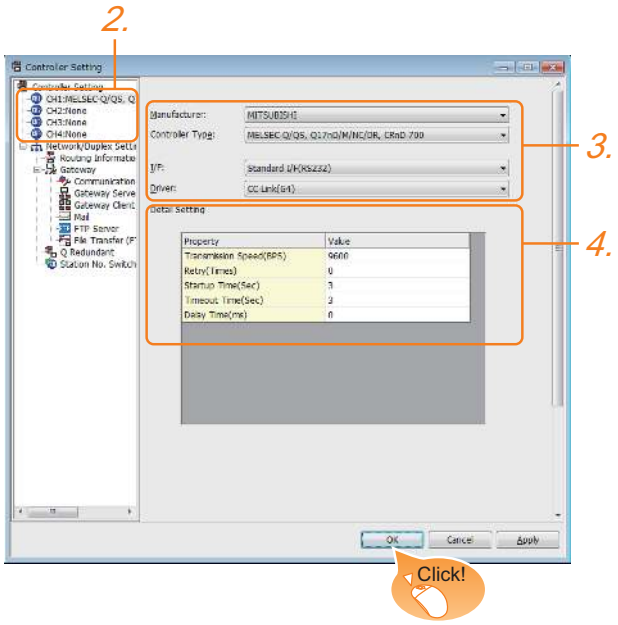
(2) Cable length
The length of the RS-232 cable must be 15m or less.

(3) GOT side connector
For the GOT side connector, refer to the following.
☞ 1.4.1 GOT connector specifications

13.4 GOT Side Settings

13.4.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: CC-Link (G4)
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   ☞ 13.4.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following:
☞ 1.1.2 I/F communication setting

13.4.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
Transmission Speed(BPS)	9600
Retry(Times)	0
Startup Time(Sec)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 9600bps)	9600bps, 19200bps, 38400bps 57600bps 115200bps
Retry	Set the number of retries to be performed when a communication timeout occurs. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out.(Default: 3sec)	1 to 30sec
Delay time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300ms

POINT

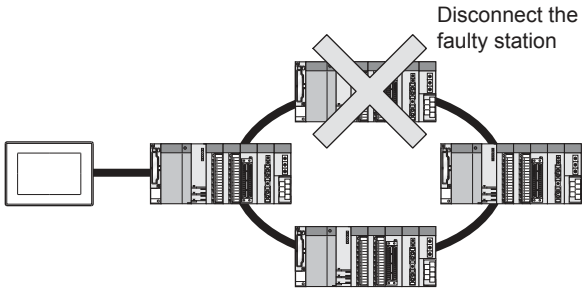
(1) Communication interface setting by the Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.
☞ GOT2000 Series User's Manual (Utility)

(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

HINT

Cutting the portion of multiple connection of the controller

By setting GOT internal device, GOT can cut the portion of multiple connection of the controller. For example, faulty station that has communication timeout can be cut from the system.



For details of the setting contents of GOT internal device, refer to the following manual.

GT Designer3 (GOT2000) Help

13.5 PLC Side Settings

Model		Reference
Peripheral connection module	AJ65BT-G4-S3	13.5.1
	AJ65BT-R2N	13.5.2

13.5.1 Connecting AJ65BT-G4-S3

This section describes the settings of the GOT and peripheral connection module in the following case of the system configuration.

POINT

(1) Peripheral connection module
For details of the peripheral connection module, refer to the following manual.

☞ Peripheral Connection Module Type AJ65BT-G4-S3 User's Manual (detail volume)

(2) CC-Link module
For details of the CC-Link module, refer to the following manual.

☞ CC-Link System Master/Local Module User's Manual QJ61BT11N

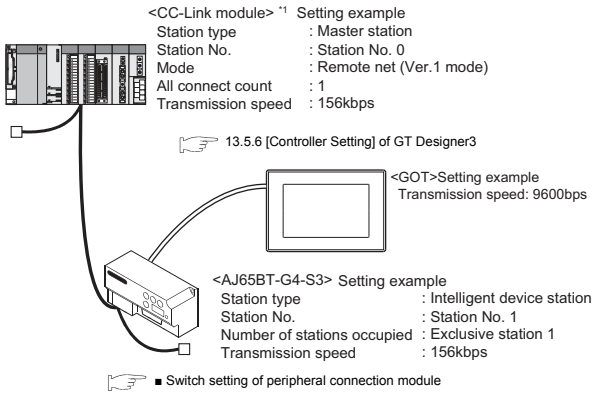
☞ MELSEC-L CC-Link System Master/Local Module User's Manual

(3) CC-Link function built-in CPU
For details on the CC-Link function built-in CPU, refer to the following manual.

☞ MELSEC-L CC-Link System Master/Local Module User's Manual

■ System configuration

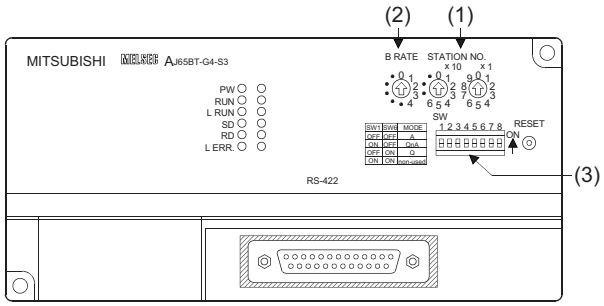
☞ 13.5.3 Switch setting of CC-Link module (Q series)
13.5.4 [Network parameter] of GX Developer



*1 The Start I/O No. of the CC-Link module is set to "0"

■ Switch setting of peripheral connection module

Set the station number setting switch, data link transmission speed setting switch, and operation setting DIP switch.



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
STATION NO. ×10 ×1	AJ65BT-G4-S3 station number setting	1 to 64	○

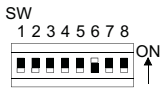
○: Necessary △: As necessary ×: Not necessary

(2) Data link transmission speed setting switch

Data link transmission speed setting switch	Description	Set value	Setting necessity at GOT connection
B RATE	Data link transmission speed setting	0: 156kbps 1: 625kbps 2: 2.5Mbps 3: 5Mbps 4: 10Mbps	○

○: Necessary △: As necessary ×: Not necessary

(3) Operation setting DIP switch

Operation setting DIP switch	Setting Switch	Description	Set value	Setting necessity at GOT connection
	SW1, SW6	Operation mode	SW1 = OFF SW6 = ON (fixed) (Q mode)	○
	SW2	Peripheral transmission speed*1	OFF (fixed)	×
	SW3			
	SW4	Not used	OFF (fixed)	×
	SW5			
	SW7			
	SW8	Test mode	OFF (fixed) (Online mode)	○

○: Necessary △: As necessary ×: Not necessary

*1 The peripheral connection module operates with the baud rate set in the GOT.

13.5.6 [Controller Setting] of GT Designer3

POINT

Operation mode of peripheral connection module

Be sure to set the "Q mode" as an operation mode of the peripheral connection module.

13.5.2 Connecting AJ65BT-R2N

This section describes the settings of the GOT and peripheral connection module in the following case of the system configuration.

POINT

(1) Peripheral connection module
For details of the peripheral connection module, refer to the following manual.

Peripheral Connection Module Type AJ65BT-R2N User's Manual

(2) CC-Link module
For details of the CC-Link module, refer to the following manual.

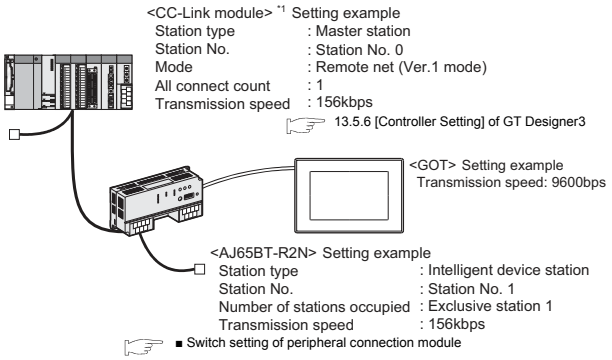
CC-Link System Master/Local Module User's Manual QJ61BT11N

(3) CC-Link built-in CPU
For details on the CC-Link function built-in CPU, refer to the following manual.

MELSEC-L CC-Link System Master/Local Module User's Manual

■ System configuration

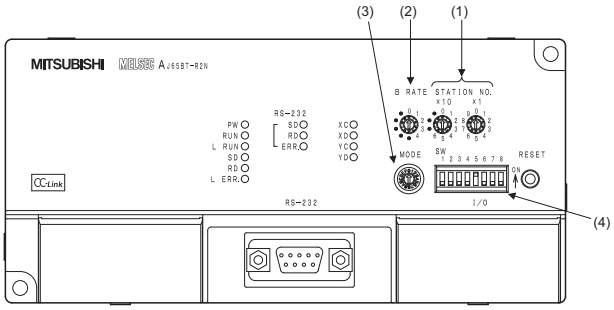
13.5.3 Switch setting of CC-Link module (Q series)
13.5.4 [Network parameter] of GX Developer



*1 The Start I/O No. of the CC-Link module is set to "0"

■ Switch setting of peripheral connection module

Set the station number setting switch, data link transmission speed setting switch, and operation setting DIP switch.



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
STATION NO. x10 x1	AJ65BT-R2N station number setting	1 to 64	○

○: Necessary △: As necessary ×: Not necessary

(2) Data link transmission speed setting switch

Data link transmission speed setting switch	Description	Set value	Setting necessity at GOT connection
B RATE	Data link transmission speed setting	0: 156kbps 1: 625kbps 2: 2.5Mbps 3: 5Mbps 4: 10Mbps	○

○: Necessary △: As necessary ×: Not necessary

(3) Mode setting switch

Mode setting switch	Description	Set value	Setting necessity at GOT connection
MODE	Mode setting	5 (fixed) (MELSOFT/ connection mode)	○

○: Necessary △: As necessary ×: Not necessary

(4) RS-232 transmission setting switch

RS-232 transmission setting switch	Setting switch	Description	Set value	Setting necessity at GOT connection
SW 1 2 3 4 5 6 7 8 ON	SW1	Peripheral transmission speed*1	OFF (fixed)	○
	SW2			
	SW3			
	SW4			
	SW5	Data bit length	OFF (fixed)	○
	SW6	Parity bit length	OFF (fixed)	○
	SW7			
	SW8	Stop bit length	OFF (fixed)	○

○: Necessary △: As necessary ×: Not necessary

*1 The peripheral connection module operates with the baud rate set in the GOT.

13.5.6 [Controller Setting] of GT Designer3

POINT

Precautions when setting peripheral connection module

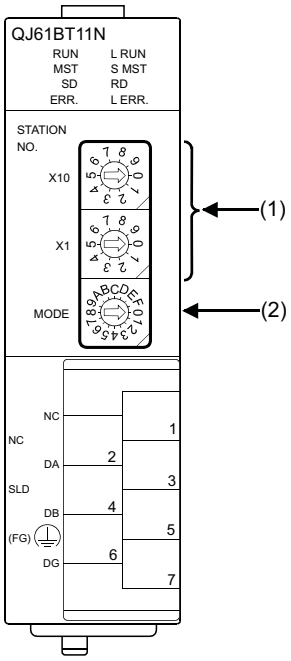
(1) mode setting switch
Be sure to set the Operation mode setting switch to "5" (MELSOFT/connection mode).

(2) RS-232 transmission setting switch
Turn OFF SW1 through SW8 of the RS-232 transmission setting switch.
If any switch of SW1 through SW8 is ON, setting error will occur (RUN LED turns off).

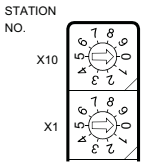
13.5.3 Switch setting of CC-Link module (Q series)

Set the station number setting switch, transmission speed / mode setting switch.

QJ61BT11, QJ61BT11N



(1) Station number setting switch

Station number setting switch	Description	Set value	Setting necessity at GOT connection
	Station number setting (master station)	0 (fixed)	○

○: Necessary △: As necessary ×: Not necessary

(2) Transmission rate/mode setting switch

Transmission rate/ mode setting switch	Description	Set value	Setting necessity at GOT connection
	Transmission rate/mode setting	0: 156kbps 1: 625kbps 2: 2.5Mbps 3: 5Mbps 4: 10Mbps	○

○: Necessary △: As necessary ×: Not necessary

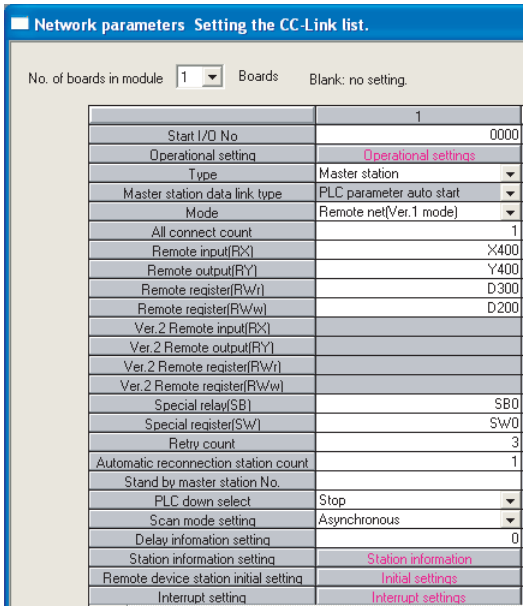
POINT

When the switch setting has been changed

Turn the PLC CPU OFF then ON again, or reset the PLC CPU.

13.5.4 [Network parameter] of GX Developer

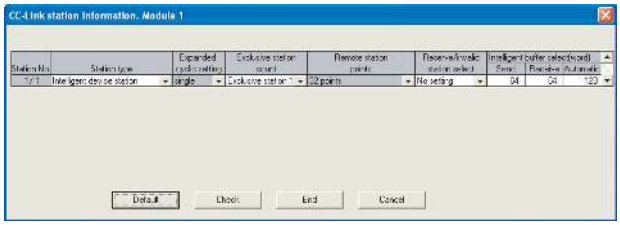
(1) Network parameter



Item	Set value	Setting necessity at GOT connection
No. of boards in module	1	○
Start I/O No.	0000H	○
Operation setting	(Use default value)	△
Type	Master station (fixed)	○
Mode	Remote net (Ver.1 mode)	○
All connect count	1	○
Remote input (RX)	X400	△
Remote output (RY)	Y400	△
Remote register (RWr)	D300	△
Remote register (RWw)	D200	△
Special relay (SB)	SB0	△
Special register (SW)	SW0	△
Retry count	(Use default value)	△
Automatic reconnection station count		△
Stand by master station No.		×
PLC down select		△
Scan mode setting		△
Delay information setting		△
Station information setting	Refer to (2)	○
Remote device station initial setting	(Use default value)	×
Interrupt setting		×

○: Necessary △: As necessary ×: Not necessary

(2) Station information setting



Item*1	Set value	Setting necessity at GOT connection
Station type*2	Intelligent device station (fixed)	○
Number of stations occupied	Exclusive station 1 (fixed)	○
Reserve/invalid station select	No setting	○
Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 2 mode)], [Remote station points] can be set. [Remote station points] is a setting for the remote I/O station. The default value (32 points) must be used on the GOT.

*2 When the [Mode] of the CC-Link module is set at [Remote net - (Ver. 2 mode)] or [Remote net - Additional mode], set to [Ver. 1 Intelligent device station].

POINT

When changing the network parameter

After writing the network parameter to the PLC CPU, operate the PLC CPU ether turning OFF and then ON or resetting.

(3) Completion confirmation

After initial communications of CC-Link are completed, the L RUN LED of AJ65BT-G4-S3 turns on.

The GOT starts to monitor after the L-RUN LED of AJ65BT-G4-S3 turns on.

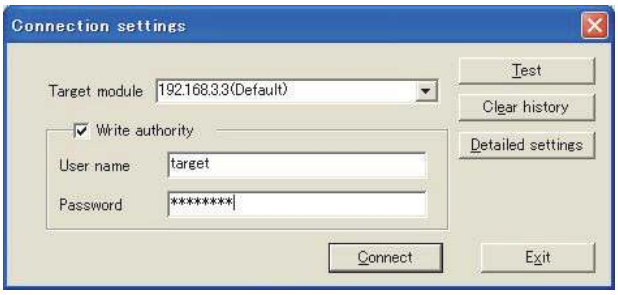
It does not monitor while the L RUN LED turns off.

PW	○	○
RUN	○	○
L RUN	○	○
SD	○	○
RD	○	○
L ERR.	○	○

13.5.5 Parameter setting (when connecting to C Controller module)

Use SW3PVC-CCPU-E Ver.3.05F or later for the C Controller module setting utility.

(1) Connection settings



Item	Set value	Setting necessity at GOT connection
Target module*1	192.168.3.3	○
Write authority	Mark the checkbox	○
User name*2	target	○
Password*2	password	○
Detailed settings	-	△

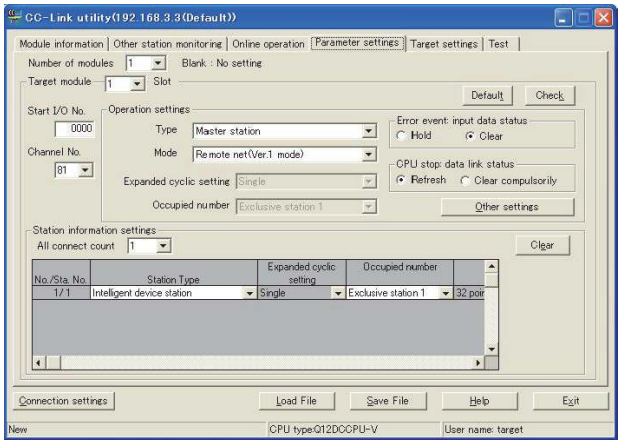
○: Necessary △: As necessary ×: Not necessary

*1 If the IP address of the C Controller module has been changed, input the changed IP address or host name.

*2 If the account of the C Controller module has been changed, input the changed user name and password.

(2) [Parameter Setting] of CC-Link utility

(a) Network parameter



Item		Set value	Setting necessity at GOT connection
Number of modules		1	○
Target module		1	○
Start I/O No.		0000H	○
Channel No.		(Use default value)	○
Operation setting	type	Master station(fixed)	○
	Mode*1	Remote net (Ver.1 mode)	○
	Expanded cyclic station	Single(fixed)	△
	Occupied number	Exclusive station 1 (fixed)	△
	Error event : input data status	Clear	△
	CPU stop: data link status	Refresh	△
	Other settings	(Use default value)	△
Station information settings	All connect count	1	○
	Station type	Ver.1 Intelligent device station(fixed)	○
	Expanded cyclic station	Single	△
	Occupied number*2	Exclusive station 1	×
	Remote station points	32 points	○
	Reserve/invalid station select	No setting	○
	Intelligent buffer select (word)	(Use default value)	×

○: Necessary △: As necessary ×: Not necessary

*1 If the CC-Link module [Mode] is [Remote net -Ver.1 mode], [Remote station points] cannot be set.

*2 Set the same setting as that of the GOT.

POINT

When changing the network parameter

After writing the network parameter to the C Controller module, either turn the C Controller module OFF and then ON or reset it.

13.5.6 [Controller Setting] of GT Designer3

Item	Set value
Transmission Speed	9600bps 19200bps 38400bps 57600bps 115200bps
Retry Count	0 to 5times
Timeout Time	3 to 30sec
Delay Time	0 to 300ms

POINT

[Controller Setting] of GT Designer3

For [Controller Setting], of GT Designer3, refer to the following.

13.4.1 Setting communication interface (Communication settings)

13.6 Precautions

■ Connection in the multiple CPU system

When the GOT is connected to multiple CPU system, the following time is taken until when the PLC runs.

QCPU (Q mode), motion controller CPU (Q series): 10 seconds or more

MELDAS C70: 18 seconds or more

When the GOT starts before the PLC runs, a system alarm occurs.Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to LCPU

LCPU may diagnose (check file system, execute recovering process, etc.) the SD memory card when turning on the power or when resetting. Therefore, it takes time until the SD memory card becomes available. When the GOT starts before the SD card becomes available, a system alarm occurs. Adjust the opening screen time in the GOT setup so that no system alarm occurs.

☞ GT Designer3 (GOT2000) Help

■ Connection to Q17nDCPU, Q170MCPU, Q170MSCPU(-S1), CNC C70, or CRnQ-700

The Q17nDCPU, Q170MCPU, Q170MSCPU(-S1), CNC C70, and CRnQ-700 are applicable to CC-Link Ver.2 only.

For connecting to the CC-Link (Via G4) network system, set the CC-Link (G4) network system to the CC-Link Ver.2 mode.

■ Connection to Q170MCPU or Q170MSCPU(-S1)

Set [CPU No.] to "2" in the device setting to monitor the device of the Motion CPU area (CPU No.2).

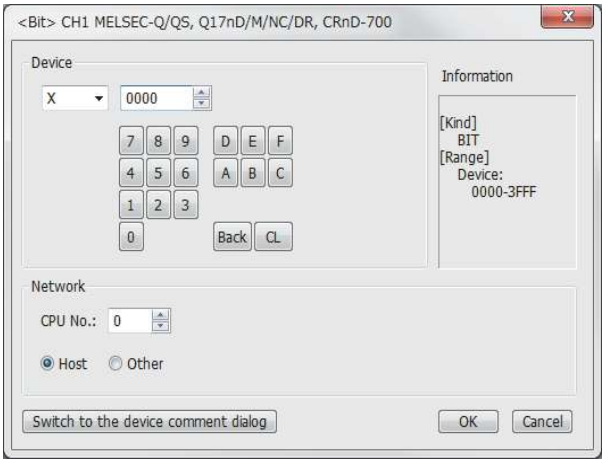
When the CPU No. is set to "0" or "1", the device on the PLC CPU area (CPU No.1) is monitored.

When the CPU No. is set to the number other than "0" to "2", a communication error occurs and the monitoring cannot be executed.

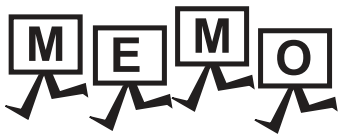
For setting the CPU No., refer to the following manual.

☞ GT Designer3 (GOT2000) Help

Example) Setting dialog box of the bit device



MITSUBISHI FA DEVICE CONNECTIONS


MEMO

14

INVERTER CONNECTION

14. INVERTER CONNECTION

14.1 Connectable Model List

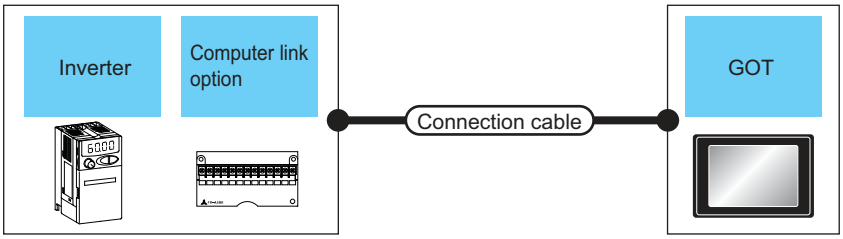
The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
FREQROL	FREQROL-A500/A500L	×	RS-485	GT27 GT23 GS	14.2.1
	FREQROL-F500/F500L				
	FREQROL-V500/V500L				
	FREQROL-E500	×	RS-485	GT27 GT23 GS	14.2.2
	FREQROL-S500/S500E				
	FREQROL-F500J				
	FREQROL-D700				
	FREQROL-F700PJ				
	FREQROL-E700	×	RS-485	GT27 GT23 GS	14.2.3
	FREQROL-A700	×	RS-485	GT27 GT23 GS	14.2.4
	FREQROL-F700				
	FREQROL-F700P				
	FREQROL-A800				
	FREQROL-F800				
Sensorless servo	FREQROL-E700EX	×	RS-485	GT27 GT23 GS	14.2.3
MELIPM	MD-CX522-□□K(-A0)	×	RS-485	GT27 GT23 GS	14.2.5

14.2 System Configuration

14.2.1 Connecting to FREQROL-A500/A500L/F500/F500L/V500/V500L

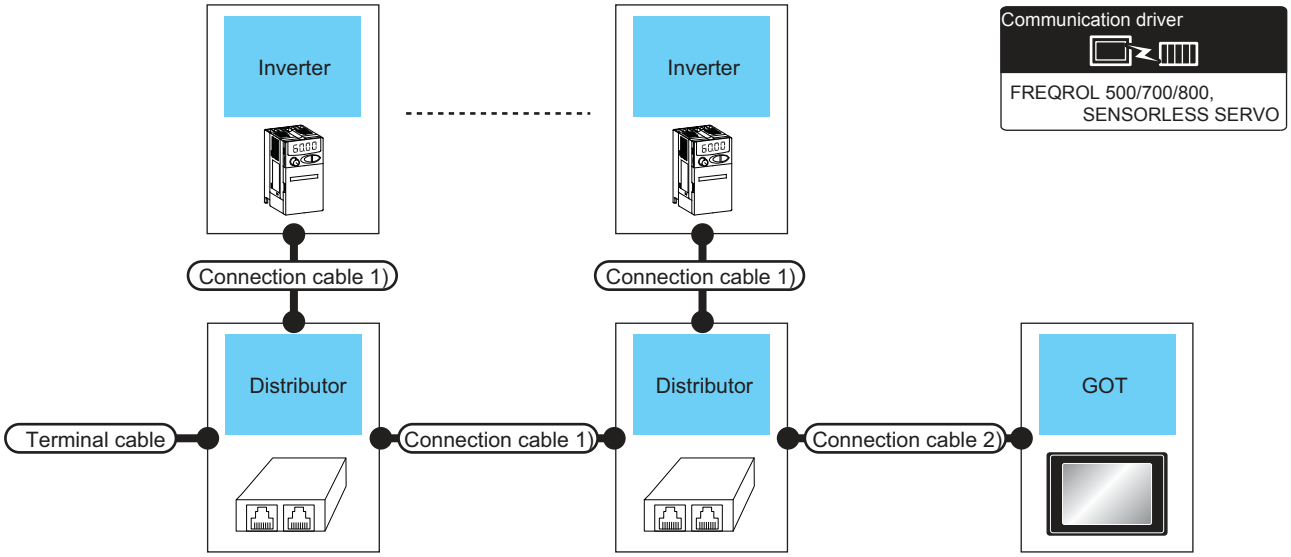
■ When connecting to one inverter



Inverter			Connection cable		GOT		Number of connectable equipment
Model name	Computer link option	Communication type	Connection diagram number	Max. distance	Option device	Model	
FREQROL-A500/A500L F500/F500L V500/V500L *1	-	RS-485	User preparing RS485 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 inverter
					GT15-RS4-9S	GT27 GT23 GS	
FREQROL-A500/A500L F500/F500L V500/V500L	FR-A5NR	RS-485	User preparing RS485 connection diagram 2)	500m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	

*1 Connect to the PU port of the inverter.

■ When connecting to multiple inverters (Max. 31) (Using the distributor)

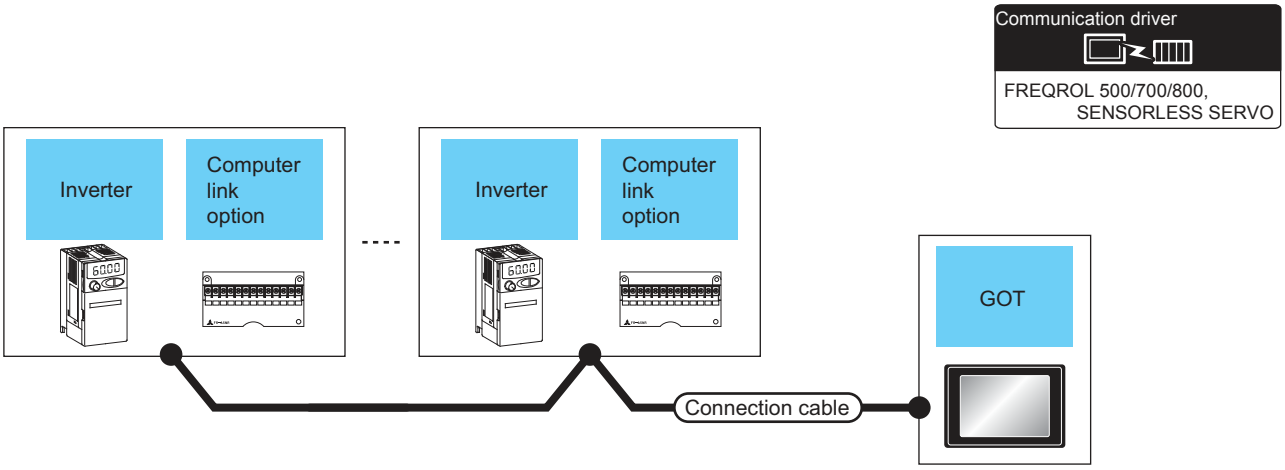


Inverter		Terminal cable	Connection cable 1)	Distributor *2	Connection cable 2)	GOT		Max. distance	Number of connectable equipment
Model name	Communication type		Connection diagram number	Model name	Connection diagram number	Option device	Model		
FREQROL-A500/A500L F500/F500L V500/V500L *2	RS-485	RS485 connection diagram 9) User preparing	RS485 connection diagram 3) User preparing	BMJ-8 (Recommended)	RS485 connection diagram 1) User preparing	- (Built into GOT)	GT27 GT23 GS	500m	31 inverters for one GOT
						GT15-RS4-9S	GT27 GT23 GS		

*1 Connect to the PU port of the inverter.

*2 The distributor is a product manufactured by HAKKO ELECTRIC CO., LTD. For details, contact HAKKO ELECTRIC CO., LTD.

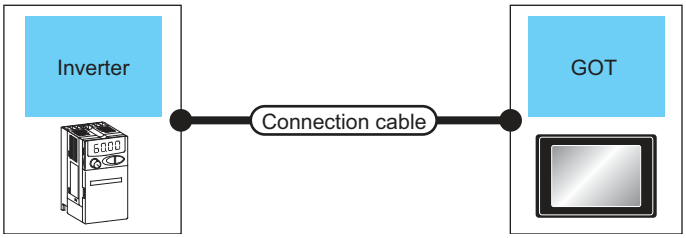
■ When connecting to multiple inverters (Max. 31) (Using the computer link option)



Inverter			Connection cable	GOT		Max. distance	Number of connectable equipment
Model name	Computer link option	Communication type	Connection diagram number	Option device	Model		
FREQROL-A500/A500L F500/F500L V500/V500L	FR-A5NR	RS-485	User preparing RS485 connection diagram 4)	- (Built into GOT)	GT27 GT23 GS	500m	31 inverters for one GOT
				GT15-RS4-9S	GT27 GT23 GS		

14.2.2 Connecting to FREQROL-E500/S500/S500E/F500J/D700/F700PJ

■ When connecting to one inverter



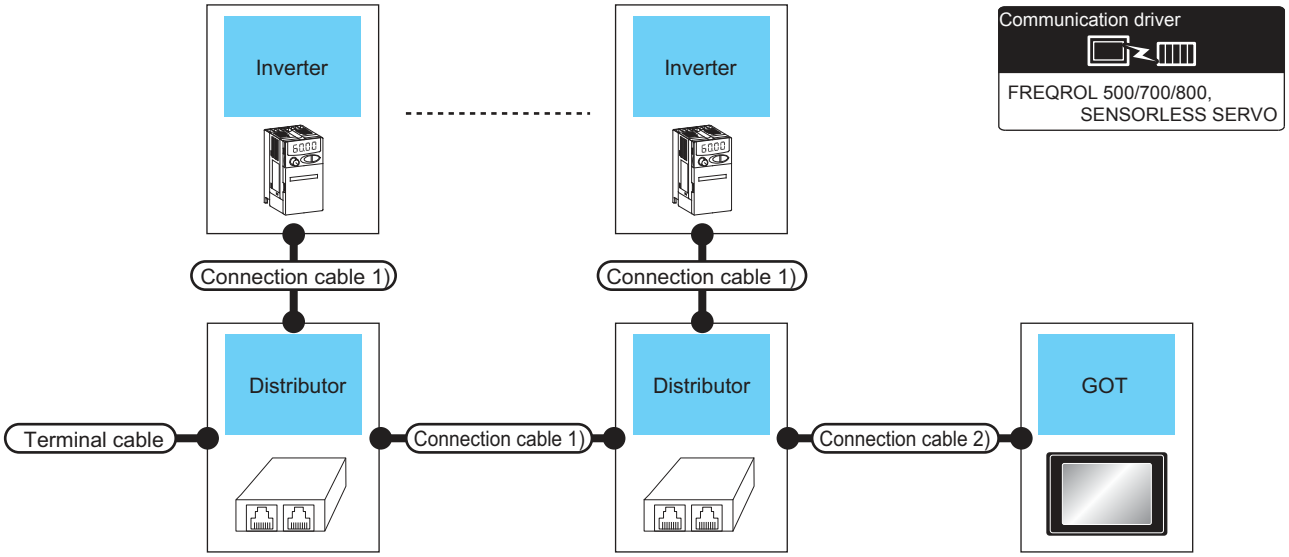
Communication driver

FREQROL 500/700/800, SENSORLESS SERVO

Inverter		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Connection diagram number	Max. distance	Option device	Model	
FREQROL-E500/S500/S500E F500J/D700/F700PJ *1	RS-485	User preparing RS485 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 inverter
				GT15-RS4-9S	GT27 GT23 GS	

*1 Connect to the PU port of the inverter.

■ When connecting to multiple inverters (Max. 31) (Using the distributor)



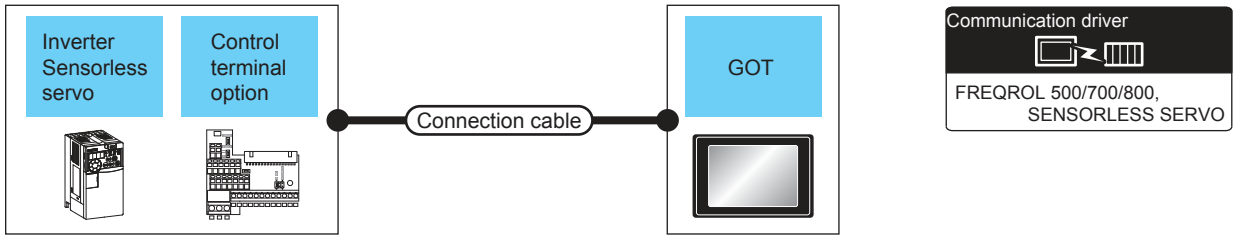
Inverter		Terminal cable	Connection cable 1)	Distributor *3	Connection cable 2)	GOT		Max. distance	Number of connectable equipment
Model name	Communication type		Connection diagram number	Model name	Connection diagram number	Option device	Model		
FREQROL-E500/S500 S500E/F500J D700 *1	RS-485	RS485 connection diagram 9) User preparing	RS485 connection diagram 3) User preparing	BMJ-8 (Recommended)	RS485 connection diagram 1) User preparing	- (Built into GOT)	GT27 GT23 GS	500m	31 inverters for one GOT*4
						GT15-RS4-9S	GT27 GT23 GS		

*1 Connect to the PU port of the inverter.

*2 The distributor is a product manufactured by HAKKO ELECTRIC CO., LTD. For details, contact HAKKO ELECTRIC CO., LTD.

14.2.3 Connecting to FREQROL-E700/sensorless servo (FREQROL-E700EX)

■ When connecting to one inverter

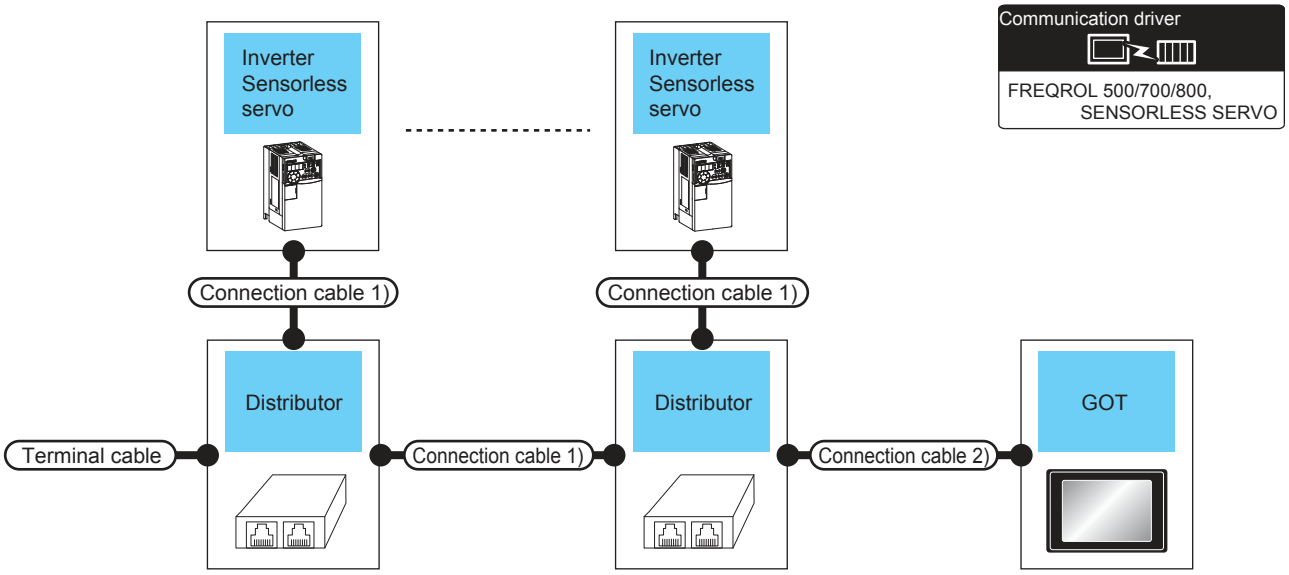


Inverter			Connection cable		GOT		Number of connectable equipment
Model name	Control terminal option	Communication type	Connection diagram number	Max. distance	Option device	Model	
FREQROL-E700/ sensorless servo (FREQROL-E700EX) *2	-	RS-485	User preparing RS485 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 inverter
					GT15-RS4-9S	GT27 GT23 GS	
FREQROL-E700/ sensorless servo (FREQROL-E700EX) *3	FR-E7TR*3	RS-485	User preparing RS485 connection diagram 7)	500m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	

*2 Connect to the PU port of the inverter.

*3 The control terminal option and the PU port cannot be used at the same time.

■ When connecting to multiple inverters (Max. 31) (Using the distributor)

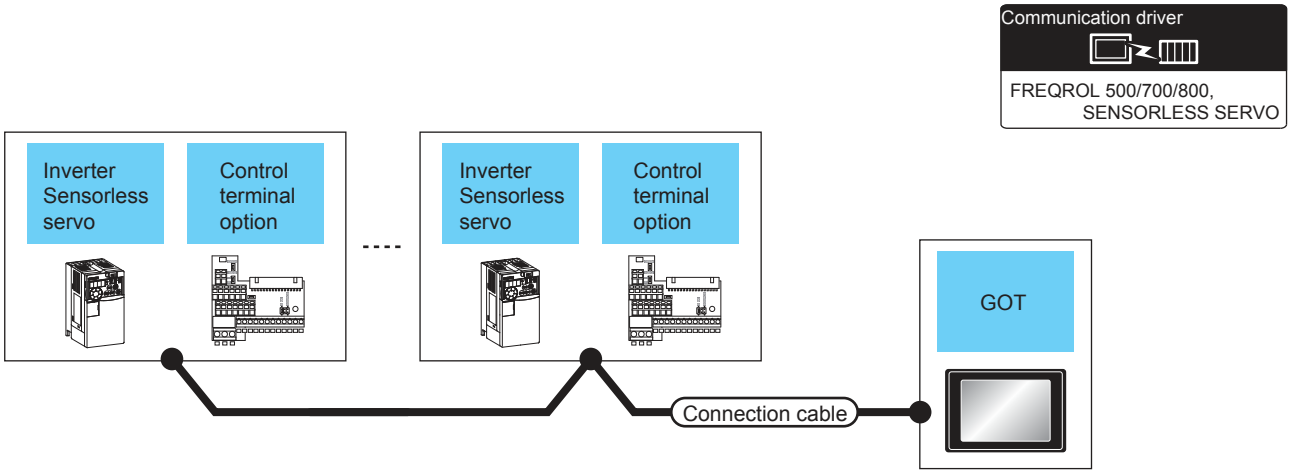


Inverter		Terminating cable	Connection cable 1)	Distributor *2	Connection cable 2)	GOT		Max. distance	Number of connectable equipment
Model name	Communication type		Connection diagram number	Model name	Connection diagram number	Option device	Model		
FREQROL-E700/ sensorless servo (FREQROL-E700EX)*1	RS-485	RS485 connection diagram 9) User preparing	RS485 connection diagram 3) User preparing	BMJ-8 (Recommended)	RS485 connection diagram 1) User preparing	- (Built into GOT)	GT27 GT23 GS	500m	31inverters for one GOT*4
						GT15-RS4-9S	GT27 GT23 GS		

*1 Connect to the PU port of the inverter.

*2 The distributor is a product manufactured by HAKKO ELECTRIC CO., LTD. For details, contact HAKKO ELECTRIC CO., LTD.

■ When connecting to multiple inverters (Max. 31) (Using the control terminal option)

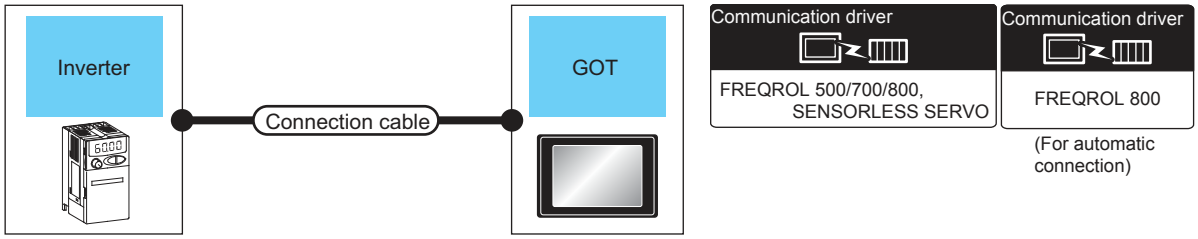


Inverter			Connection cable	GOT		Max. distance	Number of connectable equipment
Model name	Control terminal option	Communication type	Connection diagram number	Option device	Model		
FREQROL-E700/ sensorless servo (FREQROL-E700EX) *2	FR-E7TR*2	RS-485	User preparing RS485 connection diagram 8)	- (Built into GOT)	GT27 GT23 GS	500m	31 inverters for one GOT*3
				GT15-RS4-9S	GT27 GT23 GS		

*1 The control terminal option and the PU port cannot be used at the same time.

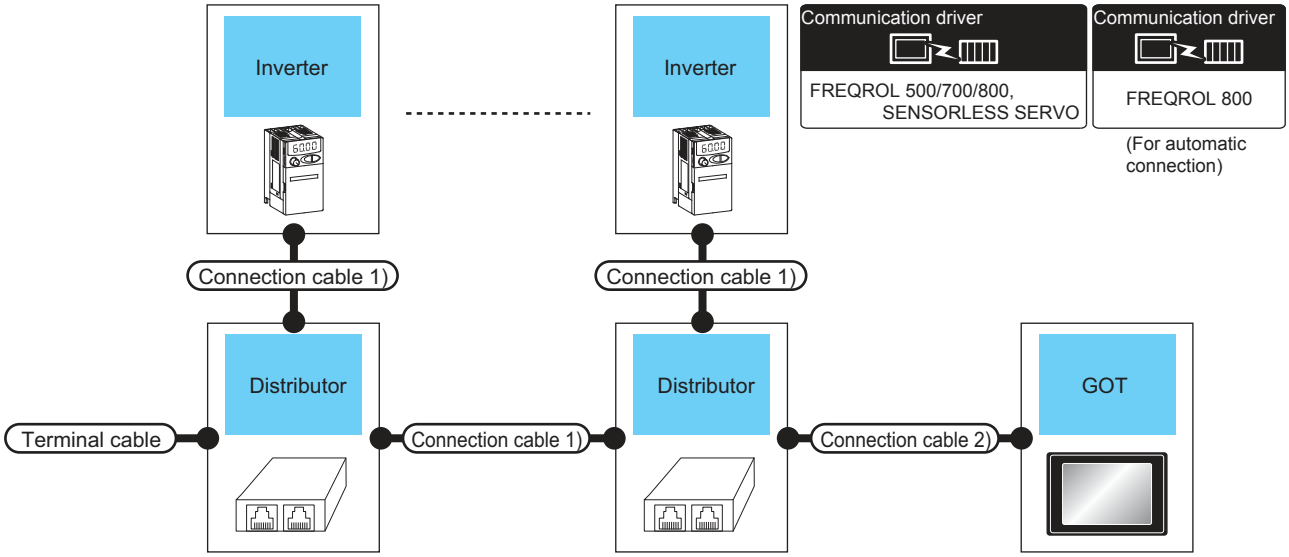
14.2.4 Connecting to FREQROL-A700/F700/700P/A800/F800

■ When connecting to one inverter



Inverter		Connection cable		GOT		Number of connectable equipment
Model name	Communication type	Connection diagram number	Max. distance	Option device	Model	
FREQROL-A700/F700/700P/A800/F800 (PU port)	RS-485	User preparing RS485 connection diagram 1)	500m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 inverter
				GT15-RS4-9S	GT27 GT23 GS	
FREQROL-A700/F700/700P/A800/F800 (Built-in RS485 terminal block)	RS-485	User preparing RS485 connection diagram 5)	500m	- (Built into GOT)	GT27 GT23 GS	
				GT15-RS4-9S	GT27 GT23 GS	

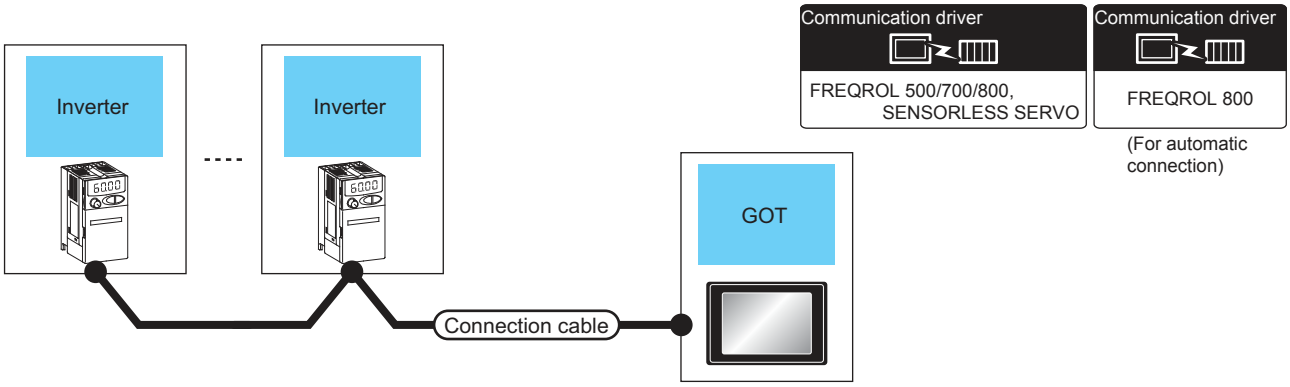
■ When connecting to multiple inverters (Max. 31) (Using the distributor)



Inverter		Terminal cable	Connection cable 1)	Distributor *1	Connection cable 2)	GOT		Max. distance	Number of connectable equipment
Model name	Communication type		Connection diagram number	Model name	Connection diagram number	Option device	Model		
FREQROL-A700/F700/F700P/A800/F800 (PU port)	RS-485	RS485 connection diagram 9) User preparing	RS485 connection diagram 3) User preparing	BMJ-8 (Recommended)	RS485 connection diagram 1) User preparing	- (Built into GOT)	GT27 GT23 GS	500m	31 inverters for one GOT
						GT15-RS4-9S	GT27 GT23 GS		

*1 The distributor is a product manufactured by HAKKO ELECTRIC CO., LTD. For details, contact HAKKO ELECTRIC CO., LTD.

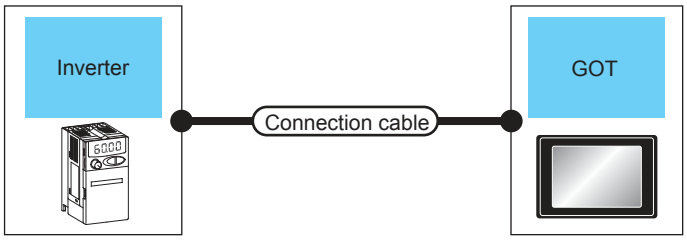
■ When connecting to multiple inverters (Max. 31) (Using the built-in RS485 terminal block)



Inverter		Connection cable	GOT		Max. distance	Number of connectable equipment
Model name	Communication type	Connection diagram number	Option device	Model		
FREQROL-A700/F700/F700P/A800/F800 (Built-in RS485 terminal block)	RS-485	User preparing RS485 connection diagram 6)	- (Built into GOT)	GT27 GT23 GS	500m	31 inverters for one GOT
			GT15-RS4-9S	GT27 GT23 GS		

14.2.5 Connecting to MD-CX522-□□K(-A0)

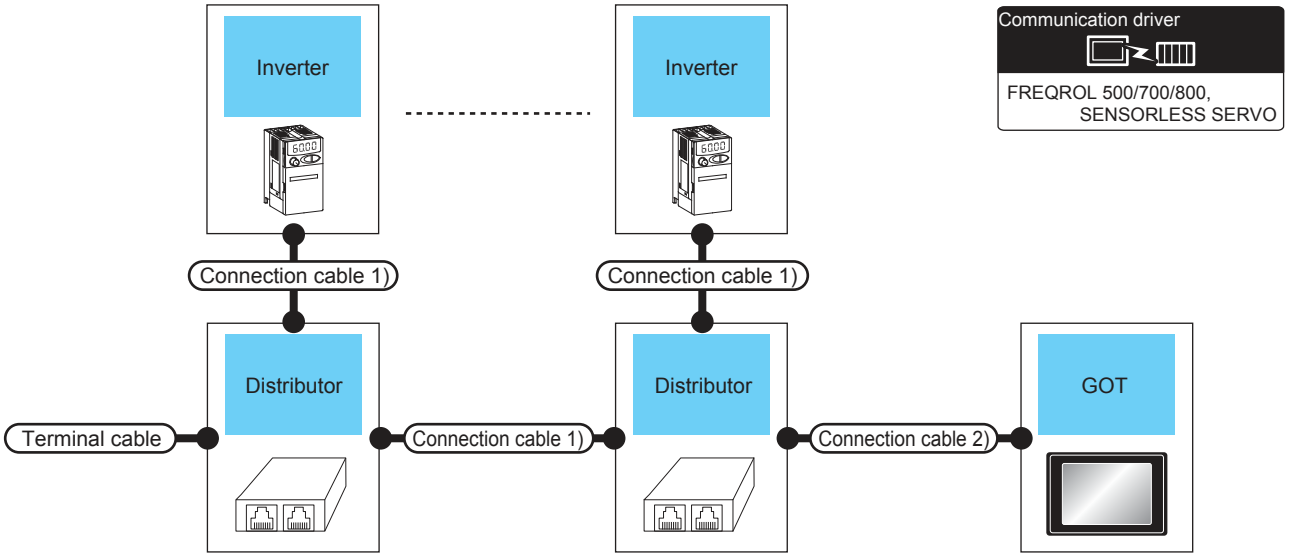
■ When connecting to one inverter



Inverter		Connection cable		GOT		Number of connectable Model name equipment
Model name	Communication type	Connection diagram number	Max. distance	Option device	Model	
MD-CX522-□□K (-A0)*1	RS-485	User preparing RS485 connection diagram 1)	20m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 inverter
				GT15-RS4-9S	GT27 GT23 GS	

*1 Connect to the PU port of the inverter.

■ When connecting to multiple inverters (Max. 31) (Using the distributor)



Inverter		Terminating cable	Connection cable 1)	Distributor *2	Connection cable 2)	GOT		Max. distance	Number of connectable Model name equipment
Model name	Communication type		Connection diagram number	Model name	Connection diagram number	Option device	Model		
MD-CX522 -□□K(-A0) *2	RS-485	RS485 connection diagram 9) User preparing	RS485 connection diagram 3) User preparing	BMJ-8 (Recommended)	RS485 connection diagram 1) User preparing	- (Built into GOT)	GT27 GT23 GS	20m	31 inverters for one GOT
						GT15-RS4-9S	GT27 GT23 GS		

*1 Connect to the PU port of the inverter.

*2 The distributor is a product manufactured by HAKKO ELECTRIC CO., LTD. For details, contact HAKKO ELECTRIC CO., LTD.

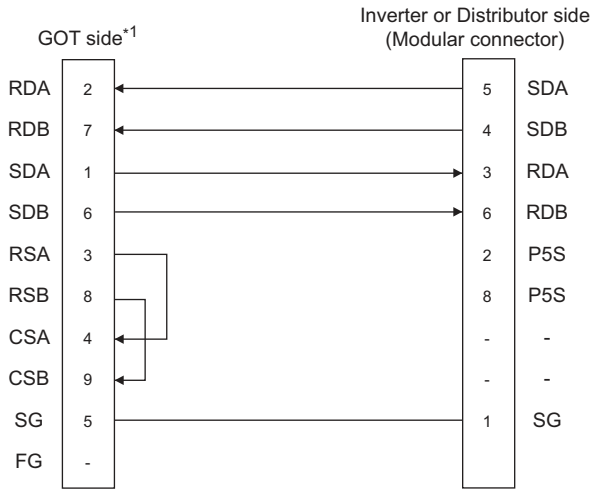
14.3 Connection Diagram

The following diagram shows the connection between the GOT and the inverter.

14.3.1 RS-485 cable

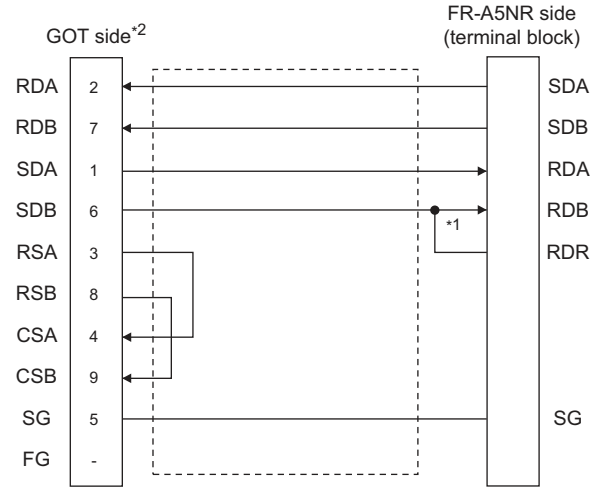
■ Connection diagram

(1) RS485 connection diagram 1)



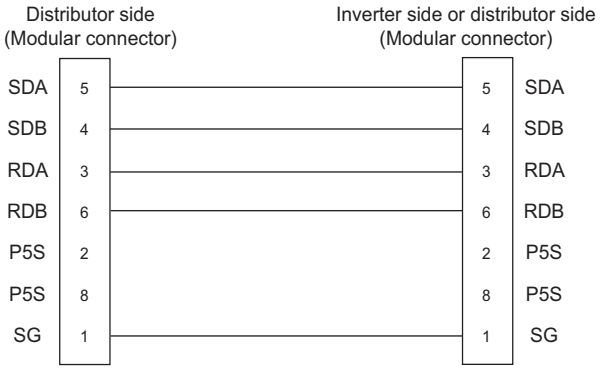
*1 Set the terminating resistor to "Disable".
1.4.3 Terminating resistors of GOT

(2) RS485 connection diagram 2)

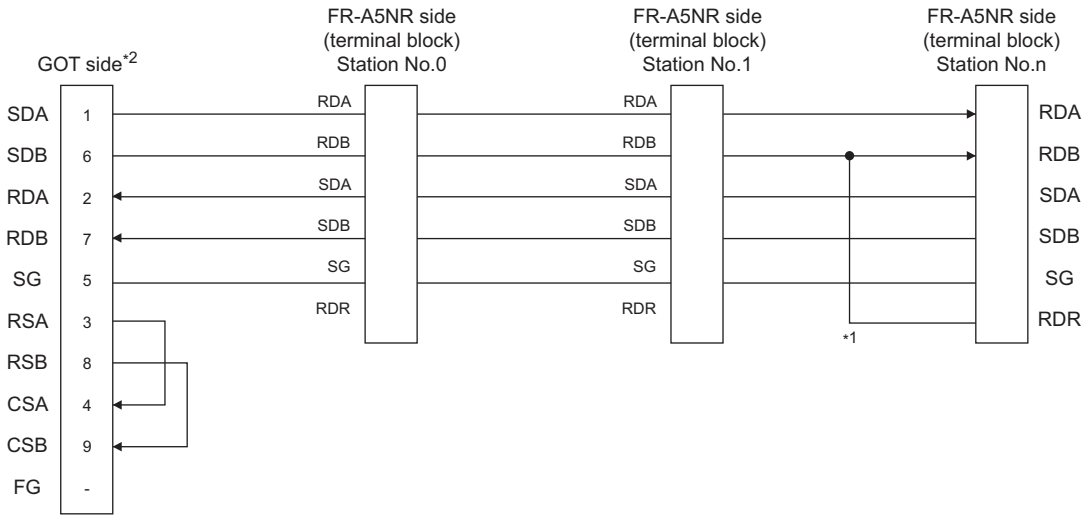


*1 Connect a terminating resistor jumper to RDB and RDR.The terminating resister jumper is packed together with the FR-A5NR.
*2 Set the terminating resistor to "Disable".
1.4.3 Terminating resistors of GOT

(3) RS485 connection diagram 3)



(4) RS485 connection diagram 4)

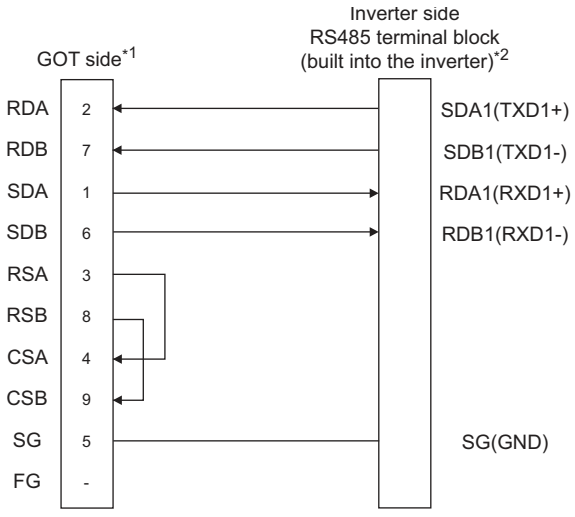


*1 Connect a terminating resistor jumper to RDB and RDR which are assigned in the FR-A5NR of the inverter located farthest from the GOT.
The terminating resister jumper is packed together with the FR-A5NR.

*2 Set the terminating resistor of GOT side, which will be a terminal, to "Enable".

1.4.3 Terminating resistors of GOT

(5) RS485 connection diagram 5)

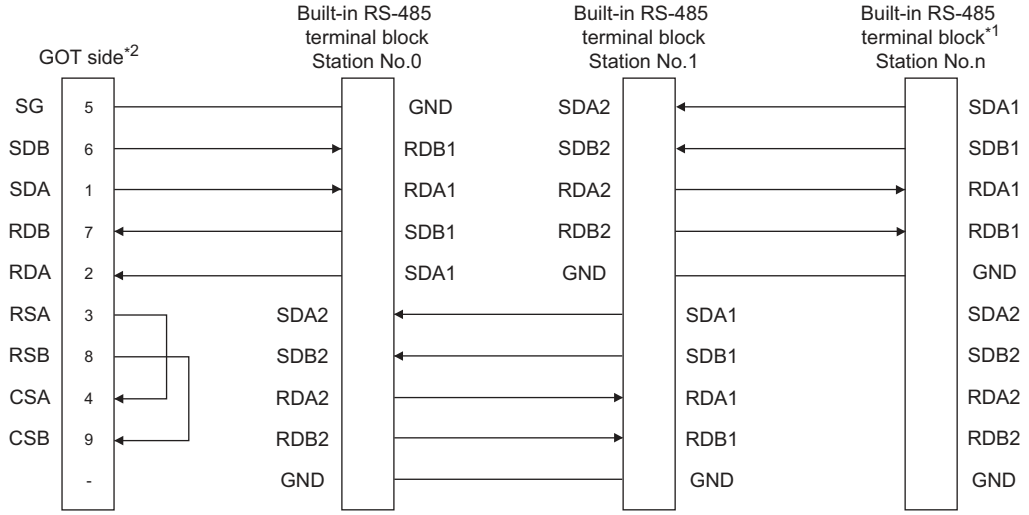


*1 Set the terminating resistor to "Disable".

1.4.3 Terminating resistors of GOT

*2 RDA2, RDB2, SDA2 and SDB2 terminals of the RS485 terminal block (built into the inverter) cannot be used.

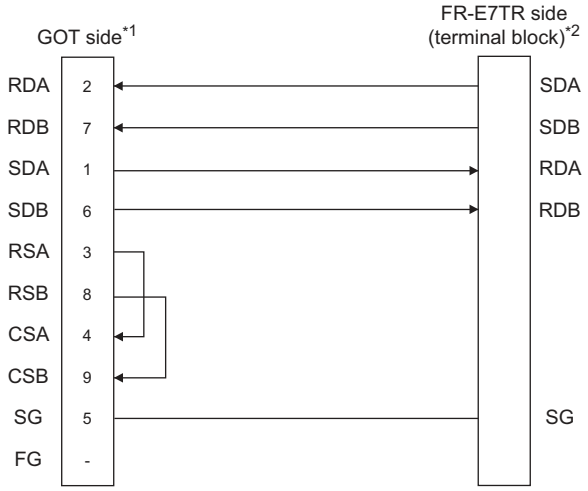
(6) RS485 connection diagram 6)



*1 Set the terminator switch built in the farthest inverter from the GOT to ON (100Ω).
*2 Set the terminating resistor of GOT side, which will be a terminal, to "Enable"

1.4.3 Terminating resistors of GOT

(7) RS485 connection diagram 7)

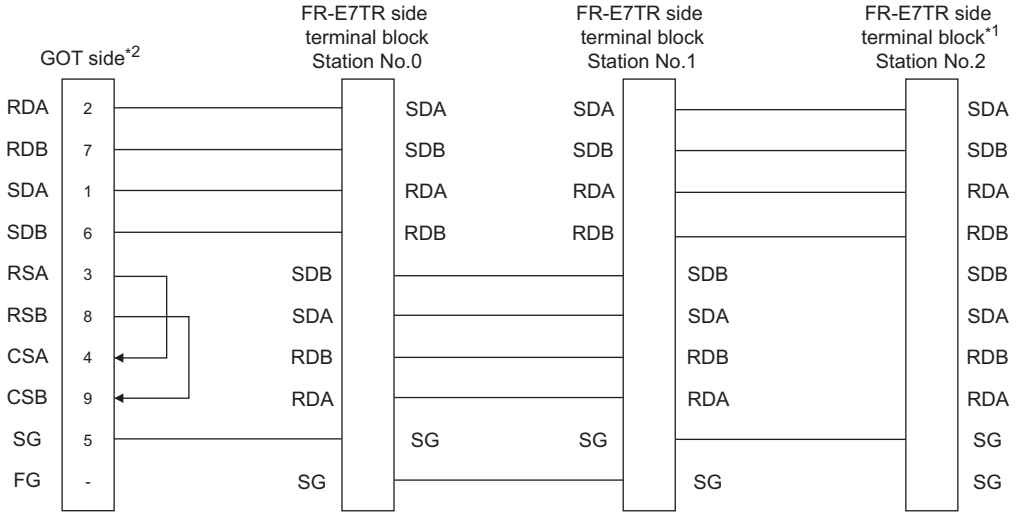


*1 Set the terminating resistor to "Disable

1.4.3 Terminating resistors of GOT

*2 Turn ON (100Ω) the terminator switch for the FR-E7TR.

(8) RS485 connection diagram 8)

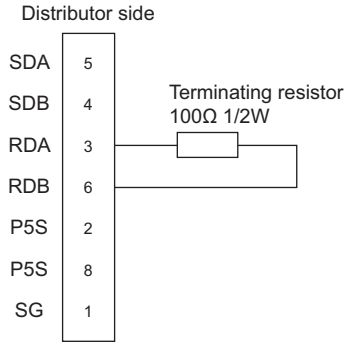


*1 Turn ON (100Ω) the terminator switch for the most distant FR-E7TR from the GOT.

*2 Set the terminating resistor of GOT side, which will be a terminal, to "Enable"

1.4.3 Terminating resistors of GOT

(9) RS485 connection diagram 9)



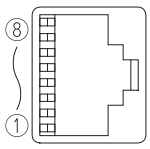
■ Precautions when preparing a cable

(1) Cable length
The length of the RS-485 cable must be 500m or less.

(2) GOT side connector
For the GOT side connector, refer to the following.
☞ 1.4.1 GOT connector specifications

(3) Inverter connector specifications
(a) Pin layout in the PU port

When seen from the front of the inverter (receptacle side)



Modular jack

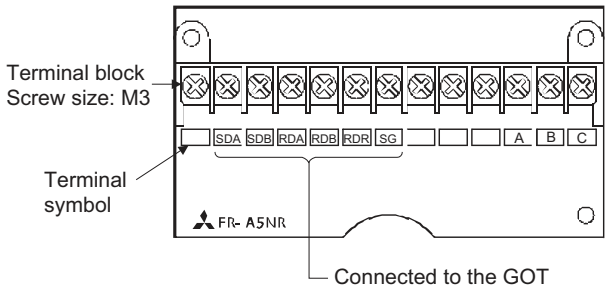
Pin No.	Signal name	Remark
1	GND (SG)	
2	(P5S)	Not used
3	RXD+ (RDA)	
4	TXD- (SDB)	
5	TXD+ (SDA)	
6	RXD- (RDB)	
7	GND (SG)	
8	(P5S)	Not used

The contents inside ( ) indicate symbols described in the inverter manual.
The pins number 2 and 8 (P5S) are connected to the power supply for an operation panel or a parameter unit.
Do not use them in RS-485 communication.

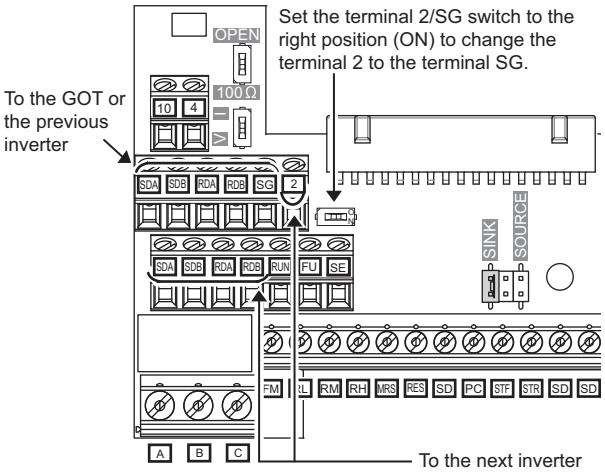
(b) Connector of cable between FREQROL Series inverters
Use the commercial connectors and cables shown in the table below or the comparable products.(Refer to the manual for the inverter.)

Name	Model name	Specifications	Manufacturer
Connector	5-554720-3	RJ45 connector	Tyco International, Ltd
Modular ceiling rosette (Distributor)	BMJ-8	-	HAKKO ELECTRIC CO.,LTD. TEL(03)-3806-9171
Cable	SGLPEV 0.5mm × 4P	Cable conforming to EIA568 (such as cable 10BASE-T)	MITSUBISHI CABLE INDUSTRIES, LTD.

(4) Terminal block layout in the FR-A5NR computer link option
Attach this option to the A500, F500 and V500 Series.



(5) Terminal block layout in the FR-E7TR control terminal option
Mount the FR-E7TR to the E700 series and the sensorless servo (FREQROL-E700EX series).



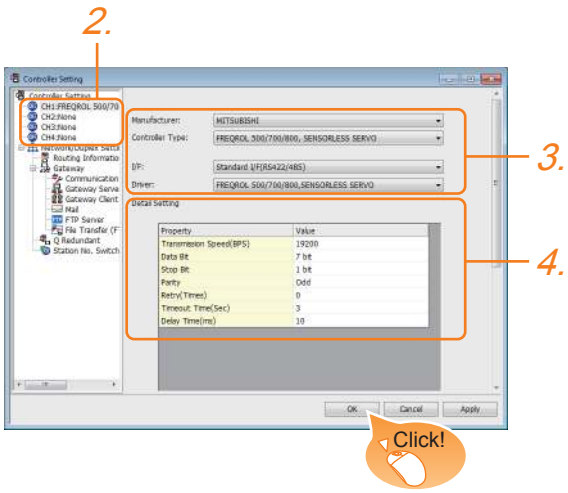
■ Connecting terminating resistors

(1) GOT side
When connecting a PLC to the GOT, a terminating resistor must be connected to the GOT.Set the terminating resistor setting switch.
For the procedure to set the terminating resistor, refer to the following.
☞ 1.4.3 Terminating resistors of GOT

14.4 GOT Side Settings

14.4.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.

2. The Controller Setting window is displayed. Select the channel to be used from the list menu.

3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver:
     <When connecting the GOT to one or more FREQROL 500/700/800 series and sensorless servos>
     [FREQROL 500/700/800, SENSORLESS SERVO]
     <When connecting the GOT to one or more FREQROL 800 series>
     [FREQROL 800]
     <When automatically connecting the GOT to FREQROL 800 series, or using the PLC function of the RFREQROL 800 series>
     [FREQROL 800]

4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   14.4.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

14.4.2 Communication detail settings

Make the settings according to the usage environment.

(1) FREQROL 500/700/800, SENSORLESS SERVO

Property	Value
Transmission Speed(BPS)	19200
Data Bit	7 bit
Stop Bit	1 bit
Parity	Odd
Retry(Times)	0
Timeout Time(Sec)	3
Delay Time(ms)	10

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 19200bps)	9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Data Bit	Set this item when change the data length used for communication with the connected equipment. (Default: 7bits)	7bits/8bits
Stop Bit	Specify the stop bit length for communications. (Default: 1bit)	1bit/2bits
Parity	Specify whether or not to perform a parity check, and how it is performed during communication. (Default: Odd)	None Even Odd
Retry	Set the number of retries to be performed when a communication timeout occurs. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 10ms)	0 to 300ms

(2) FREQROL 800

(For automatic connection)

Property	Value
Transmission Speed(BPS)	115200
Data Bit	8 bit
Stop Bit	1 bit
Parity	Odd
Retry(Times)	0
Timeout Time(Sec)	3
Host Address	0
Delay Time(ms)	10
Negotiation Time(Sec)	5
Initialization Wait Time(Sec)	3
Automatioc Negotiation	Yes

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 115200bps)	9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Data Bit	Set this item when change the data length used for communication with the connected equipment. (Default: 8bits)	8bits
Stop Bit	Specify the stop bit length for communications. (Default: 1bit)	1bit
Parity	Specify whether or not to perform a parity check, and how it is performed during communication. (Default: Odd)	Odd
Retry	Set the number of retries to be performed when a communication timeout occurs. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Host Address	Specify the station number of the inverter in the system configuration. (Default: 0)	0 to 31
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 10ms)	0 to 300ms
Negotiation Time	Set the time period that the GOT side communication setting is sent to the inverter. (Default: 5sec)	1 to 10sec
Initialization Wait Time	Set the wait time from when the communication setting is changed until when the communication starts. (Default: 3sec)	1 to 10sec
Automatioc Negotiation	Set whether to use the automatic connection. (Default: Yes)	Yes No

POINT

(3) Communication interface setting by the Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manuals.

☞ GOT2000 Series User's Manual (Utility)

(4) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

HINT

Cutting the portion of multiple connection of the controller

By setting GOT internal device, GOT can cut the portion of multiple connection of the controller. For example, faulty station that has communication timeout can be cut from the system.
For details of the setting contents of GOT internal device, refer to the following manual.

☞ GT Designer3 (GOT2000) Help

14.5 FREQROL Series Inverter Side Settings

For details of the inverter, refer to the manual of each series.

14.5.1 Connecting FREQROL-S500, S500E, F500J series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
RS-485 port	Pr.79, n1 to n7, n10 to n12

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit). Set Pr.30 (Extended function selection) to 1 [With display] before making the parameter settings.
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.*4	Set value	Contents of setting
Communication station number	n1 (331)	0 to 31	14.5.14 Station number setting
Communication speed*2	n2 (332)	192*3	19200bps
Stop bit length*2	n3 (333)	10	Data length: 7bit Stop bit length: 1bit
Parity check presence/absence*2	n4 (334)	1	Odd
Number of communication retries	n5 (335)	- (65535)	The inverter will not come to an alarm stop.
Communication check time interval	n6 (336)	-	Communication check suspension
Wait time setting	n7 (337)	0	0ms
CRLF selection	n11 (341)	1*3	With CR, without LF
Protocol selection*5	-	-	-
Operation mode selection	Pr.79	0*3	External operation mode at power on
Link start mode selection	n10 (340)	1	Computer link operation
E^2PROM write selection	n12 (342)	0*3	Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-S500, S500E, and F500J series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)
*4 When being monitored from the GOT, the parameter n1 through n7 correspond with Pr.331 through Pr.337, and the parameter n10 through n12 correspond with Pr.340 through Pr.342.
Numbers in brackets show the parameter number when the parameter unit is in use.
*5 There is no Protocol selection setting on the inverter side.

14.5.2 Connecting FREQROL-E500 series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.146, Pr.342

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit).
Do not change these parameters, even though they can be monitored from the GOT.If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.	Set value	Contents of setting
Communication station number	Pr.117	0 to 31	14.5.14 Station number setting
Communication speed*2	Pr.118	192*3	19200bps
Stop bit length*2	Pr.119	10	Data length: 7bit Stop bit length: 1bit
Parity check presence/absence*2	Pr.120	1	Odd
Number of communication retries	Pr.121	9999 (65535)	The inverter will not come to an alarm stop.
Communication check time interval	Pr.122	9999	Communication check suspension
Wait time setting	Pr.123	0	0ms
CRLF presence/ absence selection	Pr.124	1*3	With CR, without LF
Protocol selection*4	-	-	-
Operation mode selection	Pr.79	1*3	PU operation mode
Communication startup mode selection*4	-	-	-
E^2PROM write selection	Pr.342	0*3	Written to RAM and EEPROM
Frequency setting command selection*5	Pr.146	9999	Built-in frequency setting potentiometer invalid

*1 Setting items are parameter names described in the manual of FREQROL-E500 series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)
*4 There is no Protocol selection setting on the inverter side.
*5 The setting is required for Frequency setting command selection.

14.5.3 Connecting FREQROL-F500, F500L series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124
FR-A5NR (Option unit)	Pr.79, Pr.331 to Pr.337, Pr.340 to Pr.342

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit). Set Pr.160 (user group read selection) to 0 [All parameters can be accessed for reading and writing.] before making the parameter settings.
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.		Set value		Contents of setting
	PU connector	FR-A5NR			
Communication station number	Pr.117	Pr.331	0 to 31		☞ 14.5.14 Station number setting
Communication speed*2	Pr.118	Pr.332	192*4		19200bps
Stop bit length/data length Stop bit length*2	Pr.119	Pr.333	10		Data length: 7bit Stop bit length: 1bit
Parity check presence/absence*2	Pr.120	Pr.334	1		Odd
Number of communication retries	Pr.121	Pr.335	9999		The inverter will not come to an alarm stop.
Communication check time interval	Pr.122	Pr.336	9999		Communication check suspension
Wait time setting	Pr.123	Pr.337	0		0ms
CRLF presence/ absence selection	Pr.124	Pr.341	1*3		With CR, without LF
Protocol selection*5	-	-	-		-
Operation mode selection	Pr.79		PU connector	1	PU operation mode
			FR-A5NR	0*3	External operation mode at power on
Link start mode selection*6	-	Pr.340	1		Computer link operation
E^2PROM write selection*6	-	Pr.342	0*3		Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-F500 and F500L series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)
*4 Since the value has been set as a default, no setting is required when connecting to the PU connector on the inverter side.
*5 There is no Protocol selection setting on the inverter side.
*6 The setting is required on the inverter side when FR-A5NR is used.

14.5.4 Connecting FREQROL-A500, A500L series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.342
FR-A5NR (Option unit)	Pr.79, Pr.331 to Pr.337, Pr.340 to Pr.342

(2) Communication settings of inverter
Set the following parameters using the PU (parameter unit). Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.		Set value		Contents of setting
	PU connector	FR-A5NR			
Communication station number	Pr.117	Pr.331	0 to 31		14.5.14 Station number setting
Communication speed*2	Pr.118	Pr.332	192*4		19200bps
Stop bit length*2	Pr.119	Pr.333	10		Data length: 7bit Stop bit length: 1bit
Parity check presence/absence*2	Pr.120	Pr.334	1		Odd
Number of communication retries	Pr.121	Pr.335	9999		The inverter will not come to an alarm stop.
Communication check time interval	Pr.122	Pr.336	9999		Communication check suspension
Wait time setting	Pr.123	Pr.337	0		0ms
CRLF presence/ absence selection	Pr.124	Pr.341	1*3		With CR, without LF
Protocol selection*5	-	-	-		-
Operation mode selection	Pr.79		PU connector	1	PU operation mode
			FR-A5NR	0*3	External operation mode at power on
Link start mode selection*6	-	Pr.340	1		Computer link operation
E^{2}PROM write selection	Pr.342		0*3		Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-A500 and A500L series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)
*4 Since the value has been set as a default, no setting is required when connecting to the PU connector on the inverter side.
*5 There is no Protocol selection setting on the inverter side.
*6 The setting is required on the inverter side when FR-A5NR is used.

14.5.5 Connecting FREQROL-V500, V500L series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.342
FR-A5NR (Option unit)	Pr.79, Pr.331 to Pr.337, Pr.340 to Pr.342

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit). Set Pr.160 (Extended function display selection) to 1 [All parameters can be accessed for reading and writing.] before making the parameter settings.
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.		Set value		Contents of setting
	PU connector	FR-A5NR			
Communication station number	Pr.117	Pr.331	0 to 31		14.5.14 Station number setting
Communication speed*2	Pr.118	Pr.332	192*4		19200bps
Stop bit length/data length Stop bit length*2	Pr.119	Pr.333	10		Data length: 7bit Stop bit length: 1bit
Parity check presence/absence*2	Pr.120	Pr.334	1		Odd
Number of communication retries	Pr.121	Pr.335	9999		The inverter will not come to an alarm stop.
Communication check time interval	Pr.122	Pr.336	9999		Communication check suspension
Wait time setting	Pr.123	Pr.337	0		0ms
CRLF presence/ absence selection	Pr.124	Pr.341	1*3		With CR, without LF
Protocol selection*5	-	-	-		-
Operation mode selection	Pr.79		PU connector	1	PU operation mode
			FR-A5NR	0*3	External operation mode at power on
Link start mode selection*6	-	Pr.340	1		Computer link operation
E^2PROM write selection	Pr.342		0*3		Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-V500 and V500L series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)
*4 Since the value has been set as a default, no setting is required when connecting to the PU connector on the inverter side.
*5 There is no Protocol selection setting on the inverter side.
*6 The setting is required on the inverter side when FR-A5NR is used.

14.5.6 Connecting FREQROL-E700 series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.340, Pr.342, Pr.549
FR-E7TR (RS-485 terminal block)	

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit).
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.	Set value	Contents of setting
PU communication station number	Pr.117	0 to 31	14.5.14 Station number setting
PU communication speed*2	Pr.118	192*3	19200bps
PU communication stop bit length*2	Pr.119	10	Data length: 7bit Stop bit length: 1bit
PU communication parity check*2	Pr.120	1	Odd
Number of PU communication retries	Pr.121	9999	The inverter will not come to an alarm stop.
PU communication check time interval	Pr.122	9999	Communication check suspension
PU communication wait time setting	Pr.123	0	0ms
PU communication CR/LF selection	Pr.124	1*3	With CR, without LF
Protocol selection	Pr.549	0*3	Mitsubishi inverter protocol
Operation mode selection	Pr.79	0*3	PU operation mode
Communication startup mode selection	Pr.340	1	Network operation mode.
Communication EEPROM write selection	Pr.342	0*3	Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-E700 series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)

14.5.7 Connecting FREQROL-D700 series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.340, Pr.342, Pr.549

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit). Before setting the parameters, set Pr.160 (User group read selection) to 0 so that simple mode + extended mode parameters are displayed.
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.	Set value	Contents of setting
PU communication station number	Pr.117	0 to 31	☞ 14.5.14 Station number setting
PU communication speed*2	Pr.118	192*3	19200bps
PU communication stop bit length*2	Pr.119	10	Data length: 7bit Stop bit length: 1bit
PU communication parity check*2	Pr.120	1	Odd
Number of PU communication retries	Pr.121	9999	The inverter will not come to an alarm stop.
PU communication check time interval	Pr.122	9999	Communication check suspension
PU communication wait time setting	Pr.123	0	0ms
PU communication CR/LF selection	Pr.124	1*3	With CR, without LF
Protocol selection	Pr.549	0*3	Mitsubishi inverter protocol
Operation mode selection	Pr.79	0*3	PU operation mode
Communication startup mode selection	Pr.340	1	Network operation mode.
Communication EEPROM write selection	Pr.342	0*3	Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-D700 series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)

14.5.8 Connecting FREQROL-F700/700P series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.340, Pr.342
RS-485 terminal	Pr.79, Pr.331 to Pr.337, Pr.340 to Pr.342, Pr.549

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit). Before setting the parameters, set Pr.160 (User group read selection) to 0 so that simple mode + extended mode parameters are displayed.
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.		Set value		Contents of setting
	PU connector	RS-485			
PU communication station number/RS-485 communication station number	Pr.117	Pr.331	0 to 31		14.5.14 Station number setting
PU communication speed/RS-485 communication speed*2	Pr.118	Pr.332	192*4		19200bps
PU communication stop bit length/ RS-485 communication stop bit length*2	Pr.119	Pr.333	10		Data length: 7bit Stop bit length: 1bit
PU communication parity check/ RS-485 communication parity check*2	Pr.120	Pr.334	1		Odd
Number of PU communication retries/ RS-485 communication retry count	Pr.121	Pr.335	9999		The inverter will not come to an alarm stop.
PU communication check time interval/ RS-485 communication check time interval	Pr.122	Pr.336	9999*4		Communication check suspension
PU communication waiting time setting/ RS-485 communication waiting time setting	Pr.123	Pr.337	0		0ms
PU communication CR/LF selection/ RS-485 communication CR/LF selection	Pr.124	Pr.341	1*3		With CR, without LF
Protocol selection	-	Pr.549	0*3		Mitsubishi inverter protocol
Operation mode selection	Pr.79		PU connector	1	PU operation mode
			RS-485	0*3	External operation mode at power on
Communication startup mode selection	Pr.340		PU connector	0*3	Refer to Pr.79 settings.
			RS-485	1	Network operation mode.
Communication EEPROM write selection	Pr.342		0*3		Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-F700 series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)
*4 Since the value has been set as a default, no setting is required when connecting to the PU connector on the inverter side.

HINT

Automatic setting with Pr.999 (FREQROL-F700P series only)

If Pr.999 is set as the following, the communication settings other than [PU communication station number] and [Communication EEPROM write selection] can be automatically set in a batch to the default communication settings of the GOT side.

Parameter No.	Set value	Description	Operation in parameter setting mode
Pr.999*1	10	GOT Initial settings (PU connector)	[AUTO]→[GOT]→[1]Write
	11	GOTInitial settings (RS-485 terminal)	-

*1 When monitoring the value of Pr.999, 9999 is always monitored.

14.5.9 Connecting FREQROL-F700PJ series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.340, Pr.342, Pr.549

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit). Before setting the parameters, set Pr.160 (Extended function display selection) to 0 so that simple mode + extended mode parameters are displayed. Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.	Set value	Contents of setting
PU communication station number	Pr.117	0 to 31	14.5.14 Station number setting
PU communication speed*2	Pr.118	192*3	19200bps
PU communication stop bit length	Pr.119	10	Data length: 7bit Stop bit length: 1bit
PU communication parity check*2	Pr.120	1	Odd
Number of PU communication retries	Pr.121	9999	The inverter will not come to an alarm stop.
PU communication check time interval	Pr.122	9999	Communication check suspension
PU communication waiting time setting	Pr.123	0	0ms
PU communication CR/LF selection	Pr.124	1*3	With CR, without LF
Protocol selection	Pr.549	0*3	Mitsubishi inverter protocol
Operation mode selection	Pr.79	0*3	External operation mode at power on
Communication startup mode selection	Pr.340	1	Network operation mode.
Communication EEPROM write selection	Pr.342	0*3	Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-F700 series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)

HINT

Automatic setting with Pr.999

If Pr.999 is set as the following, the communication settings other than [PU communication station number] and [Communication EEPROM write selection] can be automatically set in a batch to the default communication settings of the GOT side.

Parameter No.	Set value	Description	Operation in parameter setting mode
Pr.999*1	10	GOT Initial settings (PU connector)	[AUTO] → [GOT] → [1]Write

*1 When monitoring the value of Pr.999, 9999 is always monitored.

14.5.10 Connecting FREQROL-A700 series

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.340, Pr.342
RS-485 terminal	Pr.79, Pr.331 to Pr.337, Pr.340 to Pr.342, Pr.549

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit).
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.		Set value		Contents of setting
	PU connector	RS-485			
PU communication station number/ RS-485 communication station number	Pr.117	Pr.331	0 to 31		14.5.14 Station number setting
PU communication speed/ RS-485 communication speed*2	Pr.118	Pr.332	192*4		19200bps
PU communication stop bit length/ RS-485 communication stop bit length*2	Pr.119	Pr.333	10		Data length: 7bit Stop bit length: 1bit
PU communication parity check/ RS-485 communication parity check*2	Pr.120	Pr.334	1		Odd
Number of PU communication retries/ RS-485 communication retry count	Pr.121	Pr.335	9999		The inverter will not come to an alarm stop.
PU communication check time interval/ RS-485 communication check time interval	Pr.122	Pr.336	9999*4		Communication check suspension
PU communication waiting time setting/ RS-485 communication waiting time setting	Pr.123	Pr.337	0		0ms
PU communication CR/LF selection/ RS-485 communication CR/LF selection	Pr.124	Pr.341	1*3		With CR, without LF
Protocol selection	-	Pr.549	0*3		Mitsubishi inverter protocol
Operation mode selection	Pr.79		PU connector	1	PU operation mode
			RS-485	0*3	External operation mode at power on
Communication startup mode selection	Pr.340		PU connector	0*3	Refer to Pr.79 settings.
			RS-485	1	Network operation mode.
Communication EEPROM write selection	Pr.342		0*3		Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of FREQROL-A700 series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)
*4 Since the value has been set as a default, no setting is required when connecting to the PU connector on the inverter side.

HINT

(1) Automatic setting with Pr.999

If Pr.999 is set as the following, the communication settings other than [PU communication station number] and [Communication EEPROM write selection] can be automatically set in a batch to the default communication settings of the GOT side.

Parameter No.	Set value	Description	Operation in parameter setting mode
Pr.999*1	10	GOT Initial settings (PU connector)	[AUTO] → [GOT] → [1]Write
	11	GOT Initial settings (RS-485)	-

*1 When monitoring the value of Pr.999, 9999 is always monitored.

(2) Inverters available for automatic batch setting

Parameters are not automatically set in a batch depending on the SERIAL (production number) symbol of the inverter to be used. For details, contact your local distributor.

14.5.11 Connecting FREQROL-A800, F800 series

■ Communication settings

Configure the inverter communication settings by one of the following three methods.
To automatically reconfigure the GOT side communication settings to the inverter side communication settings in batches and to perform the automatic connection, refer to the following.

(2) Communication settings of inverter (Automatic connection)

To automatically reconfigure the GOT side default communication settings to the inverter side communication settings in batches, refer to the following.

(3) Automatic setting with Pr.999

To manually reconfigure the GOT side communication settings to the inverter communication settings, refer to the following.

(4) Communication settings of inverter (Manual setting)

Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.340, Pr.342, Pr.414
RS-485 terminal	Pr.79, Pr.331 to Pr.337, Pr.340 to Pr.342, Pr.414, Pr.549

(2) Communication settings of inverter (Automatic connection)

When [Automatic Negotiation] is set to [Yes] in the GOT communication settings, the inverter parameters are reconfigured to the GOT communication settings.
Set the station number settings (Pr.117 and Pr.331) and the protocol selection (Pr.549) in advance.
To use the PLC function, set the PLC function operation selection (Pr.414) in advance.
Before performing the automatic connection, connect all the GOTs and the inverters.
After the automatic connection is performed, if a station is added or changed, or the communication settings are not reconfigured normally, change the settings with the automatic batch parameter setting (Pr.999) separately.
If the inverter power turns off while the automatic connection is executed, execute the automatic connection on the GOT again.
If the automatic connection fails, a communication timeout error occurs.
If the automatic connection succeeds, the GOT normally starts communicating with each station.

The following shows the parameters to be reconfigured by the automatic connection.

Setting item[*1]	Parameter No.	
	PU connector	RS-485
PU communication speed/ RS-485 communication speed	Pr.118	Pr.332
PU communication stop bit length/ RS-485 communication stop bit length	Pr.119	Pr.333
PU communication parity check/ RS-485 communication parity check	Pr.120	Pr.334
Number of PU communication retries/ RS-485 communication retry count	Pr.121	Pr.335
PU communication check time interval/ RS-485 communication check time interval	Pr.122	Pr.336
PU communication waiting time setting/ RS-485 communication waiting time setting	Pr.123	Pr.337
PU communication CR/LF selection/ RS-485 communication CR/LF selection	Pr.124	Pr.341

(3) Automatic setting with Pr.999

Setting Pr.999 as shown below automatically configures the communication settings to the default communication settings of the GOT side collectively.

Parameter No.	Set value	Description	Operation in parameter setting mode
Pr.999*1	10	GOT (FREQROL 500/700/800, SENSORLESS SERVO) initial settings (PU connector)	[AUTO] → [GOT] → [1]Write
	11	GOT (FREQROL 500/700/800, SENSORLESS SERVO) initial settings (RS-485)	-
	12	GOT (FREQROL 800) initial settings (PU connector)	[AUTO] → [GOT] → [2]Write
	13	GOT (FREQROL 800) initial settings (RS-485)	-

*1 When monitoring the value of Pr.999, 9999 is always monitored.

The following shows the values to be automatically set in batches when the above values are set for Pr.999.

(a) Pr.999=10

Pr.No.	Setting item	Set value
79	Operation mode selection	1
118	PU communication speed	192
119	PU communication stop bit length	10
120	PU communication parity check	1
121	Number of PU communication retries	9999
122	PU communication check time interval	9999
123	PU communication waiting time setting	0ms
124	PU communication CR/LF selection	1
340	Communication startup mode selection	0

(b) Pr.999=11

Pr.No.	Setting item	Set value
79	Operation mode selection	0
332	RS-485 communication speed	192
333	RS-485 communication stop bit length	10
334	RS-485 communication parity check	1
335	RS-485 communication retry count	9999
336	RS-485 communication check time interval	9999
337	RS-485 communication waiting time setting	0ms
340	Communication startup mode selection	1
341	RS-485 communication CR/LF selection	1
549	Protocol selection	0

(c) Pr.999=12

Pr.No.	Setting item	Set value
79	Operation mode selection	1
118	PU communication speed	1152
119	PU communication stop bit length	0
120	PU communication parity check	1
121	Number of PU communication retries	9999
122	PU communication check time interval	9999
123	PU communication waiting time setting	0ms
124	PU communication CR/LF selection	1
340	Communication startup mode selection	0
414	PLC function operation selection	2*1

*1 Before configuring the automatic batch setting, if Pr.414 is set to 1, the setting is not changed.

(d) Pr.999=13

Pr.No.	Setting item	Set value
79	Operation mode selection	0
332	RS-485 communication speed	1152
333	RS-485 communication stop bit length	0
334	RS-485 communication parity check	1
335	RS-485 communication retry count	9999
336	RS-485 communication check time interval	9999
337	RS-485 communication waiting time setting	0ms
340	Communication startup mode selection	1
341	RS-485 communication CR/LF selection	1
414	PLC function operation selection	2*1
549	Protocol selection	0

*1 Before configuring the automatic batch setting, if Pr.414 is set to 1, the setting is not changed.

(4) Communication settings of inverter (Manual setting)

Set the following parameters using the PU (operation panel or parameter unit). Before setting the parameters, set Pr.160 (User group read selection) to 0 so that simple mode + extended parameters are displayed. (The default value of FREQROL-F800 is 9999.)

Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item[*1]	Parameter No.		Set value		Contents of setting
	PU connector	RS-485			
PU communication station number/ RS-485 communication station number	Pr.117	Pr.331	0 to 31		☞ 14.5.14 Station number setting
PU communication speed/ RS-485 communication speed[*2]	Pr.118	Pr.332	192[*3]		19200bps
PU communication stop bit length/data length/ RS-485 communication stop bit length/data length[*2]	Pr.119	Pr.333	10[*4]		Data length: 7bit Stop bit length: 1bit
PU communication parity check/ RS-485 communication parity check[*2]	Pr.120	Pr.334	1		Odd
Number of PU communication retries/ RS-485 communication retry count	Pr.121	Pr.335	9999		The inverter will not come to an alarm stop.
PU communication check time interval/ RS-485 communication check time interval	Pr.122	Pr.336	9999[*3]		Communication check suspension
PU communication waiting time setting/ RS-485 communication waiting time setting	Pr.123	Pr.337	0		0ms
PU communication CR/LF selection/ RS-485 communication CR/LF selection	Pr.124	Pr.341	1[*5]		With CR, without LF
Protocol selection	-	Pr.549	0[*5]		Mitsubishi inverter protocol
Operation mode selection	Pr.79		PU connector	1	PU operation mode
			RS-485	0[*5]	External operation mode at power on
Communication startup mode selection	Pr.340		PU connector	0[*5]	Refer to Pr.79 settings.
			RS-485	1	Network operation mode.
Communication EEPROM write selection	Pr.342		0[*5]		Written to RAM and EEPROM
PLC function operation selection[*6]	Pr.414		1, 2		Enabled with 1 and 2.

*1 Setting items are parameter names described in the manual of FREQROL-A800, F800 series.

*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.

*3 Since the value has been set as a default, no setting is required when connecting to the PU connector on the inverter side.

*4 To use the FREQROL 800 driver, set 0.

*5 Inverter default values (No need to change).

*6 The inverter side setting defaults to 0 (invalid).
To use the PLC function, set 1 or 2.

14.5.12 Connecting a sensorless servo (FREQROL-E700EX series)

■ Communication settings

Make the communication settings of the sensorless servo (FREQROL-E700EX series).
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124, Pr.340, Pr.342, Pr.549
FR-E7TR (RS-485 terminal block)	

(2) Communication settings of sensorless servo

Set the following parameters using the PU (operation panel or parameter unit).
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

Setting item*1	Parameter No.	Set value	Contents of setting
PU communication station number	Pr.117	0 to 31	14.5.14 Station number setting
PU communication speed*2	Pr.118	192*3	19200bps
PU communication stop bit length*2	Pr.119	10	Data length: 7bit Stop bit length: 1bit
PU communication parity check*2	Pr.120	1	Odd
Number of PU communication retries	Pr.121	9999	The inverter will not come to an alarm stop.
PU communication check time interval	Pr.122	9999	Communication check suspension
PU communication wait time setting	Pr.123	0	0ms
PU communication CR/LF selection	Pr.124	1*3	With CR, without LF
Protocol selection	Pr.549	0*3	Mitsubishi inverter protocol
Operation mode selection	Pr.79	0*3	PU operation mode
Communication startup mode selection	Pr.340	1	Network operation mode.
Communication EEPROM write selection	Pr.342	0*3	Written to RAM and EEPROM

*1 Setting items are parameter names described in the manual of sensorless servo (FREQROL-E700EX series).
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Sensorless servo (FREQROL-E700EX series) default values (No need to change)

14.5.13 Connecting MD-CX522-□□K(-A0)

■ Communication settings

Make the communication settings of the inverter.
Be sure to perform the inverter reset after updating each parameter.

(1) Communication port and corresponding parameters

GOT connection destination	Parameters corresponding to inverter
PU connector	Pr.79, Pr.117 to Pr.124

(2) Communication settings of inverter

Set the following parameters using the PU (parameter unit).
After setting the parameters for the communication settings, reset the inverter.
Do not change these parameters, even though they can be monitored from the GOT. If they are changed, communication with the GOT is disabled.

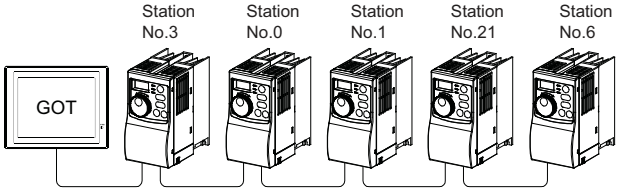
Setting item*1	Parameter No.	Set value	Contents of setting
Communication station number	Pr.117	0 to 31	14.5.14 Station number setting
Communication speed*2	Pr.118	192*3	19200bps
Stop bit length/data length*2	Pr.119	10	Data length: 7bit Stop bit length: 1bit
Parity check presence/absence*2	Pr.120	1	Odd
Number of communication retries	Pr.121	9999	The inverter will not come to an alarm stop.
Communication check time interval	Pr.122	9999	Communication check suspension
Wait time setting	Pr.123	0	0ms
CRLF presence/absence selection	Pr.124	1*3	With CR, without LF

*1 Setting items are parameter names described in the manual of MELIPM series.
*2 Settings on the GOT can be changed.
When changing the settings on the GOT, be sure to change the parameters on the inverter to correspond with the GOT settings.
*3 Inverter default values (No need to change)

14.5.14 Station number setting

Set each station number so that no station number overlaps.

The station number can be set without regard to the cable connection order. There is no problem even if station numbers are not consecutive.



Examples of station number setting

(1) Direct specification

When setting the device, specify the station number of the inverter of which data is to be changed.

Specification range
0 to 31

(2) Indirect specification

When setting the device, indirectly specify the station number of the inverter of which data is to be changed using the 16-bit GOT internal data register (GD10 to GD25).

When specifying the station No. from 100 to 155 on GT Designer3, the value of GD10 to GD25 compatible to the station No. specification will be the station No. of the inverter.

Specification station NO.	Compatible device	Setting range
100	GD10	0 to 31 For the setting other than the above, error (dedicated device is out of range) will occur.
101	GD11	
102	GD12	
103	GD13	
104	GD14	
105	GD15	
106	GD16	
107	GD17	
108	GD18	
109	GD19	
110	GD20	
111	GD21	
112	GD22	
113	GD23	
114	GD24	
115	GD25	

14.6 Device Range that Can Be Set

The device ranges of controller that can be used for GOT are as follows.

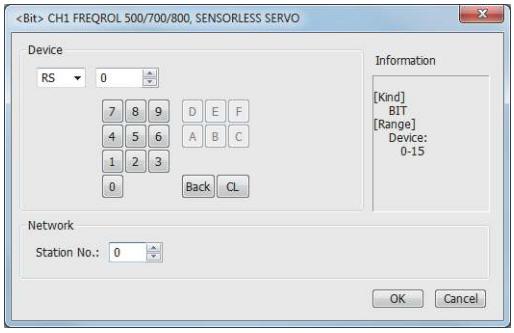
Note that the device ranges in the following tables are the maximum values that can be set in GT Designer3.

The device specifications of controllers may differ depending on the models, even though belonging to the same series.

Please make the setting according to the specifications of the controller actually used.

When a non-existent device or a device number outside the range is set, other objects with correct device settings may not be monitored.

■ Setting item



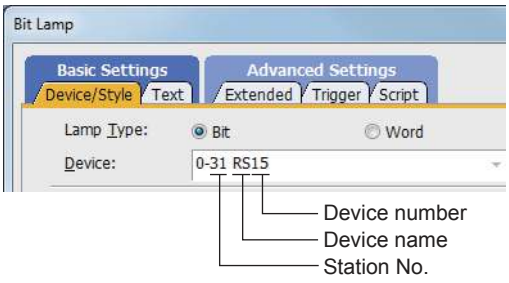
Item	Description	
Device	Set the device name, device number, and bit number. The bit number can be set only by specifying the bit of word device.	
	Station No.	Monitors the inverter of the specified station No. 0 to 31: To monitor the inverter of the specified station No. 100 to 115: To specify the station No. of the inverter to be monitored by the value of GOT data register (GD).*1
Information	Displays the device type and setting range which are selected in [Device].	

*1 The following shows the relation between the inverter station numbers and the GOT data register.

Station No.	GOT data register (GD)	Setting range
100	GD10	0 to 31 (If setting a value outside the range above, a device range error occurs)
101	GD11	
:	:	
114	GD24	
115	GD25	

(1) Setting the device by inputting directly from the keyboard

When setting the device by inputting directly from the keyboard, set the items as follows.



■ Inverter (FREQROL 500/700/800 series), sensorless servo (FREQROL-E700EX)

	Device name	Setting range			Device No. representation
Bit device	Inverter status monitor (RS)*3	0-0 RS0 0-100 RS0	to to	0-31 RS15 0-115 RS15	Decimal
	Run command (WS) *4*5	0-0 WS0 0-100 WS0	to to	0-31 WS15 0-115 WS15	
Word device	Alarm definition (A) *2*3	0-0 A0 0-100 A0	to to	0-31 A7 0-115 A7	Decimal
	Parameter (Pr) *1*2	0-0 Pr0 0-100 Pr0	to to	0-31 Pr1500 0-115 Pr1500	
	Programmed operation (PG)*1*2	0-0 PG0 0-100 PG0	to to	0-31 PG89 0-115 PG89	
	Special parameter (SP)*2*4	0-0 SP108 0-100 SP108	to to	0-31 SP127 0-115 SP127	

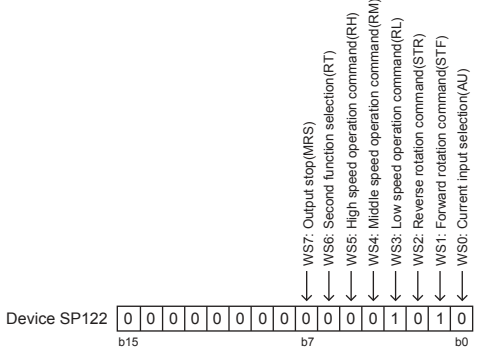
*1 When creating the screen, designate only either of programmed operation (PG) device or parameter (Pr) device.
Do no designate both PG (PG0 to PG89) and Pr (Pr900 to Pr905) devices.

*2 Only 16-bit (1-word) designation is possible.

*3 Only reading is possible.

*4 When the GOT is connected to the PU connector and the operation mode is set to the PU operation mode, the multi-speed operation (W3 to W7, SP121, SP122) cannot be used. For using the multi-speed operation, follow either of the operations as below.
- Connect the GOT to the RS-485 terminal and set the operation mode to the NET operation mode (Computer link operation mode), and then operate the inverter.
- Change the motor speed with the set frequency (SP109, SP110), and then operate the inverter with the forward or reverse rotation (WS1, WS2, SP121, SP122).

*5 Only writing is possible for WS devices.
More than one WS cannot turn on at once.
(Except the turned on WS device, the other WS devices turn off.)
Bits of SP122 (word device) and SP121 (word device) are assigned to WS0 to WS7 and WS8 to WS15 respectively.
When more than one WS turns on at once, convert the values for the bit devices that are assigned to the word device into values for the word device. Write the converted values into SP122 or SP121.
- Setting High speed operation command (WS5), Middle speed operation command (WS4), and Low speed operation command (WS3)
  When setting High speed operation command (WS5), Middle speed operation command (WS4), and Low speed operation command (WS3), write numerical values to device SP122 as necessary.
  As the following figure shows, each operation mode is assigned to device SP122.
  The following shows an example for Forward rotation command (WS1) and Low speed operation command (WS3).



Write [1] to each bit corresponding to Forward rotation command (WS1) and Low speed operation command (WS3) of device SP122. The value will be 000AH in this example. When writing the value to device SP122 actually, convert 000AH to decimal number and write the value [10].

When using a WS device, [Alternate] of a bit switch cannot be used.
Use [Momentary], [Set], and [Reset] for bit switch actions.

The following shows correspondences between virtual inverter devices used in the GOT and data of the inverter.

(2) Inverter status monitor

An example with FREQROL-A700 series is shown below.
For the setting items of other than the FREQROL-A700 series, refer to the following manual.

☞ User's Manual of the used inverter (communication function (setting item and set data))

Device name	Description*1
RS0	Inverter running (RUN)
RS1	Forward rotation (STF)
RS2	Reverse rotation (STR)
RS3	Up to frequency (SU)
RS4	Overload (OL)
RS5	Instantaneous power failure (IPF)
RS6	Frequency detection (FU)
RS7	Fault (ABC1)
RS8	ABC2
RS9	-
RS10	-
RS11	-
RS12	-
RS13	-
RS14	-
RS15	Fault occurrence

*1 The description (function of input terminal) may be changed by the parameter of the inverter side. Check the function of the inverter used.

☞ Inverter User's Manual (Application) Communication operation and setting

(3) Run command

An example with FREQROL-A700 series is shown below. For the setting items of other than the FREQROL-A700 series, refer to the following manual.

☞ User's Manual of the used inverter (Communication function (Setting item and set data))

Device name	Description*1
WS0	Current input selection (AU)
WS1	Forward rotation command (STF)
WS2	Reverse rotation command (STR)
WS3	Low speed operation command (RL)
WS4	Middle speed operation command (RM)
WS5	High speed operation command (RH)
WS6	Second function selection (RT)
WS7	Output stop (MRS)
WS8	Jog operation (JOG)
WS9	Selection of automatic restart after instantaneous power failure (CS)
WS10	Start self-holding (STOP)
WS11	Reset (RES)
WS12	-
WS13	-
WS14	-
WS15	-

*1 The data (function of input terminal) may be changed by the parameter of the inverter side. Check the function of the inverter used.

☞ Inverter User's Manual (Application) Communication operation and setting

(4) Alarm definition

Device name*1	Description
A0	Second alarm in past
A1	Latest alarm
A2	Fourth alarm in past
A3	Third alarm in past
A4	Sixth alarm in past
A5	Fifth alarm in past
A6	Eighth alarm in past
A7	Seventh alarm in past

*1 Only reading is possible for A0 to A7.
These devices cannot be used for a write object (numerical input etc.).

(5) Parameter

The numbers of virtual devices for inverter (parameter (Pr)), used by GOT, correspond to the inverter parameter numbers.

For the inverter parameters, refer to the following.

☞ Manual of the inverter being used

POINT

(1) Monitoring Pr.37

GOT cannot monitor the parameter (Pr.37) of FREQROL-E500/S500(E)/F500J/D700/F700PJ/E700.

(2) When setting "8888" or "9999" to inverter parameter (Pr) "8888" and "9999" designate special function.

To set these numbers from GOT, designate a number as shown below.

Set value of inverter side	Value specified by GOT
8888	65520
9999	65535

(3) Precautions for setting calibration parameter (Pr900 to Pr905)

When setting a calibration parameter (Pr900 to Pr905), it is necessary to set the value below for extension second parameter (SP108), depending on the device number to be used and the inverter model.

Value to be set to extension second parameter (SP108)	Description
H00	Offset/gain
H01	Analog
H02	Analog value at terminal

(6) Programmed operation

The devices below correspond to the parameters (Pr.201 to Pr.230) of FREQROL-A500 series.

Device name			Description
PG0	to	PG9	Program set 1 (running frequency)
PG10	to	PG19*1	Program set 1 (time)
PG20	to	PG29	Program set 1 (rotation direction)
PG30	to	PG39	Program set 2 (running frequency)
PG40	to	PG49*1	Program set 2 (time)
PG50	to	PG59	Program set 2 (rotation direction)
PG60	to	PG69	Program set 3 (running frequency)
PG70	to	PG79*1	Program set 3 (time)
PG80	to	PG89	Program set 3 (rotation direction)

*1 To set the start time (PG10 to PG19, PG40 to PG49, PG70 to PG79), set hour or minute in the upper 8bits, and minute or second in the lower 8bits.
Example) To set 13 hour 35 minute

Time to be set	13H	35M	Remark
Convert "hour" and "minute" into hexadecimal.	H0D	H23	HEX
Combine upper and lower 8-bit values.	Input H0D23 or 3363.		-

(7) Special parameter

The numbers of the inverter's virtual devices (SP) used for the GOT correspond to instruction codes of the inverter communication function.

For instruction details, and values to be read and written, refer to the following,

☞ Manual of the inverter used

Device name	Description	Instruction code	
		Read	Write
SP108	Second parameter changing	6CH	ECH
SP109*1	Set frequency (RAM)	6DH	EDH
SP110*1	Set frequency (RAM, E^{2}PROM)	6EH	EEH
SP111*1*2	Output frequency	6FH	-
SP112*2	Output current	70H	-
SP113*2	Output voltage	71H	-
SP114*2	Special monitor	72H	-
SP115	Special monitor selection No.	73H	F3H
SP116	Alarm definition all clear	-	F4H
	Latest alarm, second alarm in past	74H	-
SP117	Third alarm in past, fourth alarm in past	75H	-
SP118	Fifth alarm in past, sixth alarm in past	76H	-
SP119	Seventh alarm in past, eights alarm in past	77H	-
SP121	Inverter status monitor (extended)	79H	F9H
	Run command (extend)		
SP122	Inverter status monitor	7AH	-
	Run command	-	FAH
SP123	Communication mode	7BH	FBH
SP124*3	All parameter clear	-	FCH
SP125*3	Inverter reset	-	FDH
SP127	Link parameter extended setting	7FH	FFH

*1 GOT cannot monitor SP109 to SP111 if the conditions below are satisfied at the same time.
(Only FREQROL-E500/S500(E)/F500J/D700/F700PJ/E700 series)
- Pr37 ≠ 0
- SP127 = 1

*2 Only reading is possible for SP111 to SP114.
These devices cannot be used for a write object (numerical input etc.).

*3 Only writing is possible for SP124 and SP125.
These devices cannot be used for read object.

■ Inverter (FREQROL 800 series) (Automatic connection)

	Device name	Setting range			Device No. representation
Bit device	Inverter status monitor (RS)*2	0-0 RS0 0-100 RS0	to to	0-31 RS15 0-115 RS15	Decimal
	Run command (WS)*3*4	0-0 WS0 0-100 WS0	to to	0-31 WS15 0-115 WS15	
	Input (X)	0-0 X00 0-100 X00	to to	0-31 X7F 0-115 X7F	Hexadecimal
	Output (Y)	0-0 Y00 0-100 Y00	to to	0-31 Y7F 0-115 Y7F	
	Internal relay (M)	0-0 M0 0-100 M0	to to	0-31 M127 0-115 M127	Decimal
	Timer Coil (TC)	0-0 TC0 0-100 TC0	to to	0-31 TC15 0-115 TC15	
	Timer Contact (TT)	0-0 TT0 0-100 TT0	to to	0-31 TT15 0-115 TT15	
	Counter Coil (CC)	0-0 CC0 0-100 CC0	to to	0-31 CC15 0-115 CC15	
	Counter Contact (CT)	0-0 CT0 0-100 CT0	to to	0-31 CT15 0-115 CT15	
	Retentive timer Coil (SC)	0-0 SC0 0-100 SC0	to to	0-31 SC15 0-115 SC15	
	Retentive timer Contact (SS)	0-0 SS0 0-100 SS0	to to	0-31 SS15 0-115 SS15	
	Special relay (SM)*5	0-0 SM0 0-100 SM0	to to	0-31 SM2047 0-115 SM2047	
Word device	Alarm definition (A) *1*2	0-0 A0 0-100 A0	to to	0-31 A7 0-115 A7	Decimal
	Parameter (Pr) *1	0-0 Pr0 0-100 Pr0	to to	0-31 Pr1500 0-115 Pr1500	
	Special parameter (SP)*1*3	0-0 SP108 0-100 SP108	to to	0-31 SP127 0-115 SP127	
	Timer current value (TN)	0-0 TN0 0-100 TN0	to to	0-31 TN15 0-115 TN15	
	Counter current value (CN)	0-0 CN0 0-100 CN0	to to	0-31 CN15 0-115 CN15	
	Retentive timer current value (SN)	0-0 SN0 0-100 SN0	to to	0-31 SN15 0-115 SN15	
	Data register (D)	0-0 D0 0-100 D0	to to	0-31 D255 0-115 D255	
	Special data register (SD)	0-0 SD0 0-100 SD0	to to	0-31 SD2047 0-115 SD2047	

*1 Only 16-bit (1-word) designation is possible.

*2 Only reading is possible.

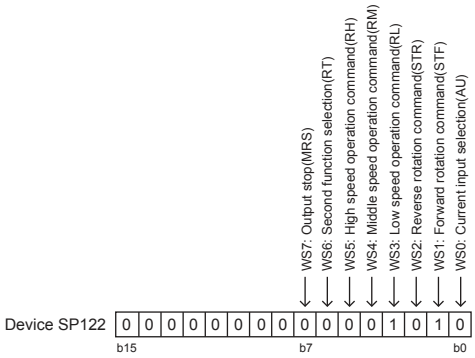
*3 When the GOT is connected to the PU connector and the operation mode is set to the PU operation mode, the multi-speed operation (W3 to W7, SP121, SP122) cannot be used. For using the multi-speed operation, follow either of the operations as below.
- Connect the GOT to the RS-485 terminal and set the operation mode to the NET operation mode (Computer link operation mode), and then operate the inverter.
- Change the motor speed with the set frequency (SP109, SP110), and then operate the inverter with the forward or reverse rotation (WS1, WS2, SP121, SP122).

*4 Only writing is possible for WS devices.
More than one WS cannot turn on at once.
(Except the turned on WS device, the other WS devices turn off.)
Bits of SP122 (word device) and SP121 (word device) are assigned to WS0 to WS7 and WS8 to WS15 respectively.
When more than one WS turns on at once, convert the values for the bit devices that are assigned to the word device into values for the word device. Write the converted values into SP122 or SP121.

- Setting High speed operation command (WS5), Middle speed operation command (WS4), and Low speed operation command (WS3)
  When setting High speed operation command (WS5), Middle speed operation command (WS4), and Low speed operation command (WS3), write numerical values to device SP122 as necessary.
  As the following figure shows, each operation mode is assigned to device SP122.
  The following shows an example for Forward rotation command (WS1) and Low speed operation command (WS3).

*5 The SM device cannot be specified as a word device.
For the applicable SM devices, refer to the following.

A800 PLC FUNCTION PROGRAMMING MANUAL



Write [1] to each bit corresponding to Forward rotation command (WS1) and Low speed operation command (WS3) of device SP122. The value will be 000AH in this example. When writing the value to device SP122 actually, convert 000AH to decimal number and write the value [10].

When using a WS device, [Alternate] of a bit switch cannot be used.
Use [Momentary], [Set], and [Reset] for bit switch actions.

For the correspondences between the virtual inverter devices used in the GOT and the data of the inverter, refer to the following.

User's Manual of the used inverter (communication function (setting item and set data))

POINT

If the automatic connection fails

When [Automatic Negotiation] is set to [Yes] in the GOT communication settings, the inverter parameters are reconfigured within the user-specified negotiation time.
If the automatic connection fails, set the longer negotiation time with GT Designer3 or the utility.

14.7 Precautions

■ Station No. of inverter system

Make sure to establish inverter system with No.0 station.

■ Number of inverter

Up to 31 inverters can be connected.

■ Parameter setting

(1) Communication parameter change
Do not make any change for each communication parameter of the inverter side from GOT.
If changed, the communication to the inverter cannot be made.

(2) When setting "8888" or "9999" to inverter parameter (Pr)
"8888" and "9999" designate special function. When specifying from the GOT, it will be as follows.

Set value of inverter side	Value specified by GOT
8888	65520
9999	65535

■ Screen switching devices, system information devices

Make sure to use GD for screen switching devices and system information devices when the GOT is connected to only the inverter.

■ GOT clock setting

The clock function is enabled or disabled depending on the driver selected.

- When selecting [FREQROL 500/700/800, SENSORLESS SERVO]
  The clock function is disabled even though [Adjust] or [Broadcast] is set by the GOT clock setting.
- When selecting [FREQROL 800]
  The clock function is enabled by using the PLC function of the FREQROL 800 series.

■ Settable driver

The following shows the settable drivers according to the models used.

- When connecting the GOT to one or more FREQROL 500/700/800 series and sensorless servos
  [FREQROL 500/700/800, SENSORLESS SERVO]
- When connecting the GOT to one or more FREQROL 800 series
  [FREQROL 800]
- When automatically connecting the GOT to FREQROL 800 series, or using the PLC function of the RFREQROL 800 series
  [FREQROL 800]

■ Automatic connection of FREQROL 800 series

The automatic connection requires the user-specified negotiation time and the initialization wait time.
By monitoring the Notify Automatic Connection Status (GS277), you can check the completion of the automatic connection.
For details, refer to the following.

☞ GT Designer3 (GOT2000) Help

15

SERVO AMPLIFIER CONNECTION

15. SERVO AMPLIFIER CONNECTION

15.1 Connectable Model List

The following table shows the connectable models.

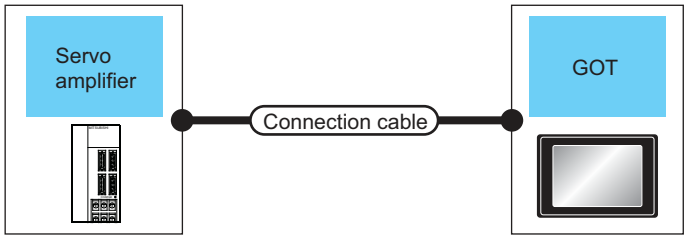
Series	Model name	Clock	Communication type	Connectable model	Refer to
MELSERVO-J2-Super	MR-J2S-□A	×	RS-232 RS-422	GT27 GT23 GS	15.2.1
	MR-J2S-□CP				
	MR-J2S-□CL				
MELSERVO-J2M	MR-J2M-P8A	×	RS-232 RS-422	GT27 GT23 GS	15.2.2
	MR-J2M-□DU				
MELSERVO-J3	MR-J3-□A	×	RS-232 RS-422	GT27 GT23 GS	15.2.3
	MR-J3-□T				
MELSERVO-J4*1	MR-J4-□A	×	RS-232 RS-422	GT27 GT23 GS	
MELSERVO-JE	MR-JE-□A	×	RS-422	GT27 GT23 GS	15.2.4

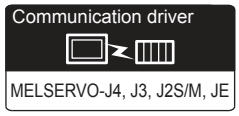
*1 For the RS-422 communication, use MELSERVO-J4 of software version A3 or a later version.

15.2 System Configuration

15.2.1 Connecting to the MELSERVO-J2-Super Series

■ When connecting via RS-232 communication

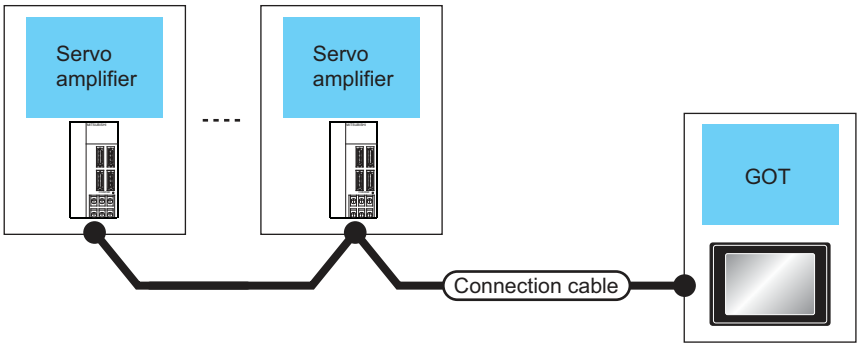


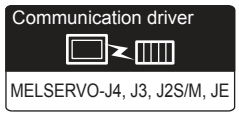


Servo amplifier		Connection cable		GOT		Number of connectable equipment
Series name	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
MELSERVO-J2-Super*1	RS-232	MR-CPCATCBL3M(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 servo amplifier
				GT15-RS2-9P	GT27 GT23 GS	

*1 Connect the connector of the servo amplifier to CN3.

■ When connecting via RS-422 communication



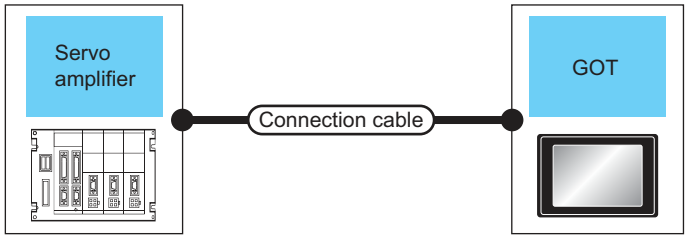


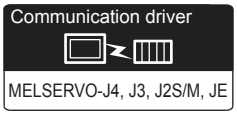
Servo amplifier		Connection cable	GOT		Max. distance	Number of connectable equipment
Series name	Communication type	Connection diagram number	Option device	Model		
MELSERVO-J2-Super*1	RS-422	User preparing RS422 connection diagram 1)	- (Built into GOT)	GT27 GT23 GS	30m	Up to 32 axes for 1 GOT (multi-drop communication)
			GT15-RS4-9S	GT27 GT23 GS		

*1 Connect the connector of the servo amplifier to CN3.

15.2.2 Connecting to the MELSERVO-J2M Series

■ When connecting via RS-232 communication

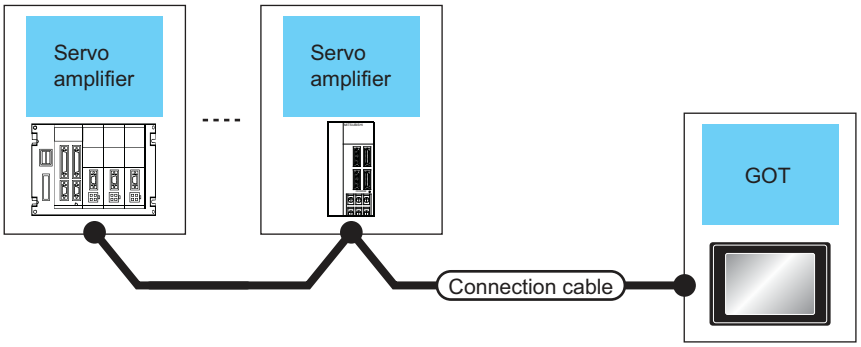


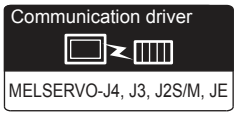


Servo amplifier		Connection cable		GOT		Number of connectable equipment
Series name	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
MELSERVO-J2M *1	RS-232	MR-CPCATCBL3M(3m) or User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 servo amplifier
				GT15-RS2-9P	GT27 GT23 GS	

*1 Connect the connector of the servo amplifier to CN3.

■ When connecting via RS-422 communication



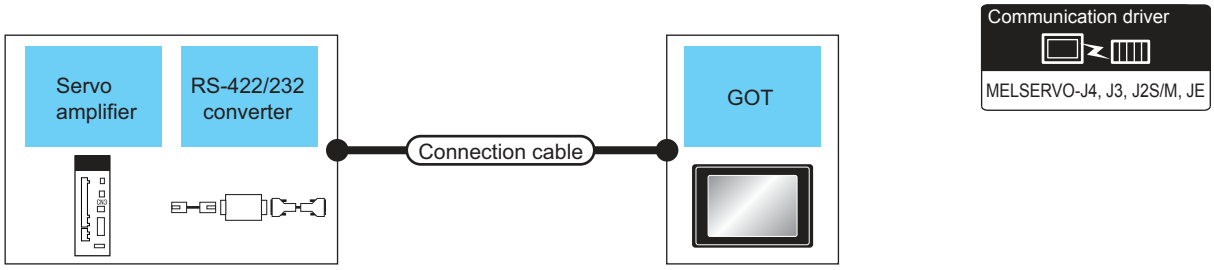


Servo amplifier		Connection cable		GOT		Number of connectable equipment
Series name	Communication type	Connection diagram number	Max. distance	Option device	Model	
MELSERVO-J2M *1	RS-422	User preparing RS422 connection diagram 1)	30m	- (Built into GOT)	GT27 GT23 GS	0 to 31 stations for 1 GOT
				GT15-RS4-9S	GT27 GT23 GS	

*1 Connect the connector of the servo amplifier to CN3.

15.2.3 Connecting to the MELSERVO-J4, J3 Series

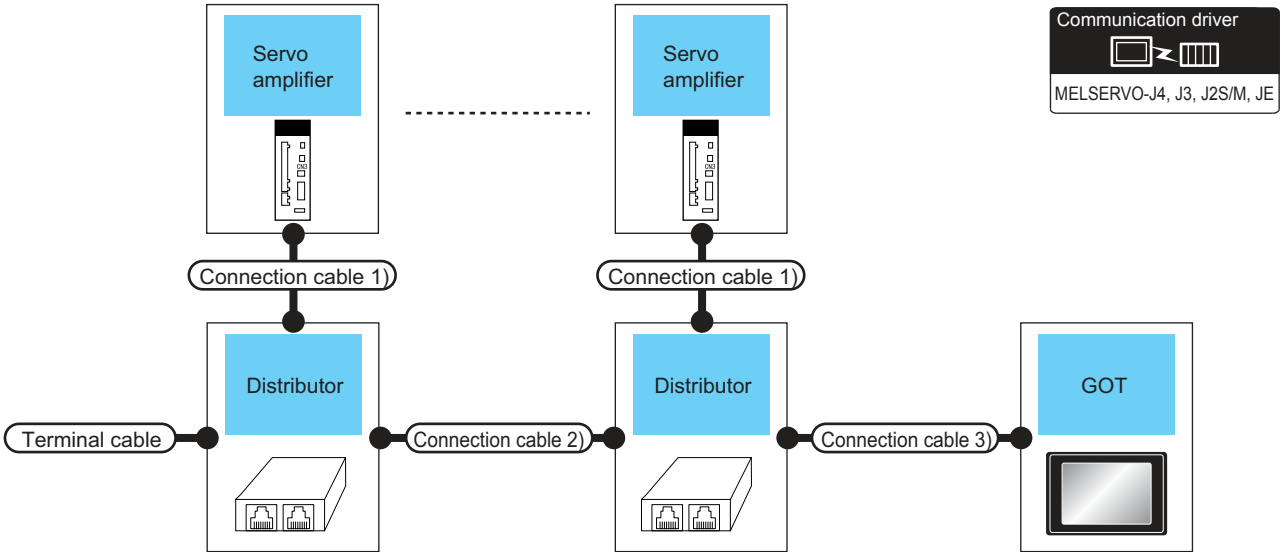
■ When connecting to one servo amplifier



Servo amplifier			Connection cable		GOT		Number of connectable equipment
Series name	RS-422/232 interface converter RS-422/232 conversion cable	Communication type	Cable model Connection diagram number	Max. distance	Option device	Model	
MELSERVO-J4*1, J3*1	DSV-CABV(1.5m)*2 or FA-T-RS40VS*3	RS-232	-	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 servo amplifier
					GT15-RS2-9P	GT27 GT23 GS	
	-	RS-422	User preparing RS422 connection diagram 2)	30m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	

*1 Connect the connector of the servo amplifier to CN3.
*2 DSV-CABV is a product manufactured by Diatrend Corporation. For details, contact Diatrend Corporation.
*3 FA-T-RS40VS is a product manufactured by MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED. For details, contact MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED.
The cables (RS-PCATCBL-0.5M(0.5m), RS-422SCBL-2M(2m)) are packed together.
Use the provided cables to connect devices.

■ When connecting to multiple servo amplifiers (RS-422 connection)

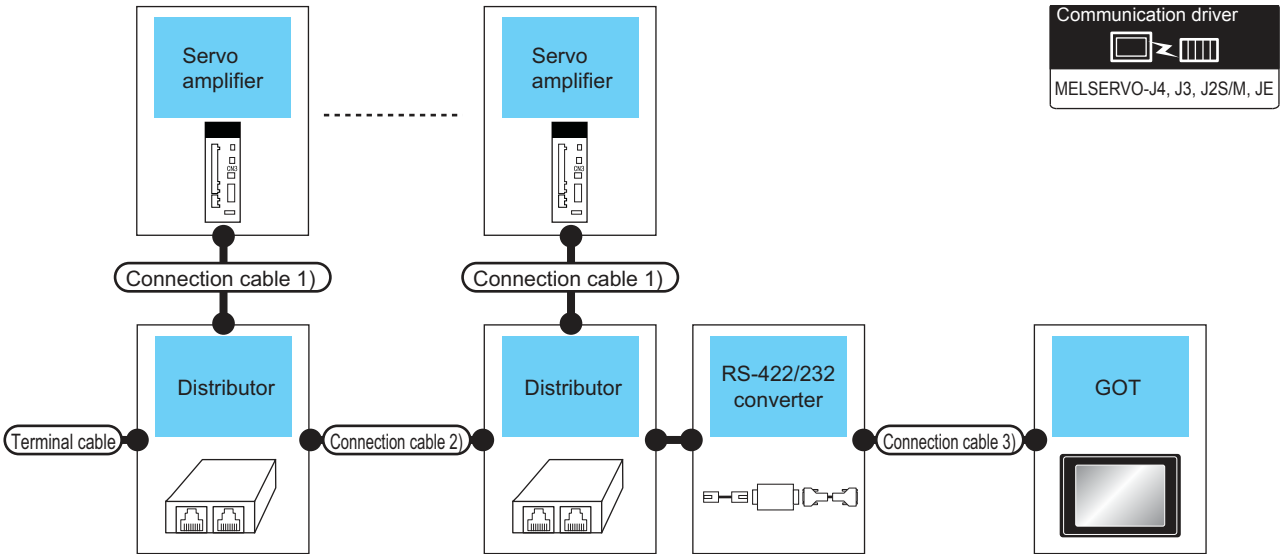


Servo amplifier		Terminating cable	Connection cable 1)	Distributor *2	Connection cable 2)	Distributor *2	Connection cable 3)	GOT		Max. distance	Number of connectable equipment
Series name	Communication type	Connection diagram number	Connection diagram number	Model name	Connection diagram number	Model name	Connection diagram number	Option device	Model		
MELSERVO -J4*1, J3*1	RS-422	RS422 connection diagram 5) User preparing	RS422 connection diagram 4) User preparing	BMJ-8 (Recommended)	RS422 connection diagram 3) User preparing	BMJ-8 (Recommended)	RS422 connection diagram 2) User preparing	- (Built into GOT)	GT27 GT23 GS	30m	Up to 32 axes for 1 GOT
								GT15-RS4-9S	GT27 GT23 GS		

*1 Connect the connector of the servo amplifier to CN3.

*2 The distributor is a product manufactured by HAKKO ELECTRIC CO., LTD. For details, contact HAKKO ELECTRIC CO., LTD.

■ When connecting to multiple servo amplifiers (RS-232 connection)



Servo amplifier	Terminating cable	Connection cable 1)	Distributor *3	Connection cable 2)	Distributor *3	RS-422/232 interface converter*2		Connection cable 3)	GOT		Max. distance	Number of connectable equipment
Series name	Connection diagram number	Connection diagram number	Model name	Connection diagram number	Model name	Model name	Communication type	Connection diagram number	Option device	Model		
MELSERVO-J4*1, J3*1	RS422 connection diagram 5) (User preparing)	RS422 connection diagram 4) (User preparing)	BMJ-8 (Recommended)	RS422 connection diagram 3) (User preparing)	BMJ-8 (Recommended)	FA-T-RS40VS	RS-232	-	- (Built into GOT)	GT27 GT23 GS	30m	Up to 32 axes for 1 GOT
									GT15-RS2-9P	GT27 GT23 GS		

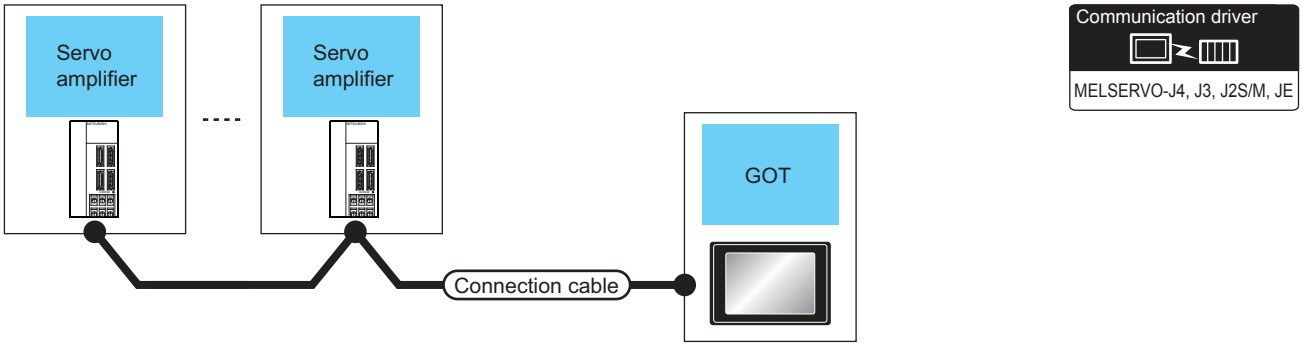
*1 Connect the connector of the servo amplifier to CN3.

*2 FA-T-RS40VS is a product manufactured by MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED. For detail of this product, contact MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED.
The cables (RS-PCATCBL-0.5M(0.5m), RS-422SCBL-2M(2m)) are packed together.
Use the cables packed together to connect.

*3 The distributor is a product manufactured by HAKKO ELECTRIC CO., LTD. For details, contact HAKKO ELECTRIC CO., LTD.

15.2.4 Connecting to the MELSERVO-JE Series

■ When connecting via RS-422 communication



Servo amplifier		Connection cable	GOT		Max. distance	Number of connectable equipment
Series name	Communication type	Connection diagram number	Option device	Model		
MELSERVO-JE*1	RS-422	User preparing RS422 connection diagram 6)	- (Built into GOT)	GT27 GT23 GS	30m	Up to 32 axes for 1 GOT (multi-drop communication)
			GT15-RS4-9S	GT27 GT23 GS		

*1 Connect the connector of the servo amplifier to CN1.

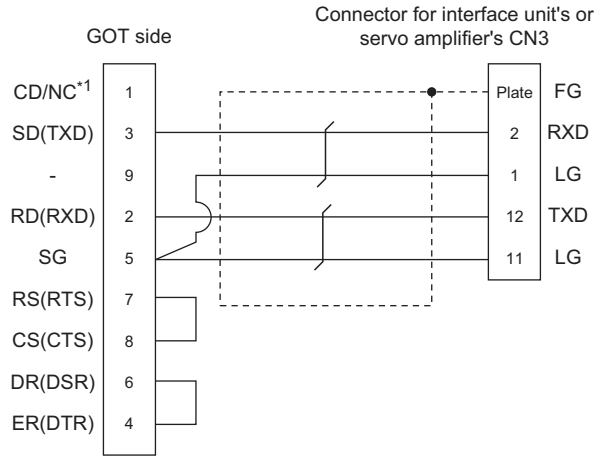
15.3 Connection Diagram

The following diagram shows the connection between the GOT and the servo amplifier.

15.3.1 RS-232 cable

■ Connection diagram

(1) RS232 connection diagram 1)



■ Precautions when preparing cable

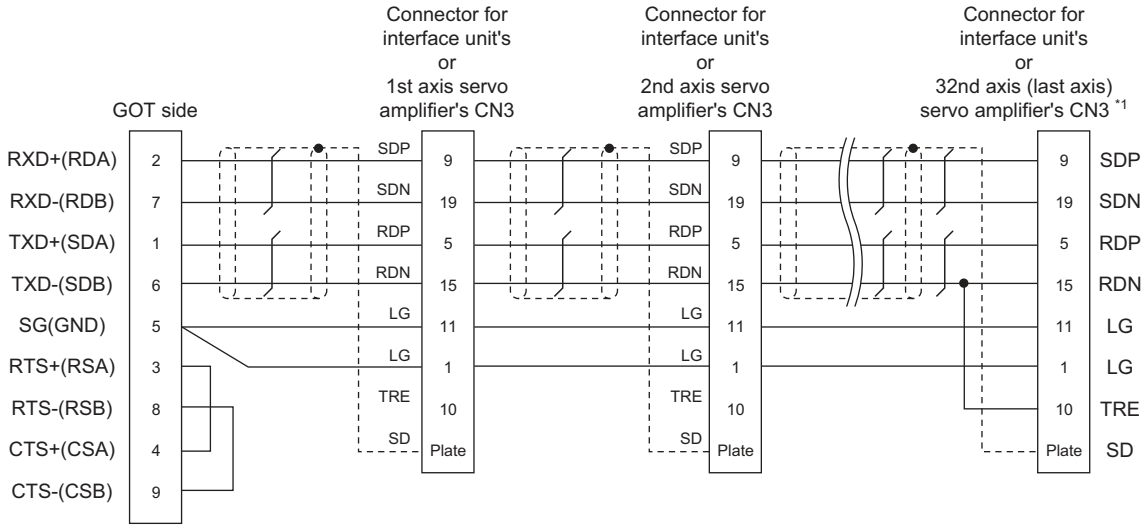
(2) Cable length
The length of the cable RS-232 must be 15m or less.

(3) GOT side connector
For the GOT side connector, refer to the following.
☞ 1.4.1 GOT connector specifications

15.3.2 RS-422 cable

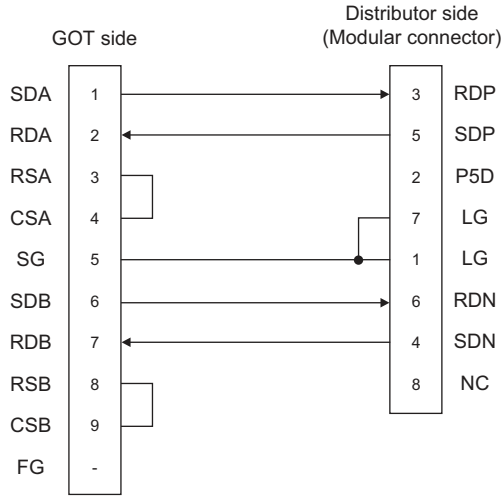
■ Connection diagram

(1) RS422 connection diagram 1)

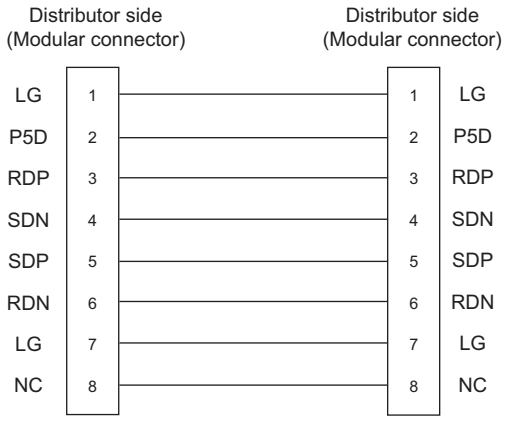


*1 At the last axis, connect TRE to RDN.

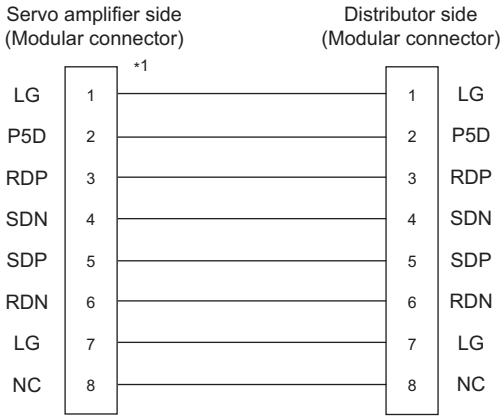
(2) RS422 connection diagram 2)



(3) RS422 connection diagram 3)

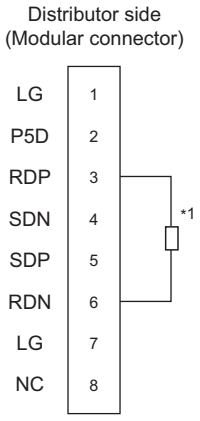


(4) RS422 connection diagram 4)



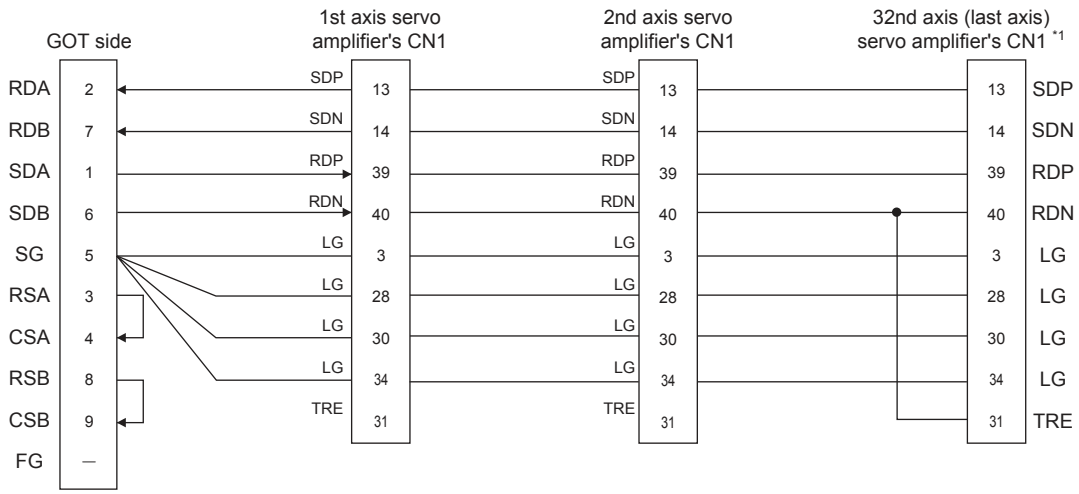
*1Make the wiring between the distributor and servo amplifier as short as possible.

(5) RS422 connection diagram 5)



*1 Perform terminal processing on the part between RDP (3-pin) and RDN (6-pin) with a 150Ω resistor.

(6) RS422 connection diagram 6)



*1 At the last axis, connect TRE to RDN

■ Precautions when preparing cable

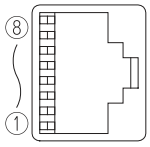
(1) Cable length
The length of the RS-422 cable must be 30m or less.

(2) GOT side connector
For the GOT side connector, refer to the following.
☞ 1.4.1 GOT connector specifications

(3) Servo amplifier connector
Use the connector compatible with the servo amplifier.
For details, refer to the following.
☞ See the technical data of the servo amplifier to be used.

(a) Servo amplifier connector specifications
• Pin layout in the Modular connector

When seen from the front of the servo amplifier (receptacle side)



Modular jack

Pin No.	Signal name	Remark
1	LG	
2	P5D	
3	RDP	
4	SDN	
5	SDP	
6	RDN	
7	LG	
8	NC	

• Connector of cable between MELSERVO Series servo amplifiers

Name	Model name	Specifications	Manufacturer
Connector	TM10P-88P (Plug)	RJ45 connector	HIROSE ELECTRIC CO.,LTD.
Modular ceiling rosette (Distributor)	BMJ-8	-	HAKKO ELECTRIC CO.,LTD. TEL(03)-3806-9171
Cable	-	Cable conforming to EIA568 (such as cable 10BASE-T)	-

• Use the commercial connectors and cables shown in the table below or the comparable products.
(Refer to the manual for the servo amplifier.)

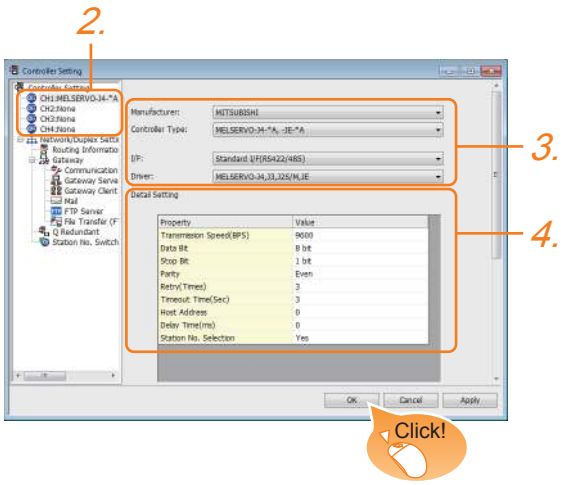
■ Connecting terminating resistors

(1) GOT side
Set the terminating resistor setting switch to "Disable".
For the procedure to set the terminating resistor, refer to the following.
☞ 1.4.3 Terminating resistors of GOT

15.4 GOT Side Settings

15.4.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Interface to be used
   - Driver: MELSERVO-J4, J3, J2S/M, JE
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   ☞ 15.4.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
☞ 1.1.2 I/F communication setting

15.4.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
Transmission Speed(BPS)	9600
Data Bit	8 bit
Stop Bit	1 bit
Parity	Even
Retry(Times)	3
Timeout Time(Sec)	3
Host Address	0
Delay Time(ms)	0
Station No. Selection	Yes

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 9600bps)	9600bps, 19200bps, 38400bps, 57600bps 115200bps
Data Bit	Set this item when change the data length used for communication with the connected equipment. (Default: 8bit)	8bit (fixed)
Stop Bit	Specify the stop bit length for communications. (Default: 1bit)	1bit (fixed)
Parity	Specify whether or not to perform a parity check, and how it is performed during communication. (Default: Even)	Even (fixed)
Retry	Set the number of retries to be performed when a communication timeout occurs. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Host Address	Specify the station number of the servo amplifier in the system configuration. (Default: 0)	0 to 31
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 (ms)
Station No. Selection	Specify whether to use the station No. during communication. If [Yes] is selected, the station No. is fixed to "0." (Default: Yes)	Yes/No

POINT

(1) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)

(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

HINT

Cutting the portion of multiple connection of the controller

By setting GOT internal device, GOT can cut the portion of multiple connection of the controller. For example, faulty station that has communication timeout can be cut from the system.
For details of the setting contents of GOT internal device, refer to the following manual.

☞ GT Designer3 (GOT2000) Help

15.5 Setting on Servo Amplifier Side

Model name	Refer to
MELSERVO-J2-Super Series	15.5.1
MELSERVO-J2M Series	15.5.2
MELSERVO-J4, J3, JE Series	15.5.3

15.5.1 Connecting to the MELSERVO-J2-Super Series

POINT

MELSERVO-J2-Super Series

For details of the MELSERVO-J2-Super Series, refer to the following manual.

☞ MELSERVO-J2-Super Series Servo Amplifier Instruction Manual

■ Parameters of MELSERVO-J2-Super Series

Enter the parameters of the MELSERVO-J2-Super Series.

Item	Set value
Basic parameter No. 15	Station number setting: 0 to 31 (Default: 0)*1
Basic parameter No. 16	Serial communication function selection (Default: 0000) Basic parameter No. 16 (3) (2) 0 (1) (1) Serial communication baud rate selection*2 0: 9600bps 1: 19200bps 2: 38400bps 3: 57600bps (2) Serial communication I/F selection 0: RS-232 1: RS-422 (3) Communication response delay time selection 0: Invalid 1: Valid (Response after 800 μs or longer delay)
In case of MR-J2S-□: Expansion parameter 2 No. 53 In case of MR-J2S-□CP: Expansion parameter 2 No. 57 In case of MR-J2S-□CL: Expansion parameter 2 No. 57	Function selection 8 (Default: 0000)*3 Expansion parameter 2 No. 53 or No. 57 0 (1) 0 0 (1) Station No. selection for protocol 0: With station No. 1: Without station No.

*1 Avoid duplication of the station No. with any of the other axes.

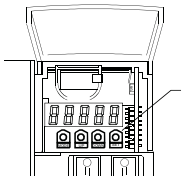
*2 Specify the same transmission speed as that of the GOT. For the transmission speed setting on the GOT side, refer to the following.

☞ 15.4.1 Setting communication interface (Communication settings)

*3 To change the set value, enter "000E" to basic parameter No. 19.

POINT

(1) Parameter setting
Set the parameter at the pushbutton switch provided on the operation section of the servo amplifier or setup software.



Pushbutton switch provided on the operation section of the servo amplifier

(2) When changing the parameter
Turn off then on the servo amplifier to be effective the new parameter.

15.5.2 Connecting to the MELSERVO-J2M Series

POINT

MELSERVO-J2M Series

For details of the MELSERVO-J2M Series, refer to the following manual.

☞ MELSERVO-J2M Series Servo Amplifier Instruction Manual

■ Parameter of MELSERVO-J2M Series

Enter the parameters of the MELSERVO-J2M Series.

Item	Set value
Basic IFU parameter No. 0	Serial communication function selection (Default: 0000) Basic IFU parameter No. 0 (3) (2) 0 (1) (1) Serial communication baud rate selection*1 0: 9600bps 1: 19200bps 2: 38400bps 3: 57600bps (2) Serial communication I/F selection 0: RS-232 1: RS-422 (3) Communication response delay time selection 0: Invalid 1: Valid (Response after 800 μs or longer delay)
Basic IFU parameter No. 10	Interface unit serial communication station No. selection: 0 to 31 (Default: 0) *2
Basic IFU parameter No. 11	Slot 1 serial communication station No. selection: 0 to 31 (Default: 1) *2
Basic IFU parameter No. 12	Slot 2 serial communication station No. selection: 0 to 31 (Default: 2) *2
Basic IFU parameter No. 13	Slot 3 serial communication station No. selection: 0 to 31 (Default: 3) *2
Basic IFU parameter No. 14	Slot 4 serial communication station No. selection: 0 to 31 (Default: 4) *2
Basic IFU parameter No. 15	Slot 5 serial communication station No. selection: 0 to 31 (Default: 5) *2
Basic IFU parameter No. 16	Slot 6 serial communication station No. selection: 0 to 31 (Default: 6) *2
Basic IFU parameter No. 17	Slot 7 serial communication station No. selection: 0 to 31 (Default: 7) *2
Basic IFU parameter No. 18	Slot 8 serial communication station No. selection: 0 to 31 (Default: 8) *2

*1 Specify the same transmission speed as that of the GOT. For the transmission speed setting on the GOT side, refer to the following.

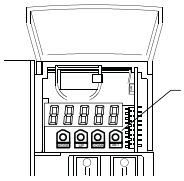
☞ 15.4.1 Setting communication interface (Communication settings)

*2 Avoid duplication of the station No. with any of the other units.

POINT

(1) Parameter setting

Set the parameter at the pushbutton switch provided on the operation section of the servo amplifier or setup software.



Pushbutton switch provided on the operation section of the servo amplifier

(2) When changing the parameter

Turn off then on the servo amplifier to be effective the new parameter.

15.5.3 Connecting to the MELSERVO-J4,J3, JE Series

POINT

MELSERVO-J4, J3, JE Series

For details of the MELSERVO-J4, J3, JE Series, refer to the following manual.

☞ MELSERVO-J4, J3, JE Series Servo Amplifier Instruction Manual

■ Parameters of MELSERVO-J4, J3, JE Series

Enter the parameters of the MELSERVO-J4, J3, JE Series.

Item	Set value
Basic parameter No. PC20	Station number setting: 0 to 31 (Default: 0)*1
Basic parameter No. PC21	Serial communication function selection (Default: 0000) Basic parameter No. PC21 (2)(1) (1) Serial communication baud rate selection*2 0: 9600bps 1: 19200bps 2: 38400bps 3: 57600bps 4: 115200bps (2) Communication response delay time selection 0: Invalid 1: Valid (Response after 800 μs or longer delay)

*1 Avoid duplication of the station No. with any of the other axes.

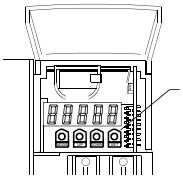
*2 Specify the same transmission speed as that of the GOT. For the transmission speed setting on the GOT side, refer to the following.

☞ 15.4.1 Setting communication interface (Communication settings)

POINT

(1) Parameter setting

Set the parameter at the pushbutton switch provided on the operation section of the servo amplifier or setup software.



Pushbutton switch provided on the operation section of the servo amplifier

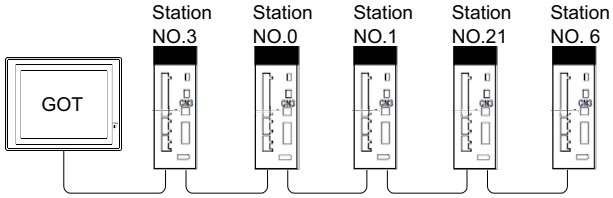
(2) When changing the parameter

Turn off then on the servo amplifier to be effective the new parameter.

15.5.4 Station number setting

Set each station number so that no station number overlaps.

The station number can be set without regard to the cable connection order. There is no problem even if station numbers are not consecutive.



Examples of station number setting

(1) Direct specification

When setting the device, specify the station number of the servo amplifier of which data is to be changed.

Specification range
0 to 31

(2) Indirect specification

When setting the device, indirectly specify the station number of the inverter of which data is to be changed using the 16-bit GOT internal data register (GD10 to GD25).

When specifying the station No. from 100 to 115 on GT Designer3,the value of GD10 to GD25 compatible to the station No.specification will be the station No.of the servo amplifier.

Specification station NO.	Compatible device	Setting range
100	GD10	0 to 31 For the setting other than the above, a communication timeout error will occur.
101	GD11	
102	GD12	
103	GD13	
104	GD14	
105	GD15	
106	GD16	
107	GD17	
108	GD18	
109	GD19	
110	GD20	
111	GD21	
112	GD22	
113	GD23	
114	GD24	
115	GD25	

(3) All station specification

Target station differs depending on write-in operation or read-out operation.

- For write-in operation, all station will be a target.
- For read-out operation, only one station will be a target.

15.6 Device Range that Can Be Set

The device ranges of controller that can be used for GOT are as follows.

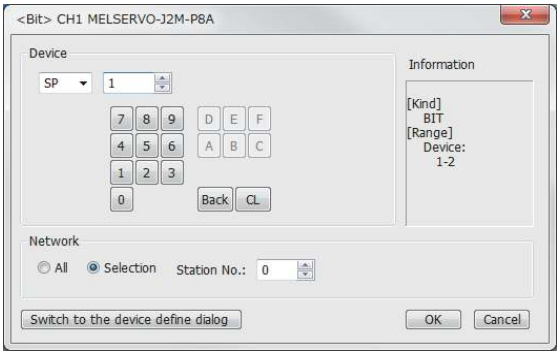
Note that the device ranges in the following tables are the maximum values that can be set in GT Designer3.

The device specifications of controllers may differ depending on the models, even though belonging to the same series.

Please make the setting according to the specifications of the controller actually used.

When a non-existent device or a device number outside the range is set, other objects with correct device settings may not be monitored.

(1) Servo amplifier



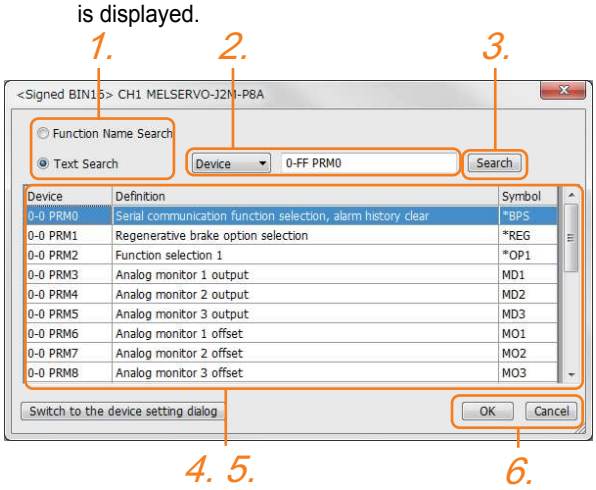
Item	Description	
Device	Set the device name, device number, and bit number. The bit number can be set only when specifying the bit of word device.	
Information	Displays the device type and setting range which are selected in [Device].	
Network	Set the monitor target of the set device.	
	All	Select this item when writing data to all servo amplifiers connected. During a monitoring, the servo amplifier of Station No. 0 is monitored. When inputting data by Numerical Input, the data is written to all servo amplifiers connected during inputting; the servo amplifier of Station No. 0 is monitored during other than inputting (displaying).
	Selection	Select this item when monitoring the servo amplifier of the Station No. specified. After selecting, set station numbers of servo amplifiers in the following range. 0 to 31: The servo amplifier of the Station No. specified will be monitored. 100 to 115: Specify the Station No. of the servo amplifier to be monitored with a GOT data register (GD).*1
Switch to the device define dialog	Clicking the button displays the dialog box indicating the correspondence between the GOT virtual device for a servo amplifier and the definition of servo amplifier. If selecting an item on the displayed dialog box, remember that the servo amplifier definition is displayed in the text box below.	

For details of *1, refer to the following.

Station No.	GOT data register (GD)	Setting range
100	GD10	0 to 31 (If setting a value out of the range above, a timeout error occurs.)
101	GD11	
:	:	
114	GD24	
115	GD25	

(a) Device Definition dialog box

When setting a device on the Device dialog box and click the [Device Definition...] button, the correspondence between the GOT virtual device for a servo amplifier and the definition of the servo amplifier is displayed.



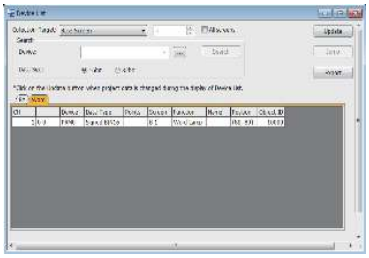
The device can be searched with the servo definition or other items on this dialog box to set a device.

1. Select a key item for searching.
   Function Name Search: Select this item when searching a device with the function name.
   Text Search: Select this item when searching a device with the character string.
2. Select and input a key item for searching.
3. Click the [Search] button.
4. The items that matches to the specified condition are displayed.
   The display contents are as follows.
   Device : The GOT virtual device for a servo amplifier is displayed.
   Definition : The definition of the servo amplifier is displayed.
   Symbol : The abbreviated name for the servo amplifier is displayed.
5. Select a device to be set.
6. Clicking the [OK] button reflects the device selected by step 4 to the Device dialog box.

POINT

(1) When selecting [All] in the Network setting
The network No. 0 and Station No. FF are displayed on Device List and when printing.

(Device List screen)



(2) Monitoring servo amplifier
Carefully read the manual of servo amplifier to be connected and fully understand the operating procedures before monitoring.
Before operation, check the parameter settings. Improper settings may cause some machines to perform unexpected operation.
The parameter settings must not be changed excessively. Operation will be insatiable.

(3) Parameters with * in front of it's abbreviated name
For the parameter with * in front of it's abbreviated name, powering off the servo amplifier after setting then on makes the parameter valid.

(4) Data length for setting virtual devices for servo amplifier
Set the following data length for setting devices.
- PRM, ST, AL, PA, PB, PC, PD, POS, SPD, ACT, DCT, DWL, AUX
  : 16bits or 32bits (depends on the data of servo amplifier)
- DI, DO, TMI, TMO, TMD: 32bits

If the above data length was not set, data would not be set to the servo amplifier correctly or the GOT can not monitor normally.

(a) Monitoring
- When the 16-bit data is handled as 32-bit data, the upper 16bits are displayed as 0.
- When the 32-bit data is handled as 16-bit data, the lower 16bits only are displayed as 0.

(b) Writing
The GOT writes within the range of data length set. Note that the servo amplifier responds correctly while the written data is invalid in the servo amplifier side when the written data is outside the range of values which can be set by the servo amplifier.

(5) Memory area for writing parameters
Parameters are written to RAM or E^2PROM of servo amplifier.

(a) When written to RAM
Remember that written parameters are cleared when power supply to the servo amplifier is turned off.

(b) When written to E^2PROM
Written parameters are not cleared even when power supply to the servo amplifier is turned off.However, there are limits in the number of writing to E^2PROM.
If the data is frequently updated (more than once in an hour), write the parameters to the RAM.
For details, refer to the manual of the servo amplifier used.

(2) MELSERVO-J2M-P8A

	Device name*2	Setting range available			Device No. representation
Bit device	Servo amplifier request (SP)	SP1	to	SP2	Decimal
	Operation mode selection (OM)	OM0	to	OM4	
Word device	Basic parameter Expansion parameter (PRM)*1	PRM0 PRM1000	to to	PRM29 PRM1029	
	Status display (ST)	ST0	to	ST2	
	Alarm (AL)	AL0 AL11 AL200 AL210 AL230	 to to to to	 AL13 AL205 AL215 AL235	
	External input (DI)*3	DI0	to	DI2	
	External output (DO)	DO0	to	DO1	
	Forced output of signal pin (for test operation) (TMO)	TMO0			

*1 Use PRM0 to PRM29 when writing parameters to the servo amplifier RAM.
PRM1000 to PRM1029 are used when writing parameters to E^2PROM of the servo amplifier.

*2 The GOT cannot read or write data from/to consecutive devices.

*3 Only reading is possible.

POINT

Precautions for SP, OM, and TMO devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

(a) Servo amplifier request

Device name	Item	Symbol
SP1	Current alarm clear	—
SP2	Alarm history clear	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM4	Output signal (DO) forced output	—

(c) Basic parameter/expansion parameter

Device name	Item	Symbol*2
PRM0, PRM1000	Serial communication function selection, alarm history clear	*BPS
PRM1, PRM1001	Regenerative brake option selection	*REG
PRM2, PRM1002	Function selection 1	*OP1
PRM3, PRM1003	Analog monitor 1 output	MD1
PRM4, PRM1004	Analog monitor 2 output	MD2
PRM5, PRM1005	Analog monitor 3 output	MD3
PRM6, PRM1006	Analog monitor 1 offset	MO1
PRM7, PRM1007	Analog monitor 2 offset	MO2
PRM8, PRM1008	Analog monitor 3 offset	MO3
PRM9, PRM1009	Function selection 2	*OP2
PRM10, PRM1010	Interface unit serial communication station No. selection	*ISN
PRM11, PRM1011	Slot 1 serial communication station No. selection	*DSN1
PRM12, PRM1012	Slot 2 serial communication station No. selection	*DSM2
PRM13, PRM1013	Slot 3 serial communication station No. selection	*DSM3
PRM14, PRM1014	Slot 4 serial communication station No. selection	*DSN4
PRM15, PRM1015	Slot 5 serial communication station No. selection	*DSN5
PRM16, PRM1016	Slot 6 serial communication station No. selection	*DSN6
PRM17, PRM1017	Slot 7 serial communication station No. selection	*DSN7
PRM18, PRM1018	Slot 8 serial communication station No. selection	*DSN8
PRM19, PRM1019	Parameter write inhibit	*BLK
PRM20, PRM1020	Serial communication time-out selection	SIC
PRM21 to PRM29 PRM1021 to PRM1029	For manufacturer setting	—

*2 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(d) Status display

Device name	Item	Symbol
ST0	Regenerative load ratio	—
ST1	Bus voltage	—
ST2	Peak bus voltage	—

(e) Alarm

Device name	Item	Symbol
AL0	Current alarm number	—
AL11	Servo status when alarm occurs regenerative load factor	—
AL12	Servo status when alarm occurs bus voltage	—
AL13	Servo status when alarm occurs peak bus voltage	—
AL200	Alarm number from alarm history most recent alarm	—
AL201	Alarm number from alarm history first alarm in past	—
AL202	Alarm number from alarm history second alarm in past	—
AL203	Alarm number from alarm history third alarm in past	—
AL204	Alarm number from alarm history fourth alarm in past	—
AL205	Alarm number from alarm history fifth alarm in past	—
AL210	Alarm occurrence time in alarm history most recent alarm	—
AL211	Alarm occurrence time in alarm history first alarm in past	—
AL212	Alarm occurrence time in alarm history second alarm in past	—
AL213	Alarm occurrence time in alarm history third alarm in past	—
AL214	Alarm occurrence time in alarm history fourth alarm in past	—
AL215	Alarm occurrence time in alarm history fifth alarm in past	—
AL230	Detailed alarm from alarm history most recent alarm	—
AL231	Detailed alarm from alarm history first alarm in past	—
AL232	Detailed alarm from alarm history second alarm in past	—
AL233	Detailed alarm from alarm history third alarm in past	—
AL234	Detailed alarm from alarm history fourth alarm in past	—
AL235	Detailed alarm from alarm history fifth alarm in past	—

(f) External I/O signal

Device name	Item	Symbol
DI0	External input pin statuses CN1A/CN1B	—
DI1	External input pin statuses CN5	—
DI2	External input pin statuses CN4A/CN4B	—
DO0	External output pin statuses CN1A/CN1B	—
DO1	External output pin statuses CN1A/CN1B	—

(g) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output of signal pin	—

(3) MELSERVO-J2M-*DU

	Device name*2	Setting range			Device No. representation
Bit device	Servo amplifier request (SP)	SP0	to	SP6	Decimal
	Operation mode selection (OM)	OM0	to	OM4	
	Instruction demand (for test operation) (TMB)	TMB0	to	TMB1	
Word device	Basic parameter Expansion parameter (PRM)*1	PRM0 PRM1000	to to	PRM84 PRM1084	
	Status display (ST)	ST0	to	ST10	
	Alarm (AL)	AL0 AL11 AL200 AL210 AL230	 to to to to	 AL21 AL205 AL215 AL235	
	Input signal for test operation (for test operation) (TMI)	TMI0			
	Forced output of signal pin (for test operation) (TMO)	TMO0			
	Set data (for test operation) (TMD)	TMD0	to	TMD2	

*1 Use PRM0 to PRM84 when writing parameters to the servo amplifier RAM.
PRM1000 to PRM1084 are used when writing parameters to E^2PROM of the servo amplifier.

*2 The GOT cannot read or write data from/to consecutive devices.

POINT

Precautions for SP, OM, TMB, TMI, TMO, and TMD devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

The following shows correspondences between virtual devices for servo amplifier and data of the servo amplifier used with the GOT.

(a) Servo amplifier request

Device name	Item	Symbol
SP0	Status display data clear	—
SP1	Current alarm clear	—
SP2	Alarm history clear	—
SP3	External input signal prohibited	—
SP4	External output signal prohibited	—
SP5	External input signal resumed	—
SP6	External output signal resumed	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM1	JOG operation	—
OM2	Positioning operation	—
OM3	Motorless operation	—
OM4	Output signal (DO) forced output	—

(c) Instruction demand (for test operation)

Device name	Item	Symbol
TMB0	Clears acceleration/ deceleration time constant (test mode)	—
TMB1	Temporary stop command (test mode)	—

(d) Basic parameter/expansion parameter

Device name	Item	Symbol*1
PRM0, PRM1000	For manufacturer setting	—
PRM1, PRM1001	Function selection 1	*OP1
PRM2, PRM1002	Auto tuning	ATU
PRM3, PRM1003	CMX Electronic gear numerator (Command pulse multiplying factor numerator)	CMX
PRM4, PRM1004	Electronic gear denominator (Command pulse multiplying factor denominator)	CDV
PRM5, PRM1005	In-position range	INP
PRM6, PRM1006	Position loop gain 1	PG1
PRM7, PRM1007	Position command acceleration/deceleration time constant (position smoothing)	PST
PRM8 to PRM15, PRM1008 to PRM1015	For manufacturer setting	—
PRM16, PRM1016	Alarm history clear	*BPS
PRM17 to PRM18, PRM1017 to PRM1018	For manufacturer setting	—
PRM19, PRM1019	DRU parameter block	*BLK
PRM20, PRM1020	Function selection 2	*OP2
PRM21, PRM1021	Function selection 3 (Command pulse selection)	*OP3
PRM22, PRM1022	Function selection 4	*OP4
PRM23, PRM1023	Feed forward gain	FFC
PRM24, PRM1024	Zero speed	ZSP
PRM25 to PRM26, PRM1025 to PRM1026	For manufacturer setting	—
PRM27, PRM1027	Encoder output pulses	*ENR
PRM28, PRM1028	Internal torque limit 1	TL1
PRM29 to PRM32, PRM1029 to PRM1032	For manufacturer setting	—
PRM33, PRM1033	Electromagnetic brake sequence output	MBR
PRM34, PRM1034	Ratio of load inertia moment to servo motor inertia moment	GD2
PRM35, PRM1035	Position loop gain 2	PG2
PRM36, PRM1036	Speed loop gain 1	VG1
PRM37, PRM1037	Speed loop gain 2	VG2
PRM38, PRM1038	Speed integral compensation	VIC
PRM39, PRM1039	Speed differential compensation	VDC
PRM40 to PRM41, PRM1040 to PRM1041	For manufacturer setting	—
PRM42, PRM1042	Input signal selection 1	*DI1
PRM43 to PRM50, PRM1043 to PRM1050	For manufacturer setting	—
PRM51, PRM1051	Function selection 6	*OP6
PRM52 to PRM53, PRM1052 to PRM1053	For manufacturer setting	—
PRM54, PRM1054	Function selection 9	*OP9
PRM55, PRM1055	Function selection A	*OPA
PRM56 to PRM57, PRM1056 to PRM1057	For manufacturer setting	—
PRM58, PRM1058	Machine resonance suppression filter 1	NH1
PRM59, PRM1059	Machine resonance suppression filter 2	NH2
PRM60, PRM1060	Low-pass filter, adaptive vibration suppression control	LPF
PRM61, PRM1061	Ratio of load inertia moment to servo motor inertia moment 2	GD2B
PRM62, PRM1062	Position control gain 2 changing ratio	PG2B
PRM63, PRM1063	Speed control gain 2 changing ratio	VG2B
PRM64, PRM1064	Speed integral compensation changing ratio	VICB
PRM65, PRM1065	Gain changing selection	*CDP
PRM66, PRM1066	Gain changing condition	CDS
PRM67, PRM1067	Gain changing time constant	CDT
PRM68, PRM1068	For manufacturer setting	—
PRM69, PRM1069	Command pulse multiplying factor numerator 2	CMX2
PRM70, PRM1070	Command pulse multiplying factor numerator 3	CMX3
PRM71, PRM1071	Command pulse multiplying factor numerator 4	CMX4
PRM72 to PRM75, PRM1072 to PRM1075	For manufacturer setting	—
PRM76, PRM1076	Internal torque limit 2	TL2
PRM77 to PRM84, PRM1077 to PRM1084	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(Continued to next page)

(e) Status display

Device name	Item	Symbol
ST0	Cumulative feedback pulses	—
ST1	Servo motor speed	—
ST2	Droop pulses	—
ST3	Cumulative command pulses	—
ST4	Command pulse frequency	—
ST5	Effective load ratio	—
ST6	Peak load ratio	—
ST7	Instantaneous torque	—
ST8	Within one-revolution position	—
ST9	ABS counter	—
ST10	Load inertia moment ratio	—

(f) Alarm

Device name	Item	Symbol
AL0	Current alarm number	—
AL11	Servo status when alarm occurs cumulative feedback pulses	—
AL12	Servo status when alarm occurs servo motor speed	—
AL13	Servo status when alarm occurs droop pulses	—
AL14	Servo status when alarm occurs cumulative command pulses	—
AL15	Servo status when alarm occurs command pulse frequency	—
AL16	Servo status when alarm occurs effective load ratio	—
AL17	Servo status when alarm occurs peak load ratio	—
AL18	Servo status when alarm occurs instantaneous torque	—
AL19	Servo status when alarm occurs within one-revolution position	—
AL20	Servo status when alarm occurs ABS counter	—
AL21	Servo status when alarm occurs load inertia moment ratio	—
AL200	Alarm number from alarm history most recent alarm	—
AL201	Alarm number from alarm history first alarm in past	—
AL202	Alarm number from alarm history second alarm in past	—
AL203	Alarm number from alarm history third alarm in past	—
AL204	Alarm number from alarm history fourth alarm in past	—
AL205	Alarm number from alarm history fifth alarm in past	—
AL210	Alarm occurrence time in alarm history most recent alarm	—
AL211	Alarm occurrence time in alarm history first alarm in past	—
AL212	Alarm occurrence time in alarm history second alarm in past	—
AL213	Alarm occurrence time in alarm history third alarm in past	—
AL214	Alarm occurrence time in alarm history fourth alarm in past	—
AL215	Alarm occurrence time in alarm history fifth alarm in past	—
AL230	Detailed alarm from alarm history most recent alarm	—
AL231	Detailed alarm from alarm history first alarm in past	—
AL232	Detailed alarm from alarm history second alarm in past	—
AL233	Detailed alarm from alarm history third alarm in past	—
AL234	Detailed alarm from alarm history fourth alarm in past	—
AL235	Detailed alarm from alarm history fifth alarm in past	—

(g) Input signal for test operation (for test operation)

Device name	Item	Symbol
TMI0	Input signal for test operation	—

(h) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output of signal pin	—

(i) Set data (for test operation)

Device name	Item	Symbol
TMD0	Writes the speed (test mode)	—
TMD1	Writes the acceleration/deceleration time constant (test mode)	—
TMD2	Writes the moving distance in pulses (test mode)	—

(4) MELSERVO-J2S-*A

	Device name*2	Setting range			Device No. representation
Bit device	Servo amplifier request (SP)	SP0	to	SP6	Decimal
	Operation mode selection (OM)	OM0	to	OM4	
	Instruction demand (for test operation) (TMB)	TMB0	to	TMB1	
Word device	Basic parameter /expansion parameter (PRM)*1	PRM0 PRM1000	to to	PRM84 PRM1084	
	Status display (ST)	ST0	to	ST14	
	Alarm (AL)	AL0 AL11 AL200 AL210 AL230	to to to to to	AL1 AL25 AL205 AL215 AL235	
	External input (DI)*3	DI0			
	External output (DO)	DO0			
	Input signal for test operation (for test operation) (TMI)	TMI0			
	Forced output of signal pin (for test operation) (TMO)	TMO0			
	Set data (for test operation) (TMD)	TMD0	to	TMD2	

*1 Use PRM0 to PRM84 when writing parameters to the servo amplifier RAM.
PRM1000 to PRM1084 are used when writing parameters to E^2PROM of the servo amplifier.
*2 The GOT cannot read or write data from/to consecutive devices.
*3 Only reading is possible.

POINT

Precautions for SP, OM, TMB, TMI, TMO, and TMD devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

The following shows correspondences between virtual devices for servo amplifier and data of the servo amplifier used with the GOT.

(a) Servo amplifier request

Device name	Item	Symbol
SP0	Status display data clear	—
SP1	Current alarm clear	—
SP2	Alarm history clear	—
SP3	External input signal prohibited	—
SP4	External output signal prohibited	—
SP5	External input signal resumed	—
SP6	External output signal resumed	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM1	JOG operation	—
OM2	Positioning operation	—
OM3	Motorless operation	—
OM4	Output signal (DO) forced output	—

(c) Instruction demand (for test operation)

Device name	Item	Symbol
TMB0	Clears acceleration/ deceleration time constant	—
TMB1	Temporary stop command	—

(d) Basic parameter/expansion parameter

Device name	Item	Symbol*1
PRM0, PRM1000	Control mode, regenerative brake option selection	*STY
PRM1, PRM1001	Function selection 1	*OP1
PRM2, PRM1002	Auto tuning	ATU
PRM3, PRM1003	Electronic gear numerator (Command pulse multiplying factor numerator)	CMX
PRM4, PRM1004	Electronic gear denominator (Command pulse multiplying factor denominator)	CDV
PRM5, PRM1005	In-position range	INP
PRM6, PRM1006	Position loop gain 1	PG1
PRM7, PRM1007	Position command acceleration/deceleration time constant	PST
PRM8, PRM1008	Internal speed command1/limit1	SC1
PRM9, PRM1009	Internal speed command2/limit2	SC2
PRM10, PRM1010	Internal speed command3/limit3	SC3
PRM11, PRM1011	Acceleration time constant	STA
PRM12, PRM1012	Deceleration time constant	STB
PRM13, PRM1013	S-pattern acceleration/ deceleration time constant	STC
PRM14, PRM1014	Torque command time constant	TQC
PRM15, PRM1015	Station number setting	*SNO
PRM16, PRM1016	Serial communication function selection, alarm history clear	*BPS
PRM17, PRM1017	Analog monitor output	MOD
PRM18, PRM1018	Status display selection	*DMD
PRM19, PRM1019	Parameter block	*BLK
PRM20, PRM1020	Function selection 2	*OP2
PRM21, PRM1021	Function selection 3 (Command pulse selection)	*OP3

Device name	Item	Symbol[*1]
PRM22, PRM1022	Function selection 4	*OP4
PRM23, PRM1023	Feed forward gain	FFC
PRM24, PRM1024	Zero speed	ZSP
PRM25, PRM1025	Analog speed command maximum speed /limit maximum speed	VCM
PRM26, PRM1026	Analog torque command maximum output	TLC
PRM27, PRM1027	Encoder output pulses	*ENR
PRM28, PRM1028	Internal torque limit 1	TL1
PRM29, PRM1029	Analog speed command offset /limit offset	VCO
PRM30, PRM1030	Analog torque command offset /limit offset	TLO
PRM31,PRM1031	Analog monitor 1 offset	MO1
PRM32, PRM1032	Analog monitor 2 offset	MO2
PRM33, PRM1033	Electromagnetic brake sequence output	MBR
PRM34, PRM1034	Ratio of load inertia moment to servo motor inertia moment	GD2
PRM35, PRM1035	Position loop gain 2	PG2
PRM36, PRM1036	Speed loop gain 1	VG1
PRM37, PRM1037	Speed loop gain 2	VG2
PRM38, PRM1038	Speed integral compensation	VIC
PRM39, PRM1039	Speed differential compensation	VDC
PRM40, PRM1040	For manufacturer setting	—
PRM41, PRM1041	Input signal automatic ON selection	*DIA
PRM42, PRM1042	Input signal selection 1	*DI1
PRM43, PRM1043	Input signal selection 2 (CN1B-5)	*DI2
PRM44, PRM1044	Input signal selection 3 (CN1B-14)	*DI3
PRM45, PRM1045	Input signal selection 4 (CN1A-8)	*DI4
PRM46, PRM1046	Input signal selection 5 (CN1B-7)	*DI5
PRM47, PRM1047	Input signal selection 6 (CN1B-8)	*DI6
PRM48, PRM1048	Input signal selection 7 (CN1B-9)	*DI7
PRM49, PRM1049	Output signal selection 1	*DO1
PRM50, PRM1050	For manufacturer setting	—
PRM51, PRM1051	Function selection 6	*OP6
PRM52, PRM1052	For manufacturer setting	—
PRM53, PRM1053	Function selection 8	*OP8
PRM54, PRM1054	Function selection 9	*OP9
PRM55, PRM1055	Function selection A	*OPA
PRM56, PRM1056	Serial communication time-out selection	SIC
PRM57, PRM1057	For manufacturer setting	—
PRM58, PRM1058	Machine resonance suppression filter 1	NH1
PRM59, PRM1059	Machine resonance suppression filter 2	NH2
PRM60, PRM1060	Low-pass filter, adaptive vibration suppression control	LPF
PRM61, PRM1061	Ratio of load inertia moment to servo motor inertia moment 2	GD2B
PRM62, PRM1062	Position control gain 2 changing ratio	PG2B
PRM63, PRM1063	Speed control gain 2 changing ratio	VG2B
PRM64, PRM1064	Speed integral compensation changing ratio	VICB
PRM65, PRM1065	Gain changing selection	*CDP
PRM66, PRM1066	Gain changing condition	CDS
PRM67, PRM1067	Gain changing time constant	CDT
PRM68, PRM1068	For manufacturer setting	—
PRM69, PRM1069	Command pulse multiplying factor numerator 2	CMX2
PRM70, PRM1070	Command pulse multiplying factor numerator 3	CMX3
PRM71, PRM1071	Command pulse multiplying factor numerator 4	CMX4
PRM72, PRM1072	Internal speed command4/limit4	SC4
PRM73, PRM1073	Internal speed command5/limit5	SC5
PRM74, PRM1074	Internal speed command6/limit6	SC6
PRM75, PRM1075	Internal speed command7/limit7	SC7
PRM76, PRM1076	Internal torque limit 2	TL2
PRM77 to PRM84, PRM1077 to PRM1084	For manufacturer setting	—

(Continued to next page)

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(e) Status display

Device name	Item	Symbol
ST0	Cumulative feedback pulses	—
ST1	servo motor speed	—
ST2	Droop pulses	—
ST3	Cumulative command pulses	—
ST4	Command pulse frequency	—
ST5	Analog speed command voltage/limit voltage	—
ST6	Analog torque command voltage/limit voltage	—
ST7	Regenerative load ratio	—
ST8	Effective load ratio	—
ST9	Peak load ratio	—
ST10	Instantaneous torque	—
ST11	Within one-revolution position	—
ST12	ABS counter	—
ST13	load inertia moment ratio	—
ST14	Bus voltage	—

(f) Alarm

Device name	Item	Symbol
AL0	Current alarm number	—
AL1	Detailed data of current alarms	—
AL11	Servo status when alarm occurs cumulative feedback pulses	—
AL12	Servo status when alarm occurs servo motor speed	—
AL13	Servo status when alarm occurs droop pulses	—
AL14	Servo status when alarm occurs cumulative command pulses	—
AL15	Servo status when alarm occurs command pulse frequency	—
AL16	Servo status when alarm occurs analog speed command voltage/limit voltage	—
AL17	Servo status when alarm occurs analog torque command voltage/limit voltage	—
AL18	Servo status when alarm occurs regenerative load ratio	—
AL19	Servo status when alarm occurs effective load ratio	—
AL20	Servo status when alarm occurs peak load ratio	—
AL21	Servo status when alarm occurs instantaneous torque	—
AL22	Servo status when alarm occurs within one-revolution position	—
AL23	Servo status when alarm occurs ABS counter	—
AL24	Servo status when alarm occurs load inertia moment ratio	—

Device name	Item	Symbol
AL25	Servo status when alarm occurs bus voltage	—
AL200	Alarm number from alarm history most recent alarm	—
AL201	Alarm number from alarm history first alarm in past	—
AL202	Alarm number from alarm history second alarm in past	—
AL203	Alarm number from alarm history third alarm in past	—
AL204	Alarm number from alarm history fourth alarm in past	—
AL205	Alarm number from alarm history fifth alarm in past	—
AL210	Alarm occurrence time in alarm history most recent alarm	—
AL211	Alarm occurrence time in alarm history first alarm in past	—
AL212	Alarm occurrence time in alarm history second alarm in past	—
AL213	Alarm occurrence time in alarm history third alarm in past	—
AL214	Alarm occurrence time in alarm history fourth alarm in past	—
AL215	Alarm occurrence time in alarm history fifth alarm in past	—
AL230	Detailed alarm from alarm history most recent alarm	—
AL231	Detailed alarm from alarm history first alarm in past	—
AL232	Detailed alarm from alarm history second alarm in past	—
AL233	Detailed alarm from alarm history third alarm in past	—
AL234	Detailed alarm from alarm history fourth alarm in past	—
AL235	Detailed alarm from alarm history fifth alarm in past	—

(g) External I/O signal

Device name	Item	Symbol
DI0	External input pin statuses	—
DO0	External output pin statuses	—

(h) Input signal for test operation (for test operation)

Device name	Item	Symbol
TMI0	Input signal status for test operation	—

(i) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output status of signal pin	—

(j) Set data (for test operation)

Device name	Item	Symbol
TMD0	Writes the speed (test mode)	—
TMD1	Writes the acceleration/deceleration time constant (test mode)	—
TMD2	Writes the moving distance in pulses (test mode)	—

(5) MELSERVO-J2S-*CP

	Device name*3	Setting range			Device No. representation
Bit device	Servo amplifier request (SP)	SP0	to	SP6	Decimal
	Operation mode selection (OM)	OM0	to	OM4	
	Instruction demand (for test operation) (TMB)	TMB0	to	TMB1	
Word device	Basic parameter /expansion parameter (PRM)*1	PRM0 PRM1000	to to	PRM90 PRM1090	
	Status display (ST)	ST0	to	ST16	
	Alarm (AL)	AL0 AL11 AL200 AL210 AL230	to to to to to	AL1 AL27 AL205 AL215 AL235	
	External input (DI)*4	DI0	to	DI2	
	External output (DO)	DO0	to	DO1	
	Point table (position) (POS)*2	POS1 POS1001	to to	POS31 POS1031	
	Point table Point table (speed) (SPD)*2	SPD1 SPD1001	to to	SPD31 SPD1031	
	Point table (acceleration time constant) (ACT)*2	ACT1 ACT1001	to to	ACT31 ACT1031	
	Point table (deceleration time constant) (DCT)*2	DCT1 DCT1001	to to	DCT31 DCT1031	
	Point table (dwell) (DWL)*2	DWL1 DWL1001	to to	DWL31 DWL1031	
	Point table (auxiliary function) (AUX)*2	AUX1 AUX1001	to to	AUX31 AUX1031	
	Input signal for test operation (for test operation) (TMI)	TMI0			
	Forced output of signal pin (for test operation) (TMO)	TMO0			
	Set data (for test operation) (TMD)	TMD0	to	TMD2	

*1 Use PRM0 to PRM90 when writing parameters to the servo amplifier RAM.
PRM1000 to PRM1090 are used when writing parameters to E^2PROM of the servo amplifier.

*2 When writing to a point table, use the area of 1001 to 1031 (E^2PROM area) of POS, SPD, ACT, DCT, DWL, or AUX.
If writing to the area of 1 to 31 (RAM area) of POS, SPD, ACT, DCT, DWL, or AUX, the value is not reflected.

*3 The GOT cannot read or write data from/to consecutive devices.

*4 Only reading is possible for DI0 to DI1.

POINT

Precautions for SP, OM, TMB, TMI, TMO, and TMD devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

The following shows correspondences between virtual devices for servo amplifier and data of the servo amplifier used with the GOT.

(a) Servo amplifier request

Device name	Item	Symbol
SP0	Status display data clear	—
SP1	Current alarm clear	—
SP2	Alarm history clear	—
SP3	External input signal prohibited	—
SP4	External output signal prohibited	—
SP5	External input signal resumed	—
SP6	External output signal resumed	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM1	JOG operation	—
OM2	Positioning operation	—
OM3	Motorless operation	—
OM4	Output signal (DO) forced output	—

(c) Instruction demand (for test operation)

Device name	Item	Symbol
TMB0	Clears the acceleration/ deceleration time constant	—
TMB1	Temporary stop command	—

(d) Basic parameter/expansion parameter

Device name	Item	Symbol*1
PRM0, PRM1000	Command system/ regenerative brake option selection	*STY
PRM1, PRM1001	Feeding function selection	*FTY
PRM2, PRM1002	Function selection 1	*OP1
PRM3, PRM1003	Auto tuning	ATU
PRM4, PRM1004	Electronic gear numerator	*CMX
PRM5, PRM1005	Electronic gear denominator	*CDV
PRM6, PRM1006	In-position range	INP
PRM7, PRM1007	Position loop gain 1	PG1
PRM8, PRM1008	Home position return type	*ZTY
PRM9, PRM1009	Home position return speed	ZRF
PRM10, PRM1010	Creep speed	CRF
PRM11, PRM1011	Home position shift distance	ZST
PRM12, PRM1012	Rough match output range	CRP
PRM13, PRM1013	Jog speed	JOG
PRM14, PRM1014	S-pattern acceleration/ deceleration time constant	*STC
PRM15, PRM1015	Station number setting	*SNO
PRM16, PRM1016	Serial communication function selection, alarm history clear	*BPS
PRM17, PRM1017	Analog monitor output	MOD
PRM18, PRM1018	Status display selection	*DMD
PRM19, PRM1019	Parameter block	*BLK
PRM20, PRM1020	Function selection 2	*OP2
PRM21, PRM1021	For manufacturer setting	—
PRM22, PRM1022	Function selection 4	*OP4
PRM23, PRM1023	Serial communication time-out selection	SIC
PRM24, PRM1024	Feed forward gain	FFC
PRM25, PRM1025	Override offset	VCO
PRM26, PRM1026	Torque limit offset	TLO
PRM27, PRM1027	Encoder output pulses	*ENR
PRM28, PRM1028	Internal torque limit 1	TL1
PRM29, PRM1029	Internal torque limit 2	TL2
PRM30, PRM1030	Backlash compensation	*BKC
PRM31,PRM1031	Analog monitor 1 offset	MO1
PRM32, PRM1032	Analog monitor 2 offset	MO2
PRM33, PRM1033	Electromagnetic brake sequence output	MBR
PRM34, PRM1034	Ration of load inertia moment to servo motor inertia moment	GD2
PRM35, PRM1035	Position control gain 2	PG2
PRM36, PRM1036	Speed control gain 1	VG1
PRM37, PRM1037	Position control gain 2	VG2
PRM38, PRM1038	Speed integral compensation	VIC
PRM39, PRM1039	Speed differential compensation	VDC
PRM40 to PRM41, PRM1040 to PRM1041	For manufacturer setting	—
PRM42, PRM1042	Home position return position data	*ZPS
PRM43, PRM1043	Moving distance after proximity dog	DCT
PRM44, PRM1044	Moving distance after proximity dog	ZTM
PRM45, PRM1045	Stopper type home position return torque limit value	ZTT

Device name	Item	Symbol[*1]
PRM46, PRM1046	Software limit +	*LMP
PRM47, PRM1047		
PRM48, PRM1048	Software limit -	*LMN
PRM49, PRM1049		
PRM50, PRM1050	Position range output address +	*LPP
PRM51, PRM1051		
PRM52, PRM1052	Position range output address -	*LNP
PRM53, PRM1053		
PRM54, PRM1054	For manufacturer setting	—
PRM55, PRM1055	Function selection 6	*OP6
PRM56, PRM1056	For manufacturer setting	—
PRM57, PRM1057	Function selection 8	*OP8
PRM58, PRM1058	Function selection 9	*OP9
PRM59, PRM1059	Function selection A	*OPA
PRM60, PRM1060	For manufacturer setting	—
PRM61, PRM1061	Machine resonance suppression filter 1	NH1
PRM62, PRM1062	Machine resonance suppression filter 2	NH2
PRM63, PRM1063	Low-pass filter, adaptive vibration suppression control	LPF
PRM64, PRM1064	Ratio of load inertia moment to servo motor inertia moment 2	GD2B
PRM65, PRM1065	Position control gain 2 changing ratio	PG2B
PRM66, PRM1066	Speed control gain 2 changing ratio	VG2B
PRM67, PRM1067	Speed integral compensation changing ratio	VICB
PRM68, PRM1068	Gain changing selection	*CDP
PRM69, PRM1069	Gain changing condition	CDS
PRM70, PRM1070	Gain changing time constant	CDT
PRM71 to PRM90, PRM1071 to PRM1090	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(e) Status display

Device name	Item	Symbol
ST0	Current position	—
ST1	Command position	—
ST2	Command remaining distance	—
ST3	Point table No.	—
ST4	Cumulative feedback pulses	—
ST5	Servo motor speed	—
ST6	Droop pulses	—
ST7	Override	—
ST8	Torque limit voltage	—
ST9	Regenerative load ratio	—
ST10	Effective load ratio	—
ST11	Peak load ratio	—
ST12	Instantaneous torque	—
ST13	Within one-revolution position	—
ST14	ABS counter	—
ST15	Load inertia moment ratio	—
ST16	Bus voltage	—

(f) Alarm

Device name	Item	Symbol
AL0	Current alarm number	—
AL1	Detailed data of current alarms	—
AL11	Servo status when alarm occurs current position	—
AL12	Servo status when alarm occurs command position	—
AL13	Servo status when alarm occurs command remaining distance	—
AL14	Servo status when alarm occurs point table No.	—
AL15	Servo status when alarm occurs cumulative feedback pulses	—
AL16	Servo status when alarm occurs servo motor speed	—
AL17	Servo status when alarm occurs droop pulses	—
AL18	Servo status when alarm occurs override	—
AL19	Servo status when alarm occurs torque limit voltage	—
AL20	Servo status when alarm occurs regenerative load ratio	—
AL21	Servo status when alarm occurs effective load ratio	—
AL22	Servo status when alarm occurs peak load ratio	—
AL23	Servo status when alarm occurs instantaneous torque	—
AL24	Servo status when alarm occurs within one-revolution position	—
AL25	Servo status when alarm occurs ABS counter	—
AL26	Servo status when alarm occurs Load inertia moment ratio	—
AL27	Servo status when alarm occurs bus voltage	—
AL200	Alarm number from alarm history most recent alarm	—
AL201	Alarm number from alarm history first alarm in past	—
AL202	Alarm number from alarm history second alarm in past	—
AL203	Alarm number from alarm history third alarm in past	—
AL204	Alarm number from alarm history fourth alarm in past	—
AL205	Alarm number from alarm history fifth alarm in past	—
AL210	Alarm occurrence time in alarm history most recent alarm	—
AL211	Alarm occurrence time in alarm history first alarm in past	—
AL212	Alarm occurrence time in alarm history second alarm in past	—
AL213	Alarm occurrence time in alarm history third alarm in past	—
AL214	Alarm occurrence time in alarm history fourth alarm in past	—
AL215	Alarm occurrence time in alarm history fifth alarm in past	—
AL230	Detailed alarm from alarm history most recent alarm	—
AL231	Detailed alarm from alarm history first alarm in past	—
AL232	Detailed alarm from alarm history second alarm in past	—
AL233	Detailed alarm from alarm history third alarm in past	—
AL234	Detailed alarm from alarm history fourth alarm in past	—
AL235	Detailed alarm from alarm history fifth alarm in past	—

(g) External I/O signal

Device name	Item	Symbol
DI0	Input device statuses	—
DI1	External input pin statuses	—
DI2	Statuses of input devices switched on through communication	—
DO0	Output device statuses	—
DO1	External output pin statuses	—

(h) Point table (position)

Device name	Item	Symbol
POS1 to POS31, POS1001 to POS1031	Point table (position) No. 1 to No. 31	—
SPD1 to SPD31, SPD1001 to SPD1031	Point table (speed) No. 1 to No. 31	—
ACT1 to ACT31, ACT1001 to ACT1031	Point table (acceleration time constant) No. 1 to No. 31	—
DCT1 to DCT31, DCT1001 to DCT1031	Point table (deceleration time constant) No. 1 to No. 31	—
DWL1 to DWL31, DWL1001 to DWL1031	Point table (dwell) No. 1 to No. 31	—
AUX1 to AUX31, AUX1001 to AUX1031	Point table (auxiliary function) No. 1 to No. 31	—

(i) Input signal for test operation (for test operation)

Device name	Item	Symbol
TMI0	Input signal for test operation	—

(j) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output of signal pin	—

(k) Set data (for test operation)

Device name	Item	Symbol
TMD0	Writes the speed (test mode)	—
TMD1	Writes the acceleration/deceleration time constant (test mode)	—
TMD2	Writes the moving distance in pulses (test mode)	—

(6) MELSERVO-J2S-*CL

	Device name*2	Setting range			Device No. representation
Bit device	Servo amplifier request (SP)	SP0	to	SP6	Decimal
	Operation mode selection (OM)	OM0	to	OM4	
	Instruction demand (for test operation) (TMB)	TMB0	to	TMB1	
Word device	Basic parameter /expansion parameter (PRM)*1	PRM0 PRM1000	to to	PRM90 PRM1090	
	Status display (ST)	ST0	to	ST17	
	Alarm (AL)	AL0 AL11 AL200 AL210 AL230	to to to to to	AL1 AL28 AL205 AL215 AL235	
	External input (DI)*4	DI0	to	DI2	
	External output(DO)	DO0	to	DO1	
	Current position latch data (LD)	LD1			
	The value of the general-purpose register (Rx) (RR)*3	RR1 RR1001	to to	RR4 RR1004	
	The value of the general-purpose register (Dx) (RD)	RD1	to	RD4	
	Input signal for test operation (for test operation) (TMI)	TMI0			
	Forced output of signal pin (for test operation) (TMO)	TMO0			
	Set data (for test operation) (TMD)	TMD0	to	TMD2	

*1 PRM0 to PRM90 are used when writing parameters to the servo amplifier RAM.
PRM1000 to PRM1090 are used when writing parameters to E^2PROM of the servo amplifier.
*2 The GOT cannot read or write data from/to consecutive devices.
*3 Use the integer number when writing parameters to Rx.
*4 Only reading is possible for DI0 to DI1.

POINT

Precautions for SP, OM, TMB, TMI, TMO, and TMD devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

The following shows correspondences between virtual devices for servo amplifier and data of the servo amplifier used with the GOT.

(a) Servo amplifier request

Device name	Item	Symbol
SP0	Status display data clear	—
SP1	Current alarm clear	—
SP2	Alarm history clear	—
SP3	External input signal prohibited	—
SP4	External output signal prohibited	—
SP5	External input signal resumed	—
SP6	External output signal resumed	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM1	JOG operation	—
OM2	Positioning operation	—
OM3	Motorless operation	—
OM4	Output signal (DO) forced output	—

(c) Instruction demand (for test operation)

Device name	Item	Symbol
TMB0	Clears the acceleration/ deceleration time constant	—
TMB1	Temporary stop command	—

(d) Basic parameter/expansion parameter

Device name	Item	Symbol[*1]
PRM0, PRM1000	Command system/ regenerative brake option selection	*STY
PRM1, PRM1001	Feeding function selection	*FTY
PRM2, PRM1002	Function selection 1	*OP1
PRM3, PRM1003	Auto tuning	ATU
PRM4, PRM1004	Electronic gear numerator	*CMX
PRM5, PRM1005	Electronic gear denominator	*CDV
PRM6, PRM1006	In-position range	INP
PRM7, PRM1007	Position loop gain 1	PG1
PRM8, PRM1008	Home position return type	*ZTY
PRM9, PRM1009	Home position return speed	ZRF
PRM10, PRM1010	Creep speed	CRF
PRM11, PRM1011	Home position shift distance	ZST
PRM12, PRM1012	For manufacturer setting	—
PRM13, PRM1013	Jog speed	JOG
PRM14, PRM1014	S-pattern acceleration/ deceleration time constant	*STC
PRM15, PRM1015	Station number setting	*SNO
PRM16, PRM1016	Serial communication function selection, alarm history clear	*BPS
PRM17, PRM1017	Analog monitor output	MOD
PRM18, PRM1018	Status display selection	*DMD
PRM19, PRM1019	Parameter block	*BLK
PRM20, PRM1020	Function selection 2	*OP2
PRM21, PRM1021	For manufacturer setting	—
PRM22, PRM1022	Function selection 4	*OP4
PRM23, PRM1023	Serial communication time-out selection	SIC
PRM24, PRM1024	Feed forward gain	FFC
PRM25, PRM1025	Override offset	VCO
PRM26, PRM1026	Torque limit offset	TLO
PRM27, PRM1027	Encoder output pulses	*ENR
PRM28, PRM1028	Internal torque limit 1	TL1
PRM29, PRM1029	Internal torque limit 2	TL2
PRM30, PRM1030	Backlash compensation	*BKC
PRM31,PRM1031	Analog monitor 1 offset	MO1
PRM32, PRM1032	Analog monitor 2 offset	MO2
PRM33, PRM1033	Electromagnetic brake sequence output	MBR
PRM34, PRM1034	Ration of load inertia moment to servo motor inertia moment	GD2
PRM35, PRM1035	Position control gain 2	PG2
PRM36, PRM1036	Speed control gain 2	VG1
PRM37, PRM1037	Speed control gain 2	VG2
PRM38, PRM1038	Speed integral compensation	VIC
PRM39, PRM1039	Speed differential compensation	VDC
PRM40, PRM1040	JOG operation acceleration/ deceleration time constant	JTC
PRM41, PRM1041	Home position return operation acceleration/ deceleration time constant	ZTS
PRM42, PRM1042	Home position return position data	*ZPS
PRM43, PRM1043	Moving distance after proximity dog	DCT
PRM44, PRM1044	Stopper type home position return stopper time	ZTM
PRM45, PRM1045	Stopper type home position return torque limit value	ZTT
PRM46, PRM1046	Software limit+	*LMP
PRM47, PRM1047		

Device name	Item	Symbol[*1]
PRM48, PRM1048	Software limit-	*LMN
PRM49, PRM1049		
PRM50, PRM1050	Position range output address+	*LPP
PRM51, PRM1051		
PRM52, PRM1052	Position range output address-	*LNP
PRM53, PRM1053		
PRM54, PRM1054	For manufacturer setting	—
PRM55, PRM1055	Function selection 6	*OP6
PRM56, PRM1056	For manufacturer setting	—
PRM57, PRM1057	Function selection 8	*OP8
PRM58, PRM1058	Function selection 9	*OP9
PRM59, PRM1059	Function selection A	*OPA
PRM60, PRM1060	For manufacturer setting	—
PRM61, PRM1061	Machine resonance suppression filter 1	NH1
PRM62, PRM1062	Machine resonance suppression filter 2	NH2
PRM63, PRM1063	Low-pass filter, adaptive vibration suppression control	LPF
PRM64, PRM1064	Ratio of load inertia moment to Servo motor inertia moment 2	GD2B
PRM65, PRM1065	Position control gain 2 changing ratio	PG2B
PRM66, PRM1066	Speed control gain 2 changing ratio	VG2B
PRM67, PRM1067	Speed integral compensation changing ratio	VICB
PRM68, PRM1068	Gain changing selection	*CDP
PRM69, PRM1069	Gain changing condition	CDS
PRM70, PRM1070	Gain changing time constant	CDT
PRM71 to PRM73, PRM1071 to PRM1073	For manufacturer setting	—
PRM74, PRM1074	OUT1 output time selection	OUT1
PRM75, PRM1075	OUT2 output time selection	OUT2
PRM76, PRM1076	OUT3 output time selection	OUT3
PRM77, PRM1077	Selected to program input polarity selection 1	SYC1
PRM78 to PRM90, PRM1078 to PRM1090	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(e) Status display

Device name	Item	Symbol
ST0	Current position	—
ST1	Command position	—
ST2	Command remaining distance	—
ST3	Program Number	—
ST4	Step Number	—
ST5	Cumulative feedback pulses	—
ST6	Servo motor speed	—
ST7	Droop pulses	—
ST8	Override	—
ST9	Torque limit voltage	—
ST10	Regenerative load ratio	—
ST11	Effective load ratio	—
ST12	Peak load ratio	—
ST13	Instantaneous torque	—
ST14	Within one-revolution position	—
ST15	ABS counter	—
ST16	Load inertia moment ratio	—
ST17	Bus voltage	—

(f) Alarm

Device name	Item	Symbol
AL0	Current alarm number	—
AL1	Detailed data of current alarms	—
AL11	Servo status when alarm occurs Current position	—
AL12	Servo status when alarm occurs Command position	—
AL13	Servo status when alarm occurs Command remaining distance	—
AL14	Servo status when alarm occurs Program Number	—
AL15	Servo status when alarm occurs Step Number	—
AL16	Servo status when alarm occurs Cumulative feedback pulses	—
AL17	Servo status when alarm occurs Servo motor speed	—
AL18	Servo status when alarm occurs Droop pulses	—
AL19	Servo status when alarm occurs Override	—
AL20	Servo status when alarm occurs Torque limit voltage	—
AL21	Servo status when alarm occurs Regenerative load ratio	—
AL22	Servo status when alarm occurs Effective load ratio	—
AL23	Servo status when alarm occurs Peak load ratio	—
AL24	Servo status when alarm occurs Instantaneous torque	—
AL25	Servo status when alarm occurs Within one-revolution position	—
AL26	Servo status when alarm occurs ABS counter	—
AL27	Servo status when alarm occurs Load inertia moment ratio	—
AL28	Servo status when alarm occurs Bus voltage	—
AL200	Alarm number from Alarm History most recent alarm	—
AL201	Alarm number from Alarm History first alarm in past	—
AL202	Alarm number from Alarm History second alarm in past	—
AL203	Alarm number from Alarm History third alarm in past	—
AL204	Alarm number from Alarm History fourth alarm in past	—
AL205	Alarm number from Alarm History fifth alarm in past	—
AL210	Alarm occurrence time in alarm history most recent alarm	—
AL211	Alarm occurrence time in alarm history first alarm in past	—
AL212	Alarm occurrence time in alarm history second alarm in past	—
AL213	Alarm occurrence time in alarm history third alarm in past	—
AL214	Alarm occurrence time in alarm history fourth alarm in past	—
AL215	Alarm occurrence time in alarm history fifth alarm in past	—
AL230	Detailed alarm from Alarm History most recent alarm	—
AL231	Detailed alarm from Alarm History first alarm in past	—
AL232	Detailed alarm from Alarm History second alarm in past	—
AL233	Detailed alarm from Alarm History third alarm in past	—

Device name	Item	Symbol
AL234	Detailed alarm from Alarm History fourth alarm in past	—
AL235	Detailed alarm from Alarm History fifth alarm in past	—

(g) External I/O signal

Device name	Item	Symbol
DI0	Input device statuses	—
DI1	External input pin statuses	—
DI2	Statuses of input devices switched on through communication	—
DO0	Output device statuses	—
DO1	External output pin statuses	—

(h) Current position latch data

Device name	Item	Symbol
LD1	Current position latch data	—

(i) The value of the general-purpose register (Rx)

Device name	Item	Symbol
RR1, RR1001	The value of the general-purpose register (R1)	—
RR2, RR1002	The value of the general-purpose register (R2)	—
RR3, RR1003	The value of the general-purpose register (R3)	—
RR4, RR1004	The value of the general-purpose register (R4)	—

(j) The value of the general-purpose register (Dx)

Device name	Item	Symbol
RD1	The value of the general-purpose register (D1)	—
RD2	The value of the general-purpose register (D2)	—
RD3	The value of the general-purpose register (D3)	—
RD4	The value of the general-purpose register (D4)	—

(k) Input signal for test operation (for test operation)

Device name	Item	Symbol
TMI0	Input signal for test operation	—

(l) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output of signal pin	—

(m) Set data (for test operation)

Device name	Item	Symbol
TMD0	Writes the speed (test mode)	—
TMD1	Writes the acceleration/deceleration time constant(test mode)	—
TMD2	Writes the moving distance in pulses(test mode)	—

(7) MELSERVO-J3-*A

	Device name*2	Setting range			Device No. representation
Bit device	Servo amplifier request (SP)	SP0	to	SP6	Decimal
	Operation mode selection (OM)	OM0	to	OM4	
	Instruction demand (for test operation) (TMB)	TMB1	to	TMB6	
Word device	Basic setting parameter (PA)*1	PA1 PA1001	to to	PA19 PA1019	
	Gain filter parameter (PB)*1	PB1 PB1001	to to	PB45 PB1045	
	Extension setting parameter (PC)*1	PC1 PC1001	to to	PC50 PC1050	
	I/O setting parameter (PD)*1	PD1 PD1001	to to	PD30 PD1030	
	Status display (ST)*3	ST0	to	ST14	
	Alarm (AL)*3	AL0 AL11 AL200 AL210 AL230	to to to to to	AL1 AL25 AL205 AL215 AL235	
	External input (DI)*4	DI0	to	DI2	
	External output (DO)*3	DO0	to	DO1	
	Input signal for test operation (for test operation) (TMI)	TMI0			
	Forced output of signal pin (for test operation) (TMO)	TMO0			
	Set data (for test operation) (TMD)	TMD0 TMD3	to	TMD1	

*1 1 to 50 of PA, PB, PC, and PD are used when writing data to the servo amplifier RAM.
1001 to 1050 of PA, PB, PC, and PD are used when writing data to E^2PROM of the servo amplifier.
*2 The GOT cannot read or write data from/to consecutive devices.
*3 Only reading is possible.
*4 Only reading is possible for DI0 to DI1.

POINT

Precautions for SP, OM, TMB, TMI, TMO, and TMD devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

The following shows correspondences between virtual devices for servo amplifier and data of the servo amplifier used with the GOT.

(a) Servo amplifier request

Device name	Item	Symbol
SP0	Status display data clear	—
SP1	Current alarm clear	—
SP2	Alarm history clear	—
SP3	External input signal prohibited	—
SP4	External output signal prohibited	—
SP5	External input signal resumed	—
SP6	External output signal resumed	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM1	JOG operation	—
OM2	Positioning operation	—
OM3	Motorless operation	—
OM4	Output signal (DO) forced output	—

(c) Instruction demand (for test operation)

Device name	Item	Symbol
TMB1	Temporary stop command	—
TMB2	Test operation (positioning operation) start command	—
TMB3	Forward rotation direction	—
TMB4	Reverse rotation direction	—
TMB5	Restart for remaining distance	—
TMB6	Remaining distance clear	—

(d) Basic parameter/expansion parameter

Device name	Item	Symbol*1
PA1, PA1001	Control mode	*STY
PA2, PA1002	Regenerative brake option	*REG
PA3, PA1003	Absolute position detection system	*ABS
PA4, PA1004	Function selection A-1	*AOP1
PA5, PA1005	Number of command input pulses per revolution	*FBP
PA6, PA1006	Electronic gear numerator (command pulse multiplying factor numerator)	CMX
PA7, PA1007	Electronic gear denominator (command pulse multiplying factor denominator)	CDV
PA8, PA1008	Auto tuning mode	ATU
PA9, PA1009	Auto tuning response	RSP
PA10, PA1010	In-position range	INP
PA11, PA1011	Forward torque limit	TLP
PA12, PA1012	Reverses torque limit	TLN
PA13, PA1013	Command pulse input form	*PLSS
PA14, PA1014	Rotation direction selection	*POL
PA15, PA1015	Encoder output pulses	*ENR
PA16 to PA18, PA1016 to PA1018	For manufacturer setting	—
PA19, PA1019	Parameter block	*BLK

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(e) Gain filter parameter

Device name	Item	Symbol*1
PB1, PB1001	Adaptive tuning mode (Adaptive filter II)	FILT
PA2, PB1002	Vibration suppression control filter tuning mode (Advanced vibration suppression control)	VRFT
PB3, PB1003	Position command acceleration/ deceleration time constant (position smoothing)	PST
PB4, PB1004	Feed forward gain	FFC
PB5, PB1005	For manufacturer setting	—
PB6, PB1006	Ratio of load inertia moment to servo motor inertia moment	GD2
PB7, PB1007	Model control gain	PG1
PB8, PB1008	Position loop gain	PG2
PB9, PB1009	Speed loop gain	VG2
PB10, PB1010	Speed integral compensation	VIC
PB11, PB1011	Speed differential compensation	VDC
PB12, PB1012	For manufacturer setting	—
PB13, PB1013	Machine resonance suppression filter 1	NH1
PB14, PB1014	Notch form selection 1	NHQ1
PB15, PB1015	Machine resonance suppression filter 2	NH2
PB16, PB1016	Notch form selection 2	NHQ2
PB17, PB1017	For manufacturer setting	—
PB18, PB1018	Low-pass filter setting	LPF
PB19, PB1019	Vibration suppression control vibration frequency setting	VRF1
PB20, PB1020	Vibration suppression control resonance frequency setting	VRF2
PB21 to PB22, PB1021 to PB1022	For manufacturer setting	—
PB23, PB1023	Low-pass filter selection	VFBF
PB24, PB1024	Slight vibration suppression control selection	*MVS
PB25, PB1025	Function selection B-1	*BOP1
PB26, PB1026	Gain changing selection	*CDP
PB27, PB1027	Gain changing condition	CDL
PB28, PB1028	Gain changing time constant	CDT
PB29, PB1029	Ratio of load inertia moment to servo motor inertia moment at changing gain	GD2B
PB30, PB1030	Position loop gain at changing gain	PG2B
PB31, PB1031	Speed loop gain at changing gain	VG2B
PB32, PB1032	Speed integral compensation at changing gain	VICB
PB33, PB1033	Vibration suppression control vibration frequency setting for changing gain	VRF1B
PB34, PB1034	Vibration suppression control vibration resonance setting for changing gain	VRF2B
PB35 to PB45, PB1035 to PB1045	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(f) Extension setting parameter

Device name	Item	Symbol[*1]
PC1, PC1001	Acceleration time constant	STA
PC2, PC1002	Deceleration time constant	STB
PC3, PC1003	S-pattern acceleration/ deceleration time constant	STC
PC4, PC1004	Torque command time constant	TQC
PC5, PC1005	Internal speed command1/limit1	SC1
PC6, PC1006	Internal speed command2/limit2	SC2
PC7, PC1007	Internal speed command3/limit3	SC3
PC8, PC1008	Internal speed command4/limit4	SC4
PC9, PC1009	Internal speed command5/limit5	SC5
PC10, PC1010	Internal speed command6/limit6	SC6
PC11, PC1011	Internal speed command7/limit7	SC7
PC12, PC1012	Analog speed command maximum speed /limit maximum speed	VCM
PC13, PC1013	Analog torque command maximum output	TLC
PC14, PC1014	Analog monitor 1 output	MOD1
PC15, PC1015	Analog monitor 2 output	MOD2
PC16, PC1016	Electromagnetic brake sequence output	MBR
PC17, PC1017	Zero speed	ZSP
PC18, PC1018	Alarm history clear	*BPS
PC19, PC1019	Encoder output pulse selection	*ENRS
PC20, PC1020	Station number setting	*SNO
PC21, PC1021	Communication function selection	*SOP
PC22, PC1022	Function selection C-1	*COP1
PC23, PC1023	Function selection C-2	*COP2
PC24, PC1024	Function selection C-3	*COP3
PC25, PC1025	For manufacturer setting	—
PC26, PC1026	Function selection C-5	*COP5
PC27 to PC29, PC1027 to PC1029	For manufacturer setting	—
PC30, PC1030	Acceleration time constant 2	STA2
PC31, PC1031	Deceleration time constant 2	STB2
PC32, PC1032	Command pulse multiplying factor numerator 2	CMX2
PC33, PC1033	Command pulse multiplying factor numerator 3	CMX3
PC34, PC1034	Command pulse multiplying factor numerator 4	CMX4
PC35, PC1035	Internal torque limit 2	TL2
PC36, PC1036	Status display selection	*DMD
PC37, PC1037	Analog speed command offset /limit offset	VCO
PC38, PC1038	Analog torque command offset /limit offset	TPO
PC39, PC1039	Analog monitor 1 offset	MO1
PC40, PC1040	Analog monitor 2 offset	MO2
PC41 to PC50, PC1041 to PC1050	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(g) I/O setting parameter

Device name	Item	Symbol[*1]
PD1, PD1001	Input signal automatic ON selection 1	*DIA1
PD2, PD1002	For manufacturer setting	—
PD3, PD1003	Input signal device selection 1 (CN1-15)	*DI1
PD4, PD1004	Input signal device selection 2 (CN1-16)	*DI2
PD5, PD1005	Input signal device selection 3 (CN1-17)	*DI3
PD6, PD1006	Input signal device selection 4 (CN1-18)	*DI4
PD7, PD1007	Input signal device selection 5 (CN1-19)	*DI5
PD8, PD1008	Input signal device selection 6 (CN1-41)	*DI6
PD9, PD1009	For manufacturer setting	—
PD10, D1010	Input signal device selection 8 (CN1-43)	*DI8
PD11, PD1011	Input signal device selection 9 (CN1-44)	*DI9
PD12, PD1012	Input signal device selection 10 (CN1-45)	*DI10
PD13, PD1013	Output signal device selection 1 (CN1-22)	*DO1
PD14, PD1014	Output signal device selection 2 (CN1-23)	*DO2
PD15, PD1015	Output signal device selection 3 (CN1-24)	*DO3
PD16, PD1016	Output signal device selection 4 (CN1-25)	*DO4
PD17, PD1017	For manufacturer setting	—
PD18, PD1018	Output signal device selection 6 (CN1-49)	*DO6
PD19, PD1019	Response level setting	*DIF
PD20, 1020	Function selection D-1	*DOP1
PD21, PD1021	For manufacturer setting	—
PD22, PD1022	Function selection D-3	*DOP3
PD23, PD1023	For manufacturer setting	—
PD24, PD1024	Function selection D-5	*DOP5
PD25 to PD30, PD1025 to PD1030	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(h) Status display

Device name	Item	Symbol
ST0	Cumulative feedback pulses	—
ST1	Servo motor speed	—
ST2	Droop pulses	—
ST3	Cumulative command pulses	—
ST4	Command pulse frequency	—
ST5	Analog speed command voltage/limit voltage	—
ST6	Analog torque command voltage/limit voltage	—
ST7	Regenerative load ratio	—
ST8	Effective load ratio	—
ST9	Peak load ratio	—
ST10	Instantaneous torque	—
ST11	Within one-revolution position	—
ST12	ABS counter	—
ST13	Load inertia moment ratio	—
ST14	Bus voltage	—

(i) Alarm

Device name	Item	Symbol
AL0	Current alarm number	—
AL1	Detailed data of current alarms	—
AL11	Servo status when alarm occurs cumulative feedback pulses	—
AL12	Servo status when alarm occurs servo monitor speed	—
AL13	Servo status when alarm occurs droop pulses	—
AL14	Servo status when alarm occurs cumulative command pulses	—
AL15	Servo status when alarm occurs command pulse frequency	—
AL16	Servo status when alarm occurs analog speed command voltage /limit voltage	—
AL17	Servo status when alarm occurs analog torque command voltage /limit voltage	—
AL18	Servo status when alarm occurs regenerative load ratio	—
AL19	Servo status when alarm occurs effective load ratio	—
AL20	Servo status when alarm occurs peak load ratio	—
AL21	Servo status when alarm occurs instantaneous torque	—
AL22	Servo status when alarm occurs within one-revolution position	—
AL23	Load inertia moment ratio ABS counter	—
AL24	Servo status when alarm occurs load inertia moment ratio	—
AL25	Servo status when alarm occurs bus voltage	—
AL200	Alarm number from alarm history most recent alarm	—
AL201	Alarm number from alarm history first alarm in past	—
AL202	Alarm number from alarm history second alarm in past	—
AL203	Alarm number from alarm history third alarm in past	—
AL204	Alarm number from alarm history fourth alarm in past	—
AL205	Alarm number from alarm history fifth alarm in past	—
AL210	Alarm occurrence time in alarm history most recent alarm	—
AL211	Alarm occurrence time in alarm history first alarm in past	—
AL212	Alarm occurrence time in alarm history second alarm in past	—
AL213	Alarm occurrence time in alarm history third alarm in past	—
AL214	Alarm occurrence time in alarm history fourth alarm in past	—
AL215	Alarm occurrence time in alarm history fifth alarm in past	—
AL230	Detailed alarm from alarm history most recent alarm	—
AL231	Detailed alarm from alarm history first alarm in past	—
AL232	Detailed alarm from alarm history second alarm in past	—
AL233	Detailed alarm from alarm history third alarm in past	—
AL234	Detailed alarm from alarm history fourth alarm in past	—
AL235	Detailed alarm from alarm history fifth alarm in past	—

(j) External input

Device name	Item	Symbol
DI0	Input device statuses	—
DI1	External input pin statuses	—
DI2	Statuses of input devices switched on through communication	—

(k) External output

Device name	Item	Symbol
DO0	Output device statuses	—
DO1	External output pin statuses	—

(l) Input signal for test operation (for test operation)

Device name	Item	Symbol
TMI0	Input signal for test operation	—

(m) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output of signal pin	—

(n) Set data (for test operation)

Device name	Item	Symbol
TMD0	Writes the speed (test mode)	—
TMD1	Writes the acceleration/ deceleration time constant (test mode)	—
TMD2	For manufacturer setting	—
TMD3	Writes the moving distance (test mode)	—

(8) MELSERVO-J3-*T

	Device name*5	Setting range			Device No. representation
Bit device	Servo amplifier request (SP)	SP0	to	SP6	Decimal
	Operation mode selection (OM)	OM0	to	OM5	
	Instruction demand (for test operation) (TMB)	TMB1	to	TMB6	
Word device	Basic setting parameter (PA)*1	PA1 PA1001	to to	PA19 PA1019	Decimal
	Gain filter parameter (PB)*1	PB1 PB1001	to to	PB45 PB1045	
	Extension setting parameter (PC)*1	PC1 PC1001	to to	PC50 PC1050	
	I/O setting parameter (PD)*1	PD1 PD1001	to to	PD30 PD1030	
	Option unit parameter (PO)*1	PO1 PO1001	to to	PO35 PO1035	
	Status display (ST)*4	ST0	to	ST17	
	Alarm (AL)*4	AL0 AL11 AL200 AL210 AL230	to to to to to	AL1 AL28 AL205 AL215 AL235	
	External input (DI)*6	DI0	to	DI7	
	External output (DO)*4	DO0	to	DO4	
	Point table (position) (POS)*2	POS1 POS1001	to to	POS255 POS1255	
	Point table (speed) (SPD)*2	SPD1 SPD1001	to to	SPD255 SPD1255	
	Point table (acceleration time constant) (ACT)*2	ACT1 ACT1001	to to	ACT255 ACT1255	
	Point table (deceleration time constant) (DCT)*2	DCT1 DCT1001	to to	DCT255 DCT1255	
	Point table (dwell) (DWL)*2	DWL1 DWL1001	to to	DWL255 DWL1255	
	Point table (auxiliary function) (AUX)*2	AUX1 AUX1001	to to	AUX255 AUX1255	
	Point table (M code) (MCD)*2*3	MCD1 MCD1001	to to	MCD255 MCD1255	
	Input signal for test operation (for test operation) (TM0)	TMI0	to	TMI2	
	Forced output of signal pin (for test operation) (TMO)	TMO0	to	TMO1	
	Set data (for test operation) (TMD)	TMD0 TMD3	to	TMD1	

*1 Use 1 to 50 of PA, PB, PC, PD, and PO when the GOT writes data to RAM of the servo amplifier.
Use 1001 to 1050 of PA, PB, PC, PD, and PO when the GOT write data to E^2PROM of the servo amplifier.
*2 When the GOT writes data to point tables, use 1001 to 1255 of POS, SPD, ACT, DCT, DWL, AUX, and MCD (E^2PROM area).
*3 MCD cannot be used as a real number.
*4 Only reading is possible.
*5 The GOT cannot read or write data from/to consecutive devices.
*6 Only reading is possible for DI0 to DI4.

POINT

Precautions for SP, OM, TMB, TMI, TMO, and TMD devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

The following shows correspondences between virtual devices for servo amplifier and data of the servo amplifier used with the GOT.

(a) Servo amplifier request

Device name	Item	Symbol
SP0	Status display data clear	—
SP1	Current alarm clear	—
SP2	Alarm history clear	—
SP3	External input signal prohibited	—
SP4	External output signal prohibited	—
SP5	External input signal resumed	—
SP6	External output signal resumed	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM1	JOG operation	—
OM2	Positioning operation	—
OM3	Motorless operation	—
OM4	Output signal (DO) forced output	—
OM5	One step sending	—

(c) Instruction demand (for test operation)

Device name	Item	Symbol
TMB1	Temporary stop command	—
TMB2	Test operation (positioning operation) start command	—
TMB3	Forward rotation direction	—
TMB4	Reverse rotation direction	—
TMB5	Restart for remaining distance	—
TMB6	Remaining distance clear	—

(d) Basic setting parameter

Device name	Item	Symbol[*1]
PA1, PA1001	Control mode	*STY
PA2, PA1002	Regenerative brake option	*REG
PA3, PA1003	Absolute position detection system	*ABS
PA4, PA1004	Function selection A-1	*AOP1
PA5, PA1005	Feeding function selection	*FTY
PA6, PA1006	Electronic gear numerator	*CMX
PA7, PA1007	Electronic gear denominator	*CDV
PA8, PA1008	Auto tuning mode	ATU
PA9, PA1009	Auto tuning response	RSP
PA10, PA1010	In-position range	INP
PA11, PA1011	Forward torque limit	TLP
PA12, PA1012	Reverses torque limit	TLN
PA13, PA1013	For manufacturer setting	—
PA14, PA1014	Rotation direction selection	*POL
PA15, PA1015	Encoder output pulses	*ENR
PA16 to PA18, PA1016 to PA1018	For manufacturer setting	—
PA19, PA1019	Parameter block	*BLK

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(e) Gain filter parameter

Device name	Item	Symbol[*1]
PB1, PB1001	Adaptive tuning mode (Adaptive filter II)	FILT
PA2, PB1002	Vibration suppression control filter tuning mode (advanced vibration suppression control)	VRFT
PB3, PB1003	For manufacturer setting	—
PB4, PB1004	Feed forward gain	FFC
PB5, PB1005	For manufacturer setting	—
PB6, PB1006	Ratio of load inertia moment to servo motor inertia moment	GD2
PB7, PB1007	Model control gain	PG1
PB8, PB1008	Position loop gain	PG2
PB9, PB1009	Speed loop gain	VG2
PB10, PB1010	Speed integral compensation	VIC
PB11, PB1011	Speed differential compensation	VDC
PB12, PB1012	For manufacturer setting	—
PB13, PB1013	Machine resonance suppression filter 1	NH1
PB14, PB1014	Notch form selection 1	NHQ1
PB15, PB1015	Machine resonance suppression filter 2	NH2
PB16, PB1016	Notch form selection 2	NHQ2
PB17, PB1017	For manufacturer setting	—
PB18, PB1018	Low-pass filter setting	LPF
PB19, PB1019	Vibration suppression control vibration frequency setting	VRF1
PB20, PB1020	Vibration suppression control resonance frequency setting	VRF2
PB21 to PB22, PB1021 to PB1022	For manufacturer setting	—
PB23, PB1023	Low-pass filter selection	VFBF
PB24, PB1024	Slight vibration suppression control selection	*MVS
PB25, PB1025	For manufacturer setting	—
PB26, PB1026	Gain changing selection	*CDP
PB27, PB1027	Gain changing condition	CDL
PB28, PB1028	Gain changing time constant	CDT
PB29, PB1029	Gain changing, Ratio of load inertia moment to servo motor inertia moment	GD2B
PB30, PB1030	Gain changing, Position loop gain	PG2B
PB31, PB1031	Gain changing, Speed loop gain	VG2B
PB32, PB1032	Gain changing, Speed integral compensation	VICB
PB33, PB1033	Gain changing, Vibration suppression control vibration frequency setting	VRF1B
PB34, PB1034	Gain changing, Vibration suppression control resonance frequency setting	VRF2B
PB35 to PB45, PB1035 to PB1045	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(f) Extension setting parameter

Device name	Item	Symbol[*1]
PC1, PC1001	For manufacturer setting	—
PC2, PC1002	Home position return type	*ZTY
PC3, PC1003	Direction of home position return	*ZDIR
PC4, PC1004	Home position return speed	ZRF
PC5, PC1005	Creep speed	CRF
PC6, PC1006	Home position shift distance	ZST
PC7, PC1007	Home position return position data	*ZPS
PC8, PC1008	Moving distance after proximity dog	DCT
PC9, PC1009	Hold time home position return hold time	ZTM
PC10, PC1010	Hold time home position return torque limit value	ZTT
PC11, PC1011	Rough match output range	CRP
PC12, PC1012	Jog speed	JOG
PC13, PC1013	S-pattern acceleration/ deceleration time constant	*STC
PC14, PC1014	Backlash compensation	*BKC
PC15, PC1015	For manufacturer setting	—
PC16, PC1016	Electromagnetic brake sequence output	MBR
PC17, PC1017	Zero speed	ZSP
PC18, PC1018	Alarm history clear	*BPS
PC19, PC1019	Encoder output pulse selection	*ENRS
PC20, PC1020	Station number setting	*SNO
PC21, PC1021	Communication function selection	*SOP
PC22, PC1022	Function selection C-1	*COP1
PC23, PC1023	For manufacturer setting	—
PC24, PC1024	Function selection C-3	*COP3
PC25, PC1025	For manufacturer setting	—
PC26, PC1026	Function selection C-5	*COP5
PC27, PC1027	For manufacturer setting	—
PC28, PC1028	Function selection C-7	*COP7
PC29 to PC30, PC1029 to PC1030	For manufacturer setting	—
PC31, PC1031	Software limit + Low	LMPL
PC32, PC1032	Software limit + High	LMPH
PC33, PC1033	Software limit - Low	LMNL
PC34, PC1034	Software limit - High	LMNH
PC35, PC1035	Internal torque limit 2	TL2
PC36, PC1036	Status display selection	*DMD
PC37, PC1037	Position range output address + Low	*LPPL
PC38, PC1038	Position range output address + High	*LPPH
PC39, PC1039	Position range output address - Low	*LNPL

(Continued to next page)

Device name	Item	Symbol[*1]
PC40, PC1040	Position range output address - High	*LNPH
PC41 to PC50, PC1041 to PC1050	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(g) I/O setting parameter

Device name	Item	Symbol[*1]
PD1, PD1001	Input signal automatic ON selection 1	*DIA1
PD2, PD1002	For manufacturer setting	—
PD3, PD1003	Input signal automatic ON selection 3	*DIA3
PD4, PD1004	Input signal automatic ON selection 4	*DIA4
PD5, PD1005	For manufacturer setting	—
PD6, PD1006	Input signal device selection 2 (CN6-2)	*DI2
PD7, PD1007	Input signal device selection 3 (CN6-3)	*DI3
PD8, PD1008	Input signal device selection 4 (CN6-4)	*DI4
PD9, PD1009	Output signal device selection 1 (CN6-14)	*DO1
PD10, D1010	Output signal device selection 2 (CN6-15)	*DO2
PD11, PD1011	Output signal device selection 3 (CN6-16)	*DD3
PD12 to PD15, PD1012 to PD1015	For manufacturer setting	—
PD16, PD1016	Input polarity selection	*DIAB
PD17 to PD18, PD1017 to PD1018	For manufacturer setting	—
PD19, PD1019	Response level setting	*DIF
PD20, 1020	Function selection D-1	*DOP1
PD21, PD1021	For manufacturer setting	—
PD22, PD1022	Function selection D-3	*DOP3
PD23, PD1023	For manufacturer setting	—
PD24, PD1024	Function selection D-5	*DOP5
PD25 to PD30, PD1025 to PD1030	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(h) Option unit parameter

Device name	Item	Symbol
PO1, PO1001	For manufacturer setting	—
PO2, PO1002	MR-J3-D01 Input signal device selection 1 (CN10-21, 26)	*ODI1
PO3, PO1003	MR-J3-D01 Input signal device selection 2 (CN10-27, 28)	*ODI2
PO4, PO1004	MR-J3-D01 Input signal device selection 3 (CN10-29, 30)	*ODI3
PO5, PO1005	MR-J3-D01 Input signal device selection 4 (CN10-31, 32)	*ODI4
PO6, PO1006	MR-J3-D01 Input signal device selection 5 (CN10-33, 34)	*ODI5
PO7, PO1007	MR-J3-D01 Input signal device selection 6 (CN10-35, 36)	*ODI6
PO8, PO1008	MR-J3-D01 Output signal device selection 1 (CN10-46, 47)	*ODO1
PO9, PO1009	MR-J3-D01 Output signal device selection 2 (CN10-48, 49)	*ODO2
PO10, PO1010	Function selection 0-1	*OOP1
PO11, PO1011	For manufacturer setting	—
PO12, PO1012	Function selection 0-3	*OOP3
PO13, PO1013	MR-J3-D01 Analog monitor 1 output	MOD1
PO14, PO1014	MR-J3-D01 Analog monitor 2 output	MOD2
PO15, PO1015	MR-J3-D01 Analog monitor 1 offset	M01
PO16, PO1016	MR-J3-D01 Analog monitor 2 offset	M02
PO17 to 20, PO1017 to PO1020	For manufacturer setting	—
PO21, PO1021	MR-J3-D01 Override offset	VCO
PO22, PO1022	MR-J3-D01 Analog torque limitation offset	TLO
PO23 to 35, PO1023 to PO1035	For manufacturer setting	—

(i) Status display

Device name	Item	Symbol
ST0	Current position	—
ST1	Command position	—
ST2	Command remaining distance	—
ST3	Point table No.	—
ST4	Cumulative feedback pulses	—
ST5	Servo monitor speed	—
ST6	Droop pulses	—
ST7	Override voltage	—
ST8	Override	—
ST9	Analog torque command voltage/limit voltage	—
ST10	Regenerative load ratio	—
ST11	Effective load ratio	—
ST12	Peak load ratio	—
ST13	Instantaneous torque	—
ST14	Within one-revolution position	—
ST15	ABS counter	—
ST16	load inertia moment ratio	—
ST17	Bus voltage	—

(j) Alarm

Device name	Item	Symbol
AL0	Current alarm number	—
AL1	Detailed data of current alarms	—
AL11	Servo status when alarm occurs Current position	—
AL12	Servo status when alarm occurs Command position	—
AL13	Servo status when alarm occurs Command remaining distance	—
AL14	Servo status when alarm occurs Point table No.	—
AL15	Servo status when alarm occurs Cumulative feedback pulses	—
AL16	Servo status when alarm occurs Servo motor speed	—
AL17	Servo status when alarm occurs Droop pulses	—
AL18	Servo status when alarm occurs Override voltage	—
AL19	Servo status when alarm occurs Override	—
AL20	Servo status when alarm occurs Analog torque limit voltage	—
AL21	Servo status when alarm occurs Regenerative load ratio	—
AL22	Servo status when alarm occurs Effective load ratio	—
AL23	Servo status when alarm occurs Peak load ratio	—
AL24	Servo status when alarm occurs Instantaneous torque	—
AL25	Servo status when alarm occurs Within one-revolution position	—
AL26	Servo status when alarm occurs ABS counter	—
AL27	Servo status when alarm occurs Load inertia moment ratio	—
AL28	Servo status when alarm occurs Bus voltage	—
AL200	Alarm number from alarm history, Most recent alarm	—
AL201	Alarm number from alarm history First alarm in past	—
AL202	Alarm number from alarm history Second alarm in past	—
AL203	Alarm number from alarm history Third alarm in past	—
AL204	Alarm number from alarm history Fourth alarm in past	—
AL205	Alarm number from alarm history Fifth alarm in past	—
AL210	Alarm occurrence time in alarm history Most recent alarm	—
AL211	Alarm occurrence time in alarm history First alarm in past	—
AL212	Alarm occurrence time in alarm history Second alarm in past	—
AL213	Alarm occurrence time in alarm history Third alarm in past	—
AL214	Alarm occurrence time in alarm history Fourth alarm in past	—
AL215	Alarm occurrence time in alarm history Fifth alarm in past	—
AL230	Detailed alarm from alarm history Most recent alarm	—
AL231	Detailed alarm from alarm history First alarm in past	—
AL232	Detailed alarm from alarm history Second alarm in past	—
AL233	Detailed alarm from alarm history Third alarm in past	—
AL234	Detailed alarm from alarm history Fourth alarm in past	—
AL235	Detailed alarm from alarm history Fifth alarm in past	—

(k) External input

Device name	Item	Symbol
DI0	Input device statuses 1	—
DI1	Input device statuses 2	—
DI2	Input device statuses 3	—
DI3	External input pin statuses 1	—
DI4	External input pin statuses 2	—
DI5	Statuses of input devices switched on through communication 1	—
DI6	Statuses of input devices switched on through communication 2	—
DI7	Statuses of input devices switched on through communication 3	—

(l) External output

Device name	Item	Symbol
DO0	Output device statuses 1	—
DO1	Output device statuses 2	—
DO2	Output device statuses 3	—
DO3	External output pin statuses 1	—
DO4	External output pin statuses 2	—

(m) Point table (position)

Device name	Item	Symbol
POS1 to POS255, POS1001 to POS1255	Point table (position) No.1 to 255	—
SPD1 to SPD255, SPD1001 to SPD1255	Point table (speed) No.1 to 255	—
ACT1 to ACT255, ACT1001 to ACT1255	Point table (acceleration time constant) No.1 to 255	—
DCT1 to DCT255, DCT1001 to DCT1255	Point table (deceleration time constant) No.1 to 255	—
DWL1 to DWL255, DWL1001 to DWL1255	Point table (dwell) (DWL) No.1 to 255	—
AUX1 to AUX255, AUX1001 to AUX1255	Point table (auxiliary function) No.1 to 255	—
MCD1 to MCD255, MCD1001 to MCD1255	Point table (M code) No.1 to 255	—

(n) Input signal for test operation (for test operation)

Device name	Item	Symbol
TMI0	Input signal for test operation 1	—
TMI1	Input signal for test operation 2	—
TMI2	Input signal for test operation 3	—

(o) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output from signal pin (CN6)	—
TMO1	Forced output from signal pin (CN10)	—

(p) Set data (for test operation)

Device name	Item	Symbol
TMD0	Writes the speed (test mode)	—
TMD1	Writes the acceleration/deceleration time constant (test mode)	—
TMD3	Writes the moving distance (test mode)	—

(9) MELSERVO-J4-*A, -JE-*A

	Device name*2	Setting range			Device No. representation
Bit device	Servo amplifier request (SP)	SP0	to	SP6	Decimal
	Operation mode selection (OM)	OM0	to	OM4	
	Instruction demand (for test operation) (TMB)	TMB1	to	TMB6	
Word device	Basic setting parameter (PA)*1	PA1 PA1001	to to	PA32 PA1032	
	Gain filter parameter (PB)*1	PB1 PB1001	to to	PB64 PB1064	
	Extension setting parameter (PC)*1	PC1 PC1001	to to	PC80 PC1080	
	I/O setting parameter (PD)*1	PD1 PD1001	to to	PD48 PD1048	
	Extension setting 2 parameter (PE)*1	PE1 PE1001	to to	PE64 PE1064	
	Extension setting 3 parameter (PF)*1	PF1 PF1001	to to	PF48 PF1048	
	Status display (ST)*3	ST0	to	ST41	
	Alarm (AL)*3	AL0 AL11 AL200 AL210 AL230	to to to to to	AL1 AL25 AL205 AL215 AL235	
	Alarm (ALM)*3	ALM0 ALM11 ALM200 ALM220 ALM240	to to to to to	ALM1 ALM52 ALM215 ALM235 ALM255	
	External input (DI)*4	DI0	to	DI2	
	External output (DO)*3	DO0	to	DO1	
	Input signal for test operation (for test operation) (TM0)	TMI0			
	Forced output of signal pin (for test operation) (TMO)	TMO0			
	Set data (for test operation) (TMD)	TMD0 TMD3	to	TMD1	

*1 Use 1 to 80 of PA, PB, PC, PD, PE, and PF when the GOT writes data to RAM of the servo amplifier.
Use 1001 to 1080 of PA, PB, PC, PD, PE, and PF when the GOT write data to E^2PROM of the servo amplifier.
*2 The GOT cannot read or write data from/to consecutive devices.
*3 Only reading is possible.
*4 Only reading is possible for DI0 to DI1.

POINT

Precautions for SP, OM, TMB, TMI, TMO, and TMD devices

(1) For bit devices
Only writing is possible.
[Alternate] of a bit switch cannot be used.
Use [Set], [Reset], and [Momentary] of a bit switch.

(2) For word devices
Only writing is possible.
Numerical input cannot be used.
When writing, use [Word Set] of a data set switch.

The following shows correspondences between virtual devices for servo amplifier and data of the servo amplifier used with the GOT.

(a) Servo amplifier request

Device name	Item	Symbol
SP0	Status display data clear	—
SP1	Current alarm clear	—
SP2	Alarm history clear	—
SP3	External input signal prohibited	—
SP4	External output signal prohibited	—
SP5	External input signal resumed	—
SP6	External output signal resumed	—

(b) Operation mode selection

Device name	Item	Symbol
OM0	Normal mode (not test operation mode)	—
OM1	JOG operation	—
OM2	Positioning operation	—
OM3*1	Motorless operation	—
OM4	Output signal (DO) forced output	—

*1 MELSERVO-JE is equivalent to MELSERVO-J4.
However, they have differences in the parameter function.
For using the MELSERVO-JE series, refer to the following.
MELSERVO-JE Series Servo Amplifier Instruction Manual

(c) Instruction demand (for test operation)

Device name	Item	Symbol
TMB1	Temporary stop command	—
TMB2	Test operation (positioning operation) start command	—
TMB3	Forward rotation direction	—
TMB4	Reverse rotation direction	—
TMB5	Restart for remaining distance	—
TMB6	Remaining distance clear	—

(d) Basic setting parameter

Device name	Item	Symbol[*1]
PA1, PA1001	Operation mode	*STY
PA2, PA1002	Regenerative option	*REG
PA3, PA1003[*2]	Absolute position detection system	*ABS
PA4, PA1004	Function selection A-1	*AOP1
PA5, PA1005	Number of command input pulses per revolution	*FBP
PA6, PA1006	Electronic gear numerator (command pulse multiplication numerator)	CMX
PA7, PA1007	Electronic gear denominator (command pulse multiplication denominator)	CDV
PA8, PA1008	Auto tuning mode	ATU
PA9, PA1009	Auto tuning response	RSP
PA10, PA1010	In-position range	INP
PA11, PA1011	Forward rotation torque limit	TLP
PA12, PA1012	Reverse rotation torque limit	TLN
PA13, PA1013	Command pulse input form	*PLSS
PA14, PA1014	Rotation direction selection	*POL
PA15, PA1015	Encoder output pulses	*ENR
PA16, PA1016	Encoder output pulses 2	*ENR2
PA17 to 18, PA1017 to 1018	For manufacturer setting	—
PA19, PA1019	Parameter writing inhibit	*BLK
PA20, PA1020	Tough drive setting	*TDS
PA21, PA1021	Function selection A-3	*AOP3
PA22, PA1022	For manufacturer setting	—
PA23, PA1023	Drive recorder arbitrary alarm trigger setting	DRAT
PA24, PA1024	Function selection A-4	*AOP4
PA25, PA1025	One-touch tuning - Overshoot permissible level	OTHOV
PA26, PA1026[*2]	Function selection A-5	*AOP5
PA27 to 32, PA1027 to 1032	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

*2 MELSERVO-JE is equivalent to MELSERVO-J4. However, they have differences in the parameter function. For using the MELSERVO-JE series, refer to the following.

☞ MELSERVO-JE Series Servo Amplifier Instruction Manual

(e) Gain filter parameter

Device name	Item	Symbol[*1]
PB1, PB1001	Adaptive tuning mode (adaptive filter II)	PB1
PB2, PB1002	Vibration suppression control tuning mode (advanced vibration suppression control II)	VRFT
PB3, PB1003	Position command acceleration/ deceleration time constant (position smoothing)	PST
PB4, PB1004	Feed forward gain	FFC
PB5, PB1005	For manufacturer setting	—
PB6, PB1006	Load to motor inertia ratio	GD2
PB7, PB1007	Model loop gain	PG1
PB8, PB1008	Position loop gain	PG2
PB9, PB1009	Speed loop gain	VG2
PB10, PB1010	Speed integral compensation	VIC
PB11, PB1011	Speed differential compensation	VDC
PB12, PB1012	Overshoot amount compensation	OVA
PB13, PB1013	Machine resonance suppression filter 1	NH1
PB14, PB1014	Notch shape selection 1	NHQ1
PB15, PB1015	Machine resonance suppression filter 2	NH2
PB16, PB1016	Notch shape selection 2	NHQ2
PB17, PB1017	Shaft resonance suppression filter	NHF
PB18, PB1018	Low-pass filter setting	LPF
PB19, PB1019	Vibration suppression control 1 - Vibration frequency	VRF11
PB20, PB1020	Vibration suppression control 1 - Resonance frequency	VRF12
PB21, PB1021	Vibration suppression control 1 - Vibration frequency dumping	VRF13
PB22, PB1022	Vibration suppression control 1 - Resonance frequency dumping	VRF14
PB23, PB1023	Low-pass filter selection	VFBF
PB24, PB1024	Slight vibration suppression control	*MVS
PB25, PB1025	Function selection B-1	*BOP1
PB26, PB1026	Gain switching function	*CDP
PB27, PB1027	Gain switching condition	CDL
PB28, PB1028	Gain switching time constant	CDT
PB29, PB1029	Load to motor inertia ratio after gain switching	GD2B
PB30, PB1030	Position loop gain after gain switching	PG2B
PB31, PB1031	Speed loop gain after gain switching	VG2B
PB32, PB1032	Speed integral compensation after gain switching	VICB
PB33, PB1033	Vibration suppression control 1 - Vibration frequency after gain switching	VRF1B
PB34, PB1034	Vibration suppression control 1 - Resonance frequency after gain switching	VRF2B
PB35, PB1035	Vibration suppression control 1 - Resonance frequency dumping after gain switching	VRF3B
PB36, PB1036	Vibration suppression control 1 - Resonance frequency dumping after gain switching	VRF4B
PB37 to 44, PB1037 to 1044	For manufacturer setting	—
PB45, PB1045	Command notch filter	CNHF
PB46, PB1046	Machine resonance suppression filter 3	NH3
PB47, PB1047	Notch shape selection 3	NHQ3
PB48, PB1048	Machine resonance suppression filter 4	NH4
PB49, PB1049	Notch shape selection 4	NHQ4
PB50, PB1050	Machine resonance suppression filter 5	NH5
PB51, PB1051	Notch shape selection 5	NHQ5
PB52, PB1052	Vibration suppression control 2 - Vibration frequency	VRF21
PB53, PB1053	Vibration suppression control 2 - Resonance frequency	VRF22
PB54, PB1054	Vibration suppression control 2 - Vibration frequency dumping	VRF23
PB55, PB1055	Vibration suppression control 2 - Resonance frequency dumping	VRF24
PB56, PB1056	Vibration suppression control 2 - Vibration frequency after gain switching	VRF21B
PB57, PB1057	Vibration suppression control 2 - Resonance frequency after gain switching	VRF22B

Device name	Item	Symbol[*1]
PB58, PB1058	Vibration suppression control 2 - Vibration frequency dumping after gain switching	VRF23B
PB59, PB1059	Vibration suppression control 2 - Resonance frequency dumping after gain switching	VRF24B
PB60, PB1060	Model loop gain after gain switching	PG1B
PB61 to 64, PB1061 to 1064	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

(f) Extension setting parameter

Device name	Item	Symbol[*1]
PC1, PC1001	Acceleration time constant	STA
PC2, PC1002	Deceleration time constant	STB
PC3, PC1003	S-pattern acceleration/ deceleration time constant	STC
PC4, PC1004	Torque command time constant	TQC
PC5, PC1005	Internal speed command 1	SC1
	Internal speed limit 1	
PC6, PC1006	Internal speed command 2	SC2
	Internal speed limit 2	
PC7, PC1007	Internal speed command 3	SC3
	Internal speed limit 3	
PC8, PC1008	Internal speed command 4	SC4
	Internal speed limit 4	
PC9, PC1009	Internal speed command 5	SC5
	Internal speed limit 5	
PC10, PC1010	Internal speed command 6	SC6
	Internal speed limit 6	
PC11, PC1011	Internal speed command 7	SC7
	Internal speed limit 7	
PC12, PC1012	Analog speed command - Maximum speed	VCM
	Analog speed limit - Maximum speed	
PC13, PC1013	Analog torque command maximum output	TLC
PC14, PC1014	Analog monitor 1 output	MOD1
PC15, PC1015	Analog monitor 2 output	MOD2
PC16, PC1016	Electromagnetic brake sequence output	MBR
PC17, PC1017	Zero speed	ZSP
PC18, PC1018	Alarm history clear	*BPS
PC19, PC1019	Encoder output pulse selection	*ENRS
PC20, PC1020[*2]	Station number setting	*SNO
PC21, PC1021[*2]	Communication function selection	*SOP
PC22, PC1022	Function selection C-1	*COP1
PC23, PC1023	Function selection C-2	*COP2
PC24, PC1024	Function selection C-3	*COP3
PC25, PC1025	For manufacturer setting	—
PC26, PC1026	Function selection C-5	*COP5
PC27, PC1027[*2]	Function selection C-6	*COP6
PC28, PC1028	For manufacturer setting	—
PC29, PC1029	For manufacturer setting	—
PC30, PC1030	Acceleration time constant 2	STA2
PC31, PC1031	Deceleration time constant 2	STB2
PC32, PC1032	Command input pulse multiplication numerator 2	CMX2
PC33, PC1033	Command input pulse multiplication numerator 3	CMX3
PC34, PC1034	Command input pulse multiplication numerator 4	CMX4
PC35, PC1035	Internal torque limit 2	TL2
PC36, PC1036	Status display selection	*DMD
PC37, PC1037	Analog speed command offset	VCO
	Analog speed limit offset	
PC38, PC1038	Analog torque command offset	TPO
	Analog torque limit offset	
PC39, PC1039	Analog monitor 1 offset	MO1
PC40, PC1040	Analog monitor 2 offset	MO2
PC41 to 42, PC1041 to 1042	For manufacturer setting	—
PC43, PC1043	Error excessive alarm detection level	ERZ
PC44 to 50, PC1044 to 1050	For manufacturer setting	—
PC51, PC1051	Forced stop deceleration time constant	RSBR
PC52, PC1052	For manufacturer setting	—
PC53, PC1053	For manufacturer setting	—
PC54, PC1054	Vertical axis freefall prevention compensation amount	RSUP1
PC55 to PC59, PC1055 to PC1059	For manufacturer setting	—
PC60, PC1060	Function selection C-D	*COPD
PC61 to PC80, PC1061 to PC1080	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

*2 MELSERVO-JE is equivalent to MELSERVO-J4. However, they have differences in the parameter function. For using the MELSERVO-JE series, refer to the following.

MELSERVO-JE Series Servo Amplifier Instruction Manual

(g) I/O setting parameter

Device name	Item	Symbol[*1]
PD1, PD1001	Input signal automatic on selection 1	*DIA1
PD2, PD1002	For manufacturer setting	—
PD3, PD1003	Input device selection 1L	*DI1L
PD4, PD1004	Input device selection 1H	*DI1H
PD5, PD1005[*2]	Input device selection 2L	*DI2L
PD6, PD1006[*2]	Input device selection 2H	*DI2H
PD7, PD1007[*2]	Input device selection 3L	*DI3L
PD8, PD1008[*2]	Input device selection 3H	*DI3H
PD9, PD1009[*2]	Input device selection 4L	*DI4L
PD10, PD1010[*2]	Input device selection 4H	*DI4H
PD11, PD1011	Input device selection 5L	*DI5L
PD12, PD1012	Input device selection 5H	*DI5H
PD13, PD1013	Input device selection 6L	*DI6L
PD14, PD1014	Input device selection 6H	*DI6H
PD15 to 16, PD1015 to 1016	For manufacturer setting	—
PD17, PD1017	Input device selection 8L	*DI8L
PD18, PD1018	Input device selection 8H	*DI8H
PD19, PD1019	Input device selection 9L	*DI9L
PD20, PD1020	Input device selection 9H	*DI9H
PD21, PD1021[*2]	Input device selection 10L	*DI10L
PD22, PD1022[*2]	Input device selection 10H	*DI10H
PD23, PD1023[*2]	Output device selection 1	*DO1
PD24, PD1024	Output device selection 2	*DO2
PD25, PD1025	Output device selection 3	*DO3
PD26, PD1026[*2]	Output device selection 4	*DO4
PD27, PD1027	For manufacturer setting	—
PD28, PD1028	Output device selection 6	*DO6

Device name	Item	Symbol[*1]
PD29, PD1029	Input filter setting	*DIF
PD30, PD1030	Function selection D-1	*DOP1
PD31, PD1031	For manufacturer setting	—
PD32, PD1032	Function selection D-3	*DOP3
PD33, PD1033	For manufacturer setting	—
PD34, PD1034	Function selection D-5	*DOP5
PD35 to 48, PD1035 to 1048	For manufacturer setting	—

*1 For the parameters prefixed by an asterisk (*), setting becomes effective when the power is turned off once and back on after setting the parameter data.

*2 MELSERVO-JE is equivalent to MELSERVO-J4. However, they have differences in the parameter function. For using the MELSERVO-JE series, refer to the following.

☞ MELSERVO-JE Series Servo Amplifier Instruction Manual

(h) Extension setting 2 parameter

Device name	Item	Symbol
PE1 to 40, PE1000 to 1040	For manufacturer setting	—
PE41, PE1041	Function selection E-3	EOP3
PE42 to 64, PE1042 to 1064	For manufacturer setting	—

(i) Extension setting 3 parameter

Device name	Item	Symbol
PF1 to 8, PF1001 to 1008	For manufacturer setting	—
PF9, PF1009[*1]	Function selection F-5	*FOP5
PF10 to 14, PF1010 to 1014	For manufacturer setting	—
PF15, PF1015[*1]	Electronic dynamic brake operating time	DBT
PF16 to 20, PF1016 to 1020	For manufacturer setting	—
PF21, PF1021	Drive recorder switching time setting	DRT
PF22, PF1022	For manufacturer setting	—
PF23, PF1023	Vibration tough drive - Oscillation detection level	OSCL1
PF24, PF1024	Vibration tough drive function selection	OSCL2
PF25, PF1025	Instantaneous power failure tough drive - Detection time	CVAT
PF26 to 30, PF1026 to 1030	For manufacturer setting	—
PF31, PF1031	Machine diagnosis function - Friction judgement speed	FRIC
PF32 to 48, PF1032 to 1048	For manufacturer setting	—

*1 MELSERVO-JE is equivalent to MELSERVO-J4. However, they have differences in the parameter function. For using the MELSERVO-JE series, refer to the following.

☞ MELSERVO-JE Series Servo Amplifier Instruction Manual

(j) Status display

Device name	Item	Symbol
ST0	Comulative feedback pulse	—
ST1	Servo motor speed	—
ST2	Droop pulse	—
ST3	Cumulative command pulse	—
ST4	Command pulse frequency	—
ST5	Analog speed command voltage/limit voltage	—
ST6	Analog torque command voltage/limit voltage	—
ST7	Regenerative load ratio	—
ST8	Effetive load ratio	—
ST9	Peak load ratio	—
ST10	Instantaneous torque	—
ST11	Within one-revolution position(1 pulse unit)	—
ST12	ABS counter	—
ST13	Load inertia moment ratio	—
ST14	Bus voltage	—
ST15 to 31	For manufacturer setting	—
ST32	Internal temperature of encoder	—
ST33	Setting time	—
ST34	Oscillation detection frequency	—
ST35	Number of tough drives	—
ST36 to 39	For manufacturer setting	—
ST40	Unit power consumption 1 (incremwnt of 1 W)	—
ST41	Unit total power consumption 1 (incremwnt of 1 Wh)	—

(k) Alarm (compatible with MELSERVO-J3-*A)

Device name	Item	Symbol
AL0	Current alarm number	—
AL1[*1]	Detailed data of current alarms	—
AL11	Servo status when alarm occurs Cumulative feedback pulses	—
AL12	Servo status when alarm occurs Servo motor speed	—
AL13	Servo status when alarm occurs Droop pulses	—
AL14	Servo status when alarm occurs cumulative command pulses	—
AL15	Servo status when alarm occurs command pulse frequency	—
AL16	Servo status when alarm occurs analog speed command voltage/limit voltage	—
AL17	Servo status when alarm occurs analog torque command voltage/limit voltage	—
AL18	Servo status when alarm occurs regenerative load ratio	—
AL19	Servo status when alarm occurs effective load ratio	—
AL20	Servo status when alarm occurs peak load ratio	—
AL21	Servo status when alarm occurs Instantaneous torque	—
AL22	Servo states when alarm occurs Within onerevolution position(1 pulse unit)	—
AL23	Servo status when alarm occurs ABS counter	—
AL24	Servo status when alarm occurs load inertia moment ratio	—
AL25	Servo status when alarm occurs Bus voltage	—
AL200	Alarm number from Alarm History most recent alarm	—

Device name	Item	Symbol
AL201	Alarm number from Alarm History first alarm in past	—
AL202	Alarm number from Alarm History second alarm in past	—
AL203	Alarm number from Alarm History third alarm in past	—
AL204	Alarm number from Alarm History fourth alarm in past	—
AL205	Alarm number from Alarm History fifth alarm in past	—
AL210	Alarm occurrence time in alarm history most recent alarm	—
AL211	Alarm occurrence time in alarm history first alarm in past	—
AL212	Alarm occurrence time in alarm history second alarm in past	—
AL213	Alarm occurrence time in alarm history third alarm in past	—
AL214	Alarm occurrence time in alarm history fourth alarm in past	—
AL215	Alarm occurrence time in alarm history fifth alarm in past	—
AL230	Detailed alarm from Alarm History most recent alarm	—
AL231	Detailed alarm from Alarm History first alarm in past	—
AL232	Detailed alarm from Alarm History second alarm in past	—
AL233	Detailed alarm from Alarm History third alarm in past	—
AL234	Detailed alarm from Alarm History fourth alarm in past	—
AL235	Detailed alarm from Alarm History fifth alarm in past	—

*1 MELSERVO-JE is equivalent to MELSERVO-J4. However, they have differences in the parameter function. For using the MELSERVO-JE series, refer to the following.

MELSERVO-JE Series Servo Amplifier Instruction Manual

(l) Alarm (extended for MELSERVO-J4-*A)

Device name	Item	Symbol
ALM0	Current alarm number	—
ALM1*1	Detailed data of current alarms	—
ALM11	Servo status when alarm occurs Cumulative feedback pulses	—
ALM12	Servo status when alarm occurs Servo motor speed	—
ALM13	Servo status when alarm occurs Droop pulses	—
ALM14	Servo status when alarm occurs cumulative command pulses	—
ALM15	Servo status when alarm occurs command pulse frequency	—
ALM16	Servo status when alarm occurs analog speed command voltage/limit voltage	—
ALM17	Servo status when alarm occurs analog torque command voltage/limit voltage	—
ALM18	Servo status when alarm occurs regenerative load ratio	—
ALM19	Servo status when alarm occurs effective load ratio	—
ALM20	Servo status when alarm occurs peak load ratio	—
ALM21	Servo status when alarm occurs Instantaneous torque	—
ALM22	Servo states when alarm occurs Within onerevolution position(1 pulse unit)	—
ALM23	Servo status when alarm occurs ABS counter	—
ALM24	Servo status when alarm occurs load inertia moment ratio	—
ALM25	Servo status when alarm occurs Bus voltage	—
ALM 26 to 42	For manufacturer setting	—
ALM43	Servo states when alarm occurs Internal temperature of encoder	—
ALM44	Servo states when alarm occurs Setting time	—
ALM45	Servo states when alarm occurs Oscillation detection frequency	—
ALM46	Servo states when alarm occurs Number of tough drives	—
ALM 47 to 50	For manufacturer setting	—
ALM51	Servo states when alarm occurs Unit power consumption 1 (incremwnt of 1 W)	—
ALM52	Servo states when alarm occurs Unit total power consumption 1 (incremwnt of 1 Wh)	—
ALM200	Alarm number from Alarm History most recent alarm	—
ALM201	Alarm number from Alarm History 1st alarm in past	—
ALM202	Alarm number from Alarm History 2nd alarm in past	—
ALM203	Alarm number from Alarm History 3rd alarm in past	—
ALM204	Alarm number from Alarm History 4th alarm in past	—
ALM205	Alarm number from Alarm History 5th alarm in past	—
ALM206	Alarm number from Alarm History 6th alarm in past	—
ALM207	Alarm number from Alarm History 7th alarm in past	—
ALM208	Alarm number from Alarm History 8th alarm in past	—
ALM209	Alarm number from Alarm History 9th alarm in past	—
ALM210	Alarm number from Alarm History 10th alarm in past	—
ALM211	Alarm number from Alarm History 11th alarm in past	—
ALM212	Alarm number from Alarm History 12th alarm in past	—
ALM213	Alarm number from Alarm History 13th alarm in past	—
ALM214	Alarm number from Alarm History 14th alarm in past	—
ALM215	Alarm number from Alarm History 15th alarm in past	—
ALM220	Alarm occurrence time in alarm history most recent alarm	—
ALM221	Alarm occurrence time in alarm history 1st alarm in past	—
ALM222	Alarm occurrence time in alarm history 2nd alarm in past	—
ALM223	Alarm occurrence time in alarm history 3rd alarm in past	—
ALM224	Alarm occurrence time in alarm history 4th alarm in past	—
ALM225	Alarm occurrence time in alarm history 5th alarm in past	—
ALM226	Alarm occurrence time in alarm history 6th alarm in past	—
ALM227	Alarm occurrence time in alarm history 7th alarm in past	—
ALM228	Alarm occurrence time in alarm history 8th alarm in past	—

Device name	Item	Symbol
ALM229	Alarm occurrence time in alarm history 9th alarm in past	—
ALM230	Alarm occurrence time in alarm history 10th alarm in past	—
ALM231	Alarm occurrence time in alarm history 11th alarm in past	—
ALM232	Alarm occurrence time in alarm history 12th alarm in past	—
ALM233	Alarm occurrence time in alarm history 13th alarm in past	—
ALM234	Alarm occurrence time in alarm history 14th alarm in past	—
ALM235	Alarm occurrence time in alarm history 15th alarm in past	—
ALM240	Detailed alarm from Alarm History most recent alarm	—
ALM241	Detailed alarm from Alarm History 1st alarm in past	—
ALM242	Detailed alarm from Alarm History 2nd alarm in past	—
ALM243	Detailed alarm from Alarm History 3rd alarm in past	—
ALM244	Detailed alarm from Alarm History 4th alarm in past	—
ALM245	Detailed alarm from Alarm History 5th alarm in past	—
ALM246	Detailed alarm from Alarm History 6th alarm in past	—
ALM247	Detailed alarm from Alarm History 7th alarm in past	—
ALM248	Detailed alarm from Alarm History 8th alarm in past	—
ALM249	Detailed alarm from Alarm History 9th alarm in past	—
ALM250	Detailed alarm from Alarm History 10th alarm in past	—
ALM251	Detailed alarm from Alarm History 11th alarm in past	—
ALM252	Detailed alarm from Alarm History 12th alarm in past	—
ALM253	Detailed alarm from Alarm History 13th alarm in past	—
ALM254	Detailed alarm from Alarm History 14th alarm in past	—
ALM255	Detailed alarm from Alarm History 15th alarm in past	—

*1 MELSERVO-JE is equivalent to MELSERVO-J4. However, they have differences in the parameter function. For using the MELSERVO-JE series, refer to the following.

MELSERVO-JE Series Servo Amplifier Instruction Manual

(m) External input

Device name	Item	Symbol
DI0	Input device statuses	—
DI1	External input pin statuses	—
DI2	Statuses of input devices switched on through communication	—

(n) External output

Device name	Item	Symbol
DO0	Output device statuses	—
DO1	External output pin statuses	—

(o) Input signal for test operation (for test operation)

Device name	Item	Symbol
TMI0	Input signal for test operation	—

(p) Forced output of signal pin (for test operation)

Device name	Item	Symbol
TMO0	Forced output from signal pin	—

(q) Set data (for test operation)

Device name	Item	Symbol
TMD0	Writes the speed (test mode)	—
TMD1	Writes the acceleration/deceleration time constant (test mode)	—
TMD3	Writes the moving distance (test mode)	—

15.7 Precautions

■ Station number setting in the servo system

Make sure to establish servo system with the station number set with the host address.
For details of host address setting, refer to the following.

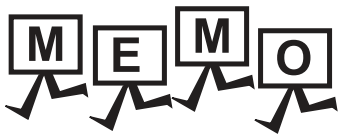
☞ 15.4.1 Setting communication interface (Communication settings)

■ GOT clock function

Since the servo amplifier does not have a clock function, the settings of [Adjust] or [Broadcast] by GOT clock control will be disabled.

■ Servo amplifier/test operation using the GOT

During the servo amplifier/test operation, when the communication between the GOT and the servo amplifier is interrupted for 0.5[ms] or more, the servo amplifier decelerates, stops, and then gets into the servo lock status. During the servo amplifier/test operation, continue the communication constantly by monitoring the status display of the servo amplifier on the GOT screen, etc.


MEMO

16

ROBOT CONTROLLER CONNECTION

16. ROBOT CONTROLLER CONNECTION

16.1 Connectable Model List

The following table shows the connectable models.

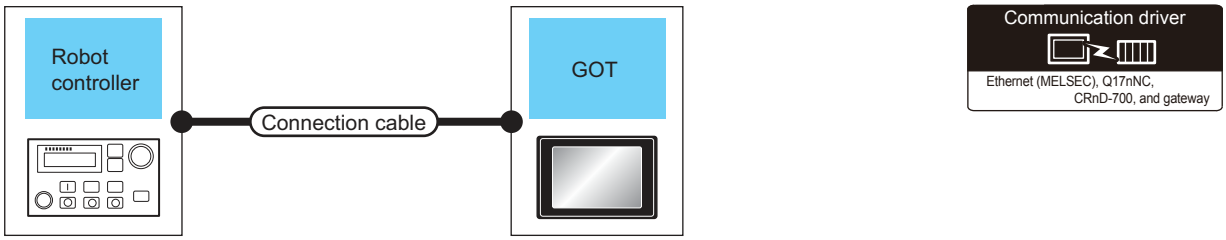
Series	Model name	Clock	Communication type	Connectable model*2	Refer to
Robot controller*1	CRnD-700 CR750-D CR751-D	○	Ethernet	GT27 GT23 GS	16.2.1

*1 For details on the connection with CRnQ-700/CR750-Q/CR751-Q (Q172DRCPU), refer to Mitsubishi Products (Chapter 5 to 13).

*2 When the robot controller is connected, use the GOT outside the safety fence.

16.2 System Configuration

16.2.1 Connecting to robot controller (CRnD-700)



Robot controller		Connection cable *1*2	Maximum segment length*3	GOT		Number of connectable equipment
Model name	Communication type			Option device	Model	
CRnD-700*4*5 CR750-D*4*5 CR751-D*4*5	Ethernet	Twisted pair cable • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3, 4, or 5 • 100BASE-TX Shielded twisted pair cable (STP) of category 5 or 5e	100m	- (Built into GOT)	GT27 GT23 GS	1 GOT

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system. Connect to the Ethernet module, hub, transceiver or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.

*2 A straight cable is available.
When connecting QnUDE(H) and GOT directly with Ethernet cable, remember that the by cross cable is available.

*3 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
• 10BASE-T: Max. 4 nodes for a cascade connection (500m)
• 100BASE-TX: Max. 2 nodes for a cascade connection (205m)
When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

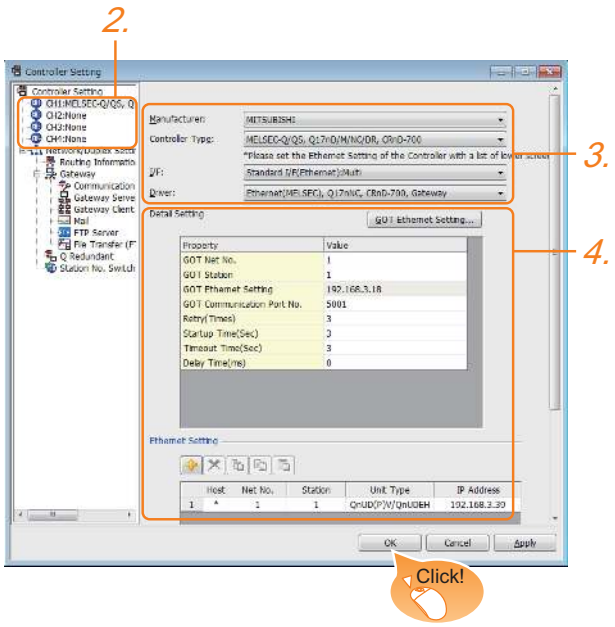
*4 For the system configuration of CRnD-700, CR750-D/CR751-D, refer to the following manual.
CRnD-700, CR750-D/CR751-D SET UP MANUAL

*5 Select [CRnD-700] for [Controller Type] in [Ethernet] of GT Designer3.
For [Ethernet] of GT Designer3, refer to the following.
16.3.4 Ethernet setting

16.3 GOT Side Settings

16.3.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type: Set according to the Controller Type to be connected.
   - I/F: Standard I/F(Ethernet):Multi
   - Driver:
     Ethernet(MELSEC), Q17nNC, CRnD-700, Gateway
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   ☞ 16.3.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following:
☞ 1.1.2 I/F communication setting

16.3.2 Communication detail settings

Make the settings according to the usage environment.

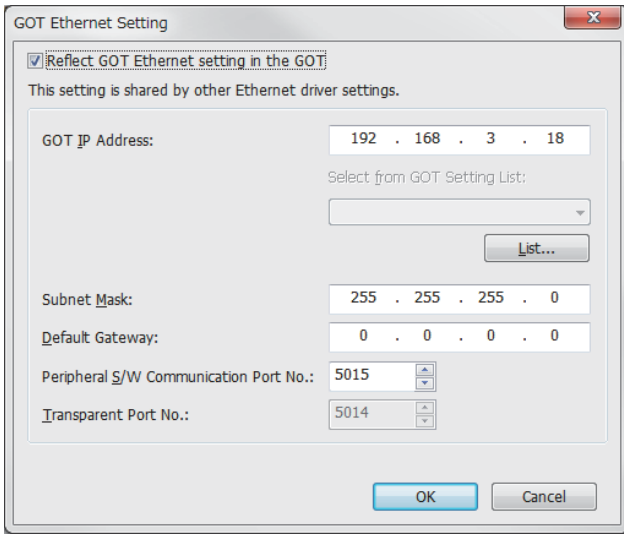
Property	Value
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5001
Retry(Times)	3
Startup Time(Sec)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
GOT Net No.	Set the network No. of the GOT. (Default: 1)	1 to 239
GOT Station	Set the station No. of the GOT. (Default: 1)	1 to 64
GOT Ethernet Setting	Set the GOT IP address, subnet mask, default gateway, peripheral S/W communication port No., transparent port No.	
GOT Communication Port No.	Set the GOT port No. for the connection with the Ethernet module. (Default: 5001)	1024 to 5010 to 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 3times)	0 to 5times
Startup Time	Specify the time period from the GOT startup until GOT starts the communication with the PLC CPU. (Default: 3sec)	3 to 255sec
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 10000 (× 10ms)

POINT

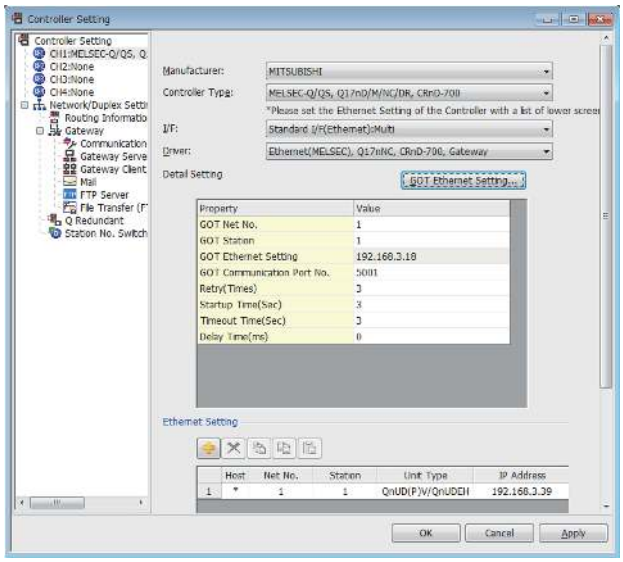
Example of [Detail setting].
For examples of [Detail setting], refer to the following.
☞ 16.4 PLC Side Settings

16.3.3 GOT Ethernet setting



Item	Description	Range
GOT IP Address	Set the IP address of the GOT. (Default: 192.168.0.18)	0.0.0.0 to 255.255.255.255
Subnet Mask	Set the subnet mask for the sub network. (Only for connection via router) If the sub network is not used, the default value is set. (Default: 255.255.255.0)	0.0.0.0 to 255.255.255.255
Default Gateway	Set the router address of the default gateway where the GOT is connected. (Only for connection via router) (Default: 0.0.0.0)	0.0.0.0 to 255.255.255.255
周辺 S/W 通信用ポート No.	Set the GOT port No. for the S/W communication. (Default: 5015)	1024 to 5010 to 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)
トランスペアレント用ポート No.	Set the GOT port No. for the transparent function. (Default: 5014)	1024 to 5010 to 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)

16.3.4 Ethernet setting



Item	Description	Range
Host	The host is displayed. (The host is indicated with an asterisk (*))	—
N/W No.	Set the network No. of the connected Ethernet module. (Default: blank)	1 to 239
PLC No.	Set the station No. of the connected Ethernet module. (Default: blank)	1 to 64
Type*1	Set the type of the connected Ethernet module. CRnD-70(fixed)	CRnD-70(fixed)
IP address	Set the IP address of the connected Ethernet module. (Default: blank)	0.0.0.0 to 255.255.255.255
Port No.	Set the port No. of the connected Ethernet module. (Default: 5001)	1024 to 65534
Communication	UDP (fixed)	UDP (fixed)

*1 Select [CRnD-700] for [Controller Type].

POINT

(1) Example of [Ethernet]
For examples of [Ethernet], refer to the following.
16.4 PLC Side Settings

(2) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.
GOT2000 Series User's Manual (Utility)

(3) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

16.4 PLC Side Settings

Model		Reference
Robot controller	CRnD-700	16.4.1

16.4.1 Connecting to robot controller (CRnD-700)

This section describes the settings of a GOT and a robot controller in the following case of system configuration.

POINT

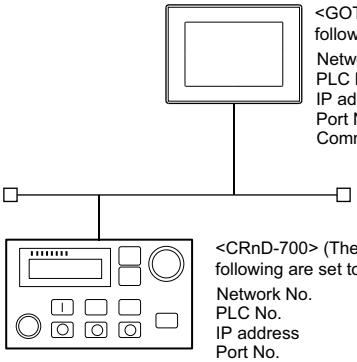
Robot controller (CRnD-700)

For details of the robot controller (CRnD-700), refer to the following manual.

☞ CRnD-700 SET UP MANUAL

■ System configuration

☞ ■ [Controller Setting] and [Ethernet] of GT Designer3



<GOT> (The settings other than the following are set to the default)

Network No. : 1
PLC No. : 1
IP address : 192.168.0.18
Port No. : 5001
Communication format : UDP (fixed)

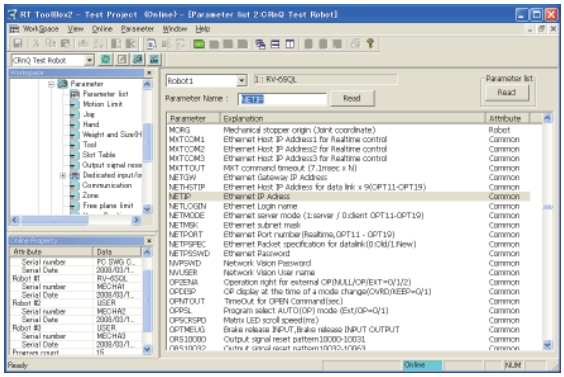
<CRnD-700> (The settings other than the following are set to the default)

Network No. : 1
PLC No. : 2
IP address : 192.168.0.19
Port No. : 5001
Communication format : UDP(fixed)

☞ ■ Parameter settings for CRnD-700

■ Parameter settings for CRnD-700

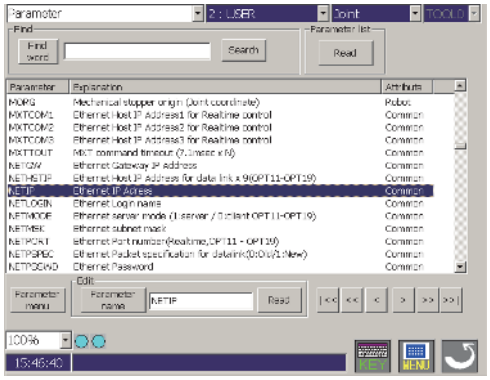
(1) For RT ToolBox2



Item	Set value	Setting necessity at GOT connection
NETIP	192.168.0.19	○
GOTPORT	5001	○

○: Necessary △: As necessary ×: Not necessary

(2) For R32TB or R56TB



(For R56TB)

Item	Set value	Setting necessity at GOT connection
NETIP	192.168.0.19	○
GOTPORT	5001	○

○: Necessary △: As necessary ×: Not necessary

■ [Controller Setting] and [Ethernet] of GT Designer3

(1) Communication settings

Item	Set value
GOT NET No.	1
GOT PLC No.	1
GOT IP Address	192.168.0.18
GOT 機器通信用ポート No.	5001
Retry	3times
Startup Time	3sec
Timeout Time	3sec
Delay Time	0ms

(2) GOT Ethernet setting

Item	Set value (Use default value)
GOT IP Address	192.168.3.18
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
周辺 S/W 通信用ポート No.	5015
トランスペアレント用ポート No.	5014

(3) Ethernet setting

Item		Set value
Ethernet setting No.1	Host	*
	N/W No.	1
	PLC No.	2
	Type	CRnD-700
	IP address	192.168.0.19
	Port No.	5001 (fixed)
	Communication	UDP (fixed)

POINT

[Controller Setting] and [Ethernet] of GT Designer3

For [Controller Setting] and [Ethernet] of GT Designer3, refer to the following.

☞ 16.3.1 Setting communication interface (Communication settings)

■ Confirming communication state of CRnD-700

(4) When using the Command Prompt of Windows®.

Execute a Ping command at the Command Prompt of Windows®.

(a) When normal communication

```
C:\>Ping 192.168.0.19
Reply from 192.168.0.19: bytes=32 time<1ms
TTL=64
```

(b) When abnormal communication

```
C:\>Ping 192.168.0.19
Request timed out.
```

(5) When abnormal communication

At abnormal communication, check the followings and execute the Ping command again.

- Cable connecting condition
- Parameter settings
- Operation state of the CRnD-700. (faulty or not)
- The IP address of the CRnD-700 specified for the Ping command.

16.5 Device Range that Can Be Set

For details on the device range that can be used on the GOT, refer to the following.

☞ 2.1 MELSEC-Q/QS, Q17nD/M/NC/DR, CRnD-700

16.6 Precautions

■ When setting IP address

Do not use "0" and "255" at the end of an IP address.

(Numbers of *.*.*.0 and *.*.*.255 are used by the system)

The GOT may not monitor the controller correctly with the above numbers.

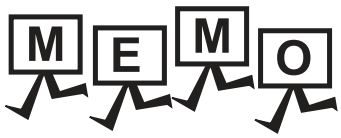
Consult with the administrator of the network before setting an IP address to the GOT and controller.

■ When connecting to the multiple network equipment (including GOT) in a segment

By increasing the network load, the transmission speed between the GOT and PLC may be reduced.

The following actions may improve the communication performance.

- Using a switching hub
- More high speed by 100BASE-TX (100Mbps)
- Reduction of the monitoring points on GOT


MEMO

17

CNC CONNECTION

17. CNC CONNECTION

17.1 Connectable Model List

The following table shows the connectable models.

Series	Model name	Clock	Communication type	Connectable model	Refer to
MELDAS C6/C64 *1	FCA C6 FCA C64	×	RS-232 RS-422	GT27 GT23 GS	17.2.1
			MELSECNET/10*2	GT27 GT23 GS	17.2.2
			CC-Link(ID)	GT27 GT23 GS	17.2.3
			Ethernet	GT27 GT23 GS	17.2.4

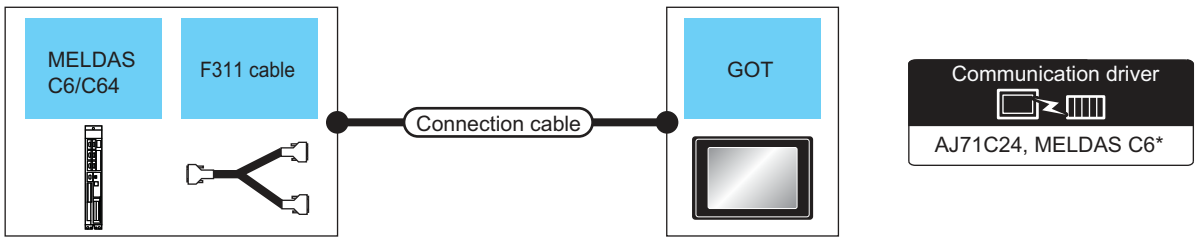
*1 Use the NC system software version D0 or later.

*2 Includes the case on the MELSECNET/H network system in the NET/10 mode. The GOT cannot be connected to the remote I/O network..

For the connection to CNC C70, refer to Mitsubishi Products (Chapter 5 to Chapter 13).

17.2 System Configuration

17.2.1 Direct connection to CPU



CNC			Connection cable		GOT		Number of connectable equipment
Model name	F311 cable	Communication type	Cable model	Max. distance	Option device	Model	
MELDAS C6/C64 *1	-	RS-232	User preparing RS232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT23 GS	1 GOT for 1 PLC
					GT15-RS2-9P	GT27 GT23 GS	
MELDAS C6/C64 *2	User preparing *3	RS-422	GT01-C30R4-25P(3m) GT01-C100R4-25P(10m) GT01-C200R4-25P(20m) GT01-C300R4-25P(30m)	30.5m	- (Built into GOT)	GT27 GT23 GS	
					GT15-RS4-9S	GT27 GT23 GS	

*1 Connect the connector of the CNC side to TERMINAL.
*2 Connect the connector of the CNC side to SIO.
*3 To be prepared by the user, referring the following.

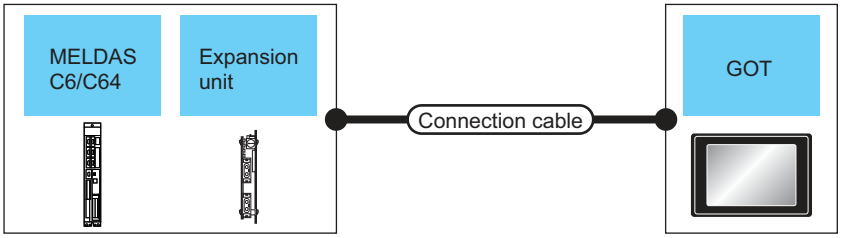
MELDAS C6/C64 CONNECTION AND MAINTENANCE MANUAL (BNP-B2255) F311 Cable Production Drawing

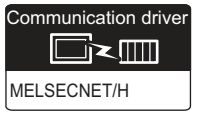
17.2.2 MELSECNET/10 connection (PLC to PLC network)

POINT

(1) Connectable network
MELSECNET/10 connection includes the case that MELSECNET/H is used in NET/10 mode.The GOT cannot be connected to the remote I/O network.
Connect the GOT to the following network systems as an ordinary station.
- MELSECNET/10 network system (PLC to PLC network) optical loop system
- MELSECNET/10 network system (PLC to PLC network) coaxial bus system

(2) MELSECNET/H network module
When connecting the MELSECNET/H network module to the MELSECNET/10 network system, specify the MELSECNET/10 Mode as a network type.





(When MELSECNET/H communication unit is used)

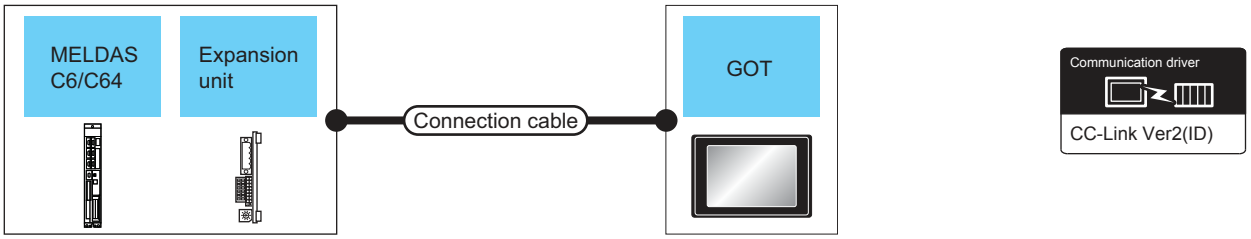
CNC			Connection cable		GOT		Number of connectable equipment
Model name	Expansion unit	Communication type	Cable model	Max. distance	Option device	Model	
MELDAS C6/C64	FCU6-EX878	MELSECNET/10 (Coaxial bus system)	Coaxial cable *3	*1	GT15-J71BR13*2	GT27 GT23 GS	31 GOTs
	FCU6-EX879	MELSECNET/10 (Optical loop system)	Optical fiber cable *3	*1	GT15-J71LP23-25*2	GT27 GT23 GS	63 GOTs

*1 The overall extension cable length and the length between stations vary depending on the cable type to be used and the total number of stations.
For details, refer to the following manuals.
C6/C64/C64T CONNECTION AND MAINTENANCE MANUAL BNP-B2255
C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

*2 Specify the MELSECNET/10 Mode as the Communication Settings.For the setting, refer to the following.
17.4.1 Setting communication interface (Communication settings)

*3 For the coaxial cable and optical fiber cable, refer to the following manuals.
C6/C64/C64T CONNECTION AND MAINTENANCE MANUAL BNP-B2255
C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

17.2.3 CC-Link connection (intelligent device station)



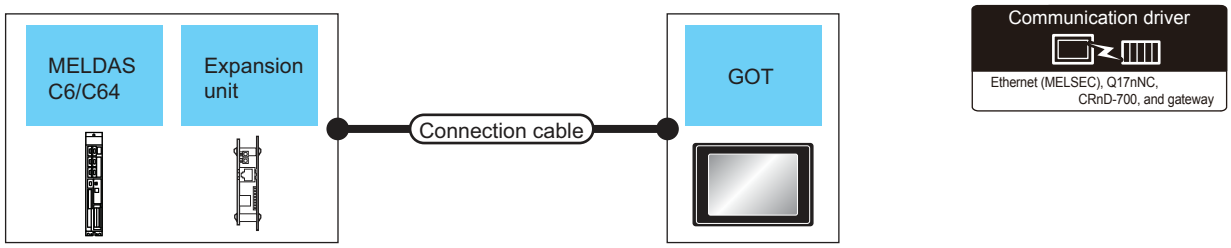
CNC			Connection cable		GOT		Number of connectable equipment
Model name	Expansion unit	Communication type	Cable model	Max. distance	Option device	Model	
MELDAS C6/C64	FUC6-HR865	CC-Link(ID)	CC-Link dedicated cable *3	*1	GT15-J61BT13*2	GT27 GT23 GS	26 GOTs

*1 The overall extension cable length and the length between stations vary depending on the cable type to be used and the total number of stations.
For details, refer to the following manuals.
C6/C64/C64T CONNECTION AND MAINTENANCE MANUAL BNP-B2255
C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

*2 Specify Ver.1 as the mode setting in the Communication Settings to use it.
For details of the settings, refer to the following the manual.
17.4.1 Setting communication interface (Communication settings)

*3 For the specifications and inquiries of the CC-Link dedicated cable, refer to the following.
CC-Link Partner Association's home page: http://www.cc-link.org/

17.2.4 Ethernet connection



CNC			Connection cable*1		GOT		Number of connectable equipment
Model name	Expansion unit	Communication type	Cable model	Maximum segment length*2	Option device	Model	
MELDAS C6/C64	FUC6-EX875 *2*4	Ethernet	• 100BASE-TX Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 5 or higher • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP) of category 3 or higher	100m	- (Built into GOT)	GT27 GT23 GS	128 GOTs (recommended to 16 units or less)

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system.
Connect to the Ethernet module, hub, transceiver or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standards.
A cross cable is available for connecting the GOT to the Ethernet module.

*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

*3 For the system configuration of the expansion unit, refer to the following manuals.

C6/C64/C64T CONNECTION AND MAINTENANCE MANUAL BNP-B2255
C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

*4 Select [AJ71QE71] for [Controller Type] in [Ethernet] of GT Designer3.
For [Ethernet] of GT Designer3, refer to the following.

17.4.4 Ethernet setting

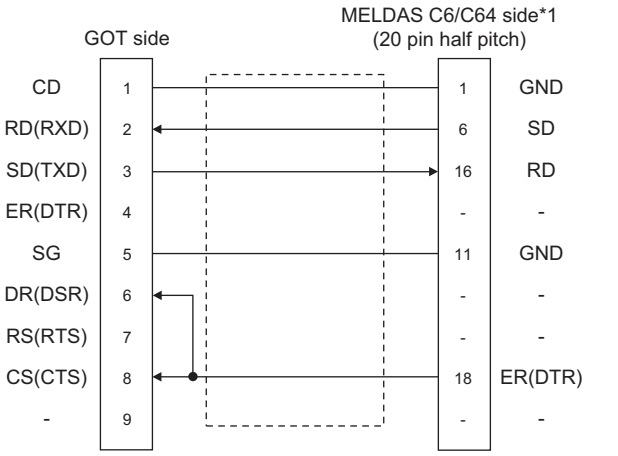
17.3 Connection Diagram

The following diagram shows the connection between the GOT and the CNC.

17.3.1 RS-232 cable

■ Connection diagram

(1) RS232 connection diagram 1)



*1 For details of the MELDAS C6/C64 side connection, refer to the following manuals.

☞ MELDAS C6/C64 CONNECTION AND MAINTENANCE MANUAL BNP-B2255

☞ MELDAS C6/C64 NETWORK MANUAL BNP-B2373

■ Precautions when preparing a cable

(2) Cable length
The length of the RS-232 cable must be 15m or less.

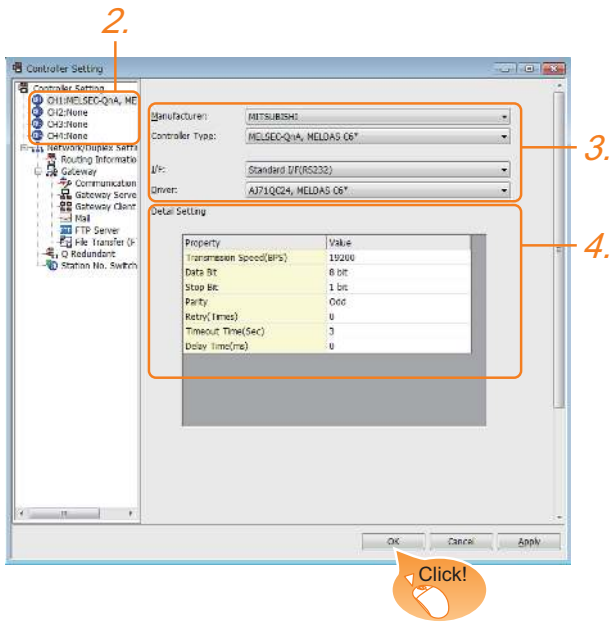
(3) GOT side connector
For the GOT side connector, refer to the following.

☞ 1.4.1 GOT connector specifications

17.4 GOT Side Settings

17.4.1 Setting communication interface (Communication settings)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Mitsubishi
   - Controller Type:
     - MELSEC-QnA/Q/QS, MELDAS C6*

     I/F: Interface to be used
   - Driver:

     For direct connection to CPU
     - AJ71QC24, MELDAS C6*

     For ELSECNET/10 connection
     - MELSECNET/H (used in MNET/10 mode of [@@@])

     For CC-Link (ID) connection
     - CC-Link Ver2 (ID)
     - CC-Link (ID)

     For Ethernet connection
     - Ethernet (MELSEC), Q17nNC, CRnD-700
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   17.4.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
1.1.2 I/F communication setting

17.4.2 Communication detail settings

Make the settings according to the usage environment.

(1) AJ71QC24, MELDAS C6*

Property	Value
Transmission Speed(BPS)	19200
Data Bit	8 bit
Stop Bit	1 bit
Parity	Odd
Retry(Times)	0
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 19200bps)	4800bps, 9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Data Bit	Set this item when change the data length used for communication with the connected equipment. (Default: 8bit)	8bit (fixed)
Stop Bit	Specify the stop bit length for communications. (Default: 1bit)	1bit (fixed)
Parity	Specify whether or not to perform a parity check, and how it is performed during communication. (Default: Odd)	Odd (fixed)
Retry	Set the number of retries to be performed when a communication timeout occurs. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300ms

(2) MELSECNET/H (used in the MNET/10 mode)

Property	Value
Network Type	MNET/H mode
Network No.	1
Station No.	1
Group No.	0
Mode Setting	Online(Auto Reconnect)
Transmission Speed(Mbps)	25
Refresh Interval(Times)	1
Retry(Times)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Network Type	Set the network type. (Default: MNET/H mode)	• MNET/H mode • MNET/10 mode • MNET/H EXT mode
Network No.	Set the network No. (Default: 1)	1 to 239
Station No.	Set the station No. of the GOT. (Default: 1)	1 to 64
Mode Setting	Set the operation mode of the GOT. (Default: Online (auto. reconnection))	• Online (auto. reconnection) • Offline • Test between slave station*1 • Self-loopback test*1 • Internal self-loopback test*1 • H/W test*1
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 300ms
Refresh Interval	Set the number of refreshes to secure the send/receive data in station units during communication. (Default: 1time) Valid when [Secured data send/ Secured data receive] is marked by the control station side network parameters of the MELSECNET/H network system.	1 to 1000times
Transmission Speed	Set the communication transmission speed. (Default: 25Mbps) When specifying [MNET/10 mode] as the network type, only 10Mbps can be set applicable.	10Mbps/25Mbps

*1 For details, refer to the following manual.

Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

POINT

When MELSECNET/H communication unit is used
When connecting to the MELSECNET/10 network using the MELSECNET/H communication unit, specify [MNET/10 mode] as [Network Type].

(3) CC-Link Ver.2 (ID)

Property	Value
Station No.	1
Transmission Rate	0:Online:156kbps
Mode	Ver.1
Expanded Cyclic	Single
Occupied Station	1 station
Input for Error Station	Clear
Retry(Times)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

Item	Description	Range
Station No.	Set the station No. of the GOT. (Default: 1)	1 to 64
Transmission Rate*1	Set the transmission speed and the mode of the GOT. (Default: 0)	0 to E
Mode	Set the mode of CC-Link. (Default: Ver.1)	Ver.1/Ver.2/ Additional/ Offline
Expanded Cyclic	Set the cyclic point expansion. (Default: Single)	Single/ Double/ Quadruple/ Octuple
Occupied Station	Set the number of stations occupied by the GOT. (Default: 1 Station)	1 Station/4 Stations
Input for Error Station	Set Clear/Hold at an error occurrence. (Default: Clear)	Clear/Hold
Retry	Set the number of retries to be performed when a communication timeout occurs. When no response is received after retries, a communication times out. (Default: 3times)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	3 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 300ms

*1 Transmission speed settings
The following lists the transmission speed settings of the CC-Link communication.

Set value	Description
0	Online: 156kbps
1	Online: 625kbps
2	Online: 2.5Mbps
3	Online: 5Mbps
4	Online: 10Mbps
5	Line test: 156kbps
6	Line test: 625kbps
7	Line test: 2.5Mbps
8	Line test: 5Mbps
9	Line test: 10Mbps
A	Hardware test: 156kbps
B	Hardware test: 625kbps
C	Hardware test: 2.5Mbps
D	Hardware test: 5Mbps
E	Hardware test: 10Mbps

For details of the hardware test, refer to the following manual.

CC-Link System Master/Local Module User's Manual for CC-Link module to be used

(4) Ethernet (MELSEC), Q17nNC, CRnD-700, and gateway

Property	Value
GOT Net No.	1
GOT Station	1
GOT Ethernet Setting	192.168.3.18
GOT Communication Port No.	5001
Retry(Times)	3
Startup Time(Sec)	3
Timeout Time(Sec)	3
Delay Time(ms)	0

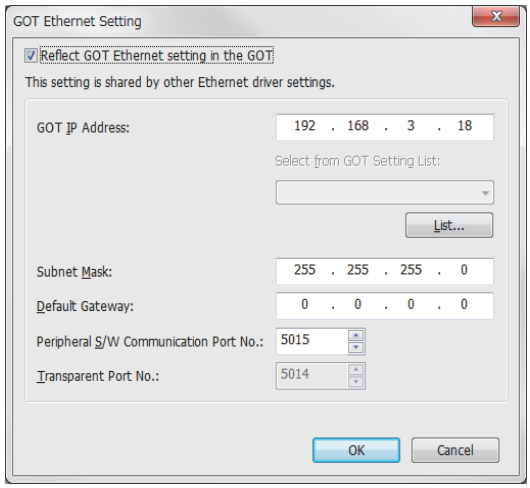
Item	Description	Range
GOT Net No.	Set the network No. of the GOT. (Default: 1)	1 to 239
GOT Station	Set the station No. of the GOT. (Default: 1)	1 to 64
GOT Ethernet Setting	Set the GOT IP address, subnet mask, default gateway, peripheral S/W communication port No., transparent port No.	17.4.3 GOT Ethernet Setting
GOT Communication Port No.	Set the GOT port No. for the connection with the Ethernet module. (Default: 5001)	1024 to 5010 to 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 3times)	0 to 5times
Startup Time	Specify the time period from the GOT startup until GOT starts the communication with the PLC CPU. (Default: 3sec)	3 to 255sec
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	3 to 90sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. (Default: 0ms)	0 to 10000 (× 10ms)

POINT

(1) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.
GOT2000 Series User's Manual (Utility)

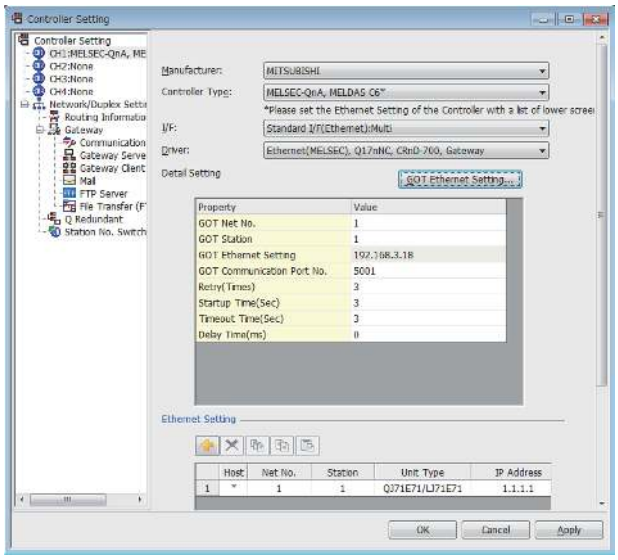
(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

17.4.3 GOT Ethernet Setting



Item	Description	Range
GOT IP Address	Set the IP address of the GOT. (Default: 192.168.0.18)	0.0.0.0 to 255.255.255.255
Subnet Mask	Set the subnet mask for the sub network.(Only for connection via router) If the sub network is not used, the default value is set. (Default: 255.255.255.0)	0.0.0.0 to 255.255.255.255
Default Gateway	Set the router address of the default gateway where the GOT is connected.(Only for connection via router) (Default: 0.0.0.0)	0.0.0.0 to 255.255.255.255
Peripheral S/W Communication Port No.	Set the GOT port No. for the S/W communication. (Default: 5015)	1024 to 5010 to 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)
Transparent Port No.	Set the GOT port No. for the transparent function. (Default: 5014)	1024 to 5010 to 5014 to 65534 (Except for 5011, 5012, 5013 and 49153)

17.4.4 Ethernet setting



Item	Description	Range
Host	The host is displayed. (The host is indicated with an asterisk (*))	—
N/W No.	Set the network No. of the connected Ethernet module. (Default: blank)	Network No. of CNC*1
PLC No.	Set the station No. of the connected Ethernet module. (Default: blank)	Station No. of CNC
Type	Set the type of the connected Ethernet module. (Default: QJ71E71)	AJ71QE71
IP Address	Set the IP address of the connected Ethernet module. (Default: blank)	IP address of CNC
Port No.	Set the port No. of the connected Ethernet module. (Default: 5001)	5001
Communication	UDP (fixed)	UDP (fixed)

*1 For operating CNC monitor function, set N/W No. to "239".

17.5 CNC Side Settings

17.5.1 MELSECNET/10 connection

■ Parameter setting

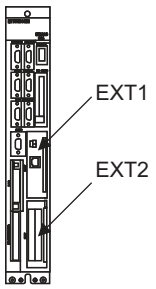
Set parameters related to MELSECNET/10 with MELSEC's peripheral devices in the same way as parameter setting of MELSEC CPU, and write them on CNC by Personal computer. However, in the case of using the default parameters or not requiring separate settings due to normal stations, it is not necessary to set the network

(1) Control Station Parameter

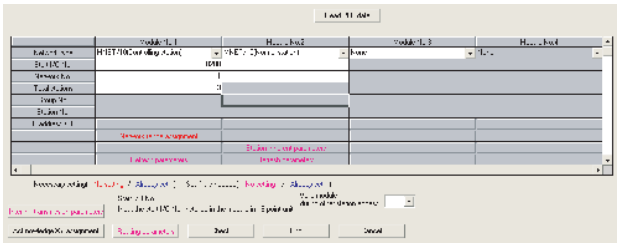
If you wish to place the control station in CNC and set the common parameters, set the network parameters by peripheral device and write them on CNC. An example of parameter setting by GPPW is as follows. Set the first I/O No. as follows according to the expansion slot to which the unit is inserted.

(a) Start I/O No.

Slot	Start I/O No.
EXT1	0200
EXT2	0280



(b) Example of GX Developer setting



For details of the parameter setting, refer to the following.

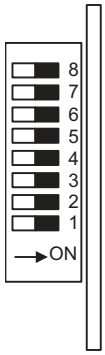
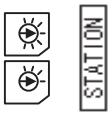
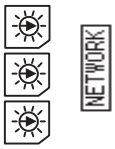
☞ C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

(2) Normal Station Parameter

As for normal stations, it is not necessary to set parameters unless separate settings are required. The refresh parameters are set and written as required. In this case, the parameter setting of the first I/O No. is the same as in the case of the control station.

■ Expansion unit settings

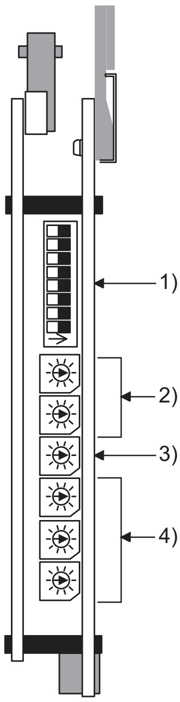
(1) FCU6-EX879 (Optical fiber cable)

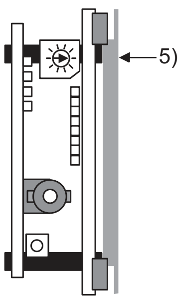
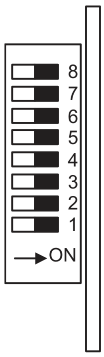
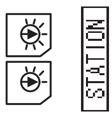
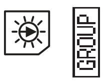
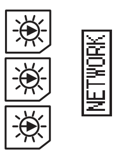
<table>
<tr><th>No.</th><th>Switch name</th><th colspan="10">Settings</th></tr>
<tr><td rowspan="9">1)</td><td rowspan="9">Condition setting switch
 
</td><td colspan="10">Set the operation condition.</td></tr>
<tr><td>SW</td><td>Description</td><td colspan="8">OFF</td><td>ON</td></tr>
<tr><td>1</td><td>Network type*1</td><td colspan="8">Inter-PC net (PC)</td><td>Remote I/O net</td></tr>
<tr><td>2</td><td>Station type*4</td><td colspan="8">Normal station (N.ST)</td><td>Control station (MNG)</td></tr>
<tr><td>3</td><td>Used parameter*2</td><td colspan="8">Common parameters (PRM)</td><td>Default parameter (D.PRM)</td></tr>
<tr><td>4</td><td rowspan="2">Number of stations*2
(Valid when SW3 is ON)</td><td>OFF</td><td rowspan="2">8 Station</td><td>ON</td><td rowspan="2">16 Station</td><td>OFF</td><td rowspan="2">32 Station</td><td>ON</td><td rowspan="2">64 Station</td></tr>
<tr><td>5</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>6</td><td rowspan="2">B/W total points*2
(Valid when SW3 is ON)</td><td>OFF</td><td rowspan="2">2K points</td><td>ON</td><td rowspan="2">4K points</td><td>OFF</td><td rowspan="2">6K points</td><td>ON</td><td rowspan="2">8K points</td></tr>
<tr><td>7</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>8</td><td>Not used</td><td colspan="8">Always OFF</td></tr>
<tr><td>2)</td><td>Station number setting switch
 
</td><td colspan="10">Station number setting*2*3
(Setting range)
01 to 64: Station number
Other than 01 to 64: Setting error</td></tr>
<tr><td>3)</td><td>Setting switch of group number
 
</td><td colspan="10">Group number setting
Not used, fixed to 0</td></tr>
<tr><td>4)</td><td>Setting switch of network number
 
</td><td colspan="10">Network number setting*2
(Setting range)
001 to 255: Network number
Other than 001 to 255: Setting error</td></tr>
<tr><td>5)</td><td>Mode setting switch
  </td><td colspan="10">Mode setting*2
0: Online
1: Cannot be used
2: Offline
3 to F: Test mode</td></tr>
</table>

*1 Set the network type to the PLC to PLC network.
*2 Set as necessary.
*3 Set the station No. not to overlap with that of other units.
*4 Set the station type to the control station.
For details of the parameter setting, refer to the following.

 C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

(2) FCU6-EX878 (Coaxial cable)

<table>
<tr><th>Switch layout</th><th>No.</th><th>Switch name</th><th colspan="10">Settings</th></tr>
<tr><td rowspan="15"> 


</td>
<td rowspan="11">1)</td><td rowspan="11">Condition setting switch
 
</td>
<td colspan="10">Set the operation condition.</td></tr>
<tr><td>SW</td><td>Description</td><td colspan="4">OFF</td><td colspan="4">ON</td></tr>
<tr><td>1</td><td>Network type*1</td><td colspan="4">Inter-PC net (PC)</td><td colspan="4">Remote I/O net</td></tr>
<tr><td>2</td><td>Station type*4</td><td colspan="4">Normal station (N.ST)</td><td colspan="4">Control station (MNG)</td></tr>
<tr><td>3</td><td>Used parameter*2</td><td colspan="4">Common parameters (PRM)</td><td colspan="4">Default parameter (D.PRM)</td></tr>
<tr><td>4</td><td rowspan="2">Number of stations*2
(Valid when SW3 is ON)</td><td>OFF</td><td rowspan="2">8 Station</td><td>ON</td><td rowspan="2">16 Station</td><td>OFF</td><td rowspan="2">32 Station</td><td>ON</td><td rowspan="2">64 Station</td></tr>
<tr><td>5</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>6</td><td rowspan="2">B/W total points*2
(Valid when SW3 is ON)</td><td>OFF</td><td rowspan="2">2K points</td><td>ON</td><td rowspan="2">4K points</td><td>OFF</td><td rowspan="2">6K points</td><td>ON</td><td rowspan="2">8K points</td></tr>
<tr><td>7</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>8</td><td>Not used</td><td colspan="8">Always OFF</td></tr>
<tr></tr>
<tr><td>2)</td><td>Station number setting switch
 
</td><td colspan="10">Station number setting*2*3
(Setting range)
01 to 64: Station number
Other than 01 to 64: Setting error</td></tr>
<tr><td>3)</td><td>Setting switch of group number
 
</td><td colspan="10">Group number setting
Not used, fixed to 0</td></tr>
<tr><td>4)</td><td>Setting switch of network number
 
</td><td colspan="10">Network number setting*2
(Setting range)
001 to 255: Network number
Other than 001 to 255: Setting error</td></tr>
<tr><td>5)</td><td>Mode setting switch
  </td><td colspan="10">Mode setting*2
0: Online
1: Cannot be used
2: Offline
3 to F: Test mode</td></tr>
</table>

*1 Set the network type to the PLC to PLC network.
*2 Set as necessary.
*3 Set the station No. not to overlap with that of other units.
*4 Set the station type to the control station.
For details of the parameter setting, refer to the following.
☞ C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

17.5.2 CC-Link (ID) connection

■ Parameter setting

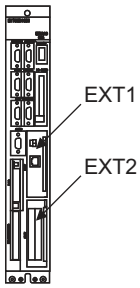
Set parameters related to CC-Link connection with GX Developer and write them to CNC by PLC. However, in the case of using the local stations, it is not necessary to set the network parameters.

(1) Master station parameter

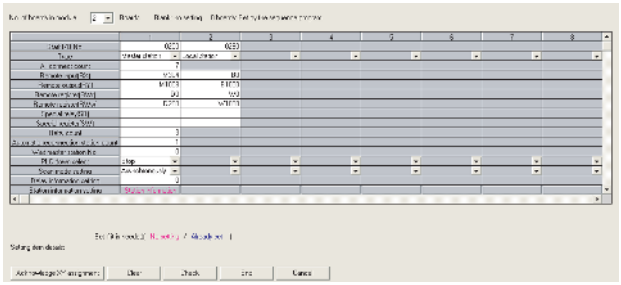
It is necessary to set and write the network parameters to CNC with GX Developer. The following shows an example of parameter settings.Set the first I/O No. as follows according to the expansion slot to which the unit is inserted.

(a) Start I/O No.

Slot	Start I/O No.
EXT1	0200
EXT2	0280



(b) Example of GX Developer setting



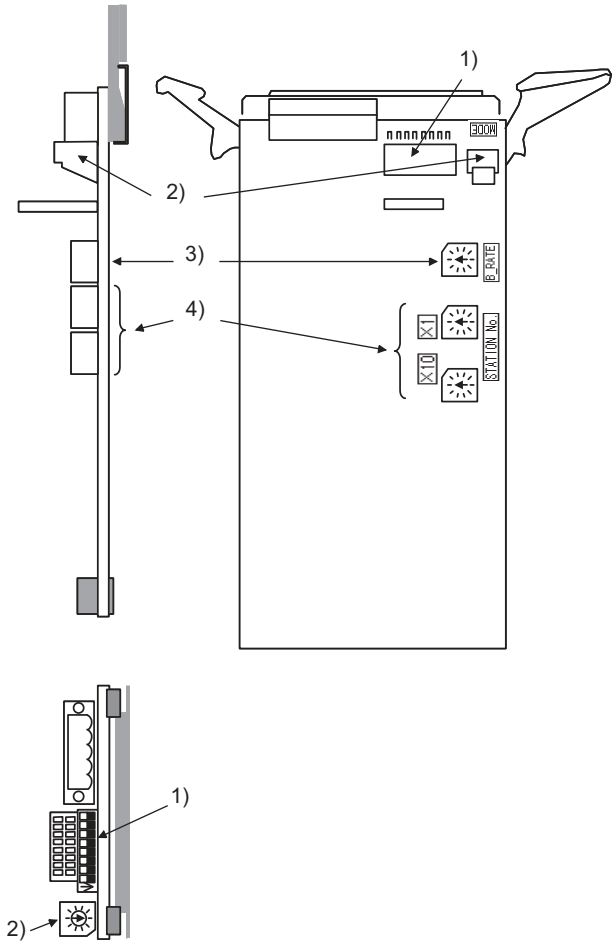
For details of the parameter setting, refer to the following.

☞ C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

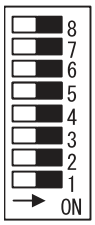
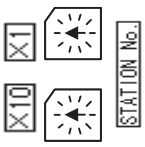
■ Expansion unit settings

Make the communication settings by the setting switch in the expansion unit (FCU6-HR865).

(1) Expansion unit



(2) Contents of setting

<table>
<tr><th>No.</th><th>Switch name</th><th colspan="11">Settings</th></tr>
<tr><td rowspan="11">1)</td><td rowspan="11">Condition setting switch
 
</td><td colspan="11">Set the operation condition.</td></tr>
<tr><td rowspan="2">No.</td><td rowspan="2">Description</td><td colspan="6">Switch status</td><td colspan="2">Setting validity</td></tr>
<tr><td colspan="3">OFF</td><td colspan="3">ON</td><td>Master station (Standby master station)</td><td>Local station (Standby master station)</td></tr>
<tr><td>SW1</td><td>Station type*1</td><td colspan="3">Master station/local station</td><td colspan="3">Standby master station</td><td>(Valid)</td><td>(Valid)</td></tr>
<tr><td>SW2</td><td>Not used</td><td colspan="6">Always OFF</td><td>-</td><td>-</td></tr>
<tr><td>SW3</td><td>Not used</td><td colspan="6">Always OFF</td><td>-</td><td>-</td></tr>
<tr><td>SW4</td><td>Data link error station input data status*1</td><td colspan="3">Clear</td><td colspan="3">Hold</td><td>valid</td><td>valid</td></tr>
<tr><td>SW4</td><td rowspan="2">Number of occupied stations*1</td><td>OFF</td><td rowspan="2">1 Station</td><td>OFF</td><td rowspan="2">2 Station</td><td>ON</td><td rowspan="2">3 Station</td><td>ON</td><td rowspan="2">4 Station</td><td rowspan="2">Invalid</td><td rowspan="2">valid</td></tr>
<tr><td>SW5</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td></tr>
<tr><td>SW7</td><td>Not used</td><td colspan="6">Always OFF</td><td>-</td><td>-</td></tr>
<tr><td>SW8</td><td>Not used</td><td colspan="6">Always OFF</td><td>-</td><td>-</td></tr>
<tr><td rowspan="10">2)</td><td rowspan="10">Mode setting switch
 
</td><td colspan="11">This switch sets the unit operation status.</td></tr>
<tr><td rowspan="2">No.</td><td rowspan="2">Name</td><td colspan="6" rowspan="2">Description</td><td colspan="2">Settability</td></tr>
<tr><td>Master station</td><td>Local station</td></tr>
<tr><td>0</td><td rowspan="2">Online*1</td><td colspan="6">Automatic online return provided when data link is enabled</td><td>Yes</td><td>Yes</td></tr>
<tr><td>1</td><td colspan="6">Link with remote I/O net mode</td><td>Yes</td><td>No</td></tr>
<tr><td>2</td><td>Offline*1</td><td colspan="6">Data link offline state</td><td>Yes</td><td>Yes</td></tr>
<tr><td>3</td><td>Line test 1*1</td><td colspan="6">Line test 1 in offline state</td><td>Yes</td><td>No</td></tr>
<tr><td>4</td><td>Line test 2*1</td><td colspan="6">Line test 2 in offline state</td><td>Yes</td><td>No</td></tr>
<tr><td>5</td><td>Parameter confirmation test*1</td><td colspan="6">Checks the parameter details</td><td>Yes</td><td>No</td></tr>
<tr><td>6</td><td>Hardware test*1</td><td colspan="6">Test Expansion unit (FCU6-HR865)</td><td>Yes</td><td>Yes</td></tr>
<tr><td>7 to F</td><td colspan="10">Not usable</td></tr>
<tr><td rowspan="8">3)</td><td rowspan="8">Transmission speed setting switch
 
</td><td colspan="11">This switch sets the unit transmission speed.</td></tr>
<tr><td>No.</td><td colspan="10">Description</td></tr>
<tr><td>0</td><td colspan="10">156Kbps*1</td></tr>
<tr><td>1</td><td colspan="10">625Kbps*1</td></tr>
<tr><td>2</td><td colspan="10">2.5Mbps*1</td></tr>
<tr><td>3</td><td colspan="10">5Mbps*1</td></tr>
<tr><td>4</td><td colspan="10">10Mbps*1</td></tr>
<tr><td>5 to F</td><td colspan="10">Not usable</td></tr>
<tr><td>4)</td><td>Setting switch of station No.
 
</td><td colspan="11">This switch sets the unit station No.*1*2
(Setting range)
Master station: 00
Local station: 01 to 64
Standby master station: 01 to 64</td></tr>
</table>

*1 Set as necessary.

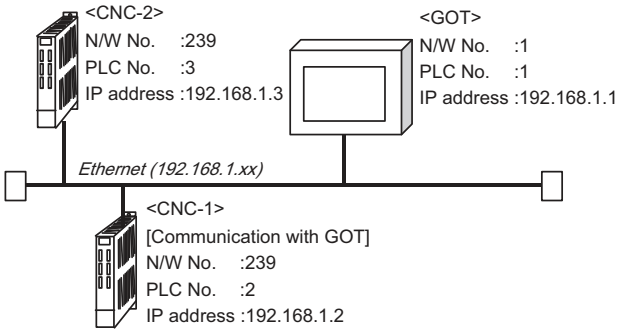
*2 Set the station No. not to overlap with that of other units.
For details of the parameter setting, refer to the following.

C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

17.5.3 Ethernet connection

■ System configuration

The following shows the example of the system configuration when using the CNC monitor function.



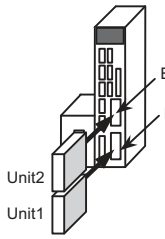
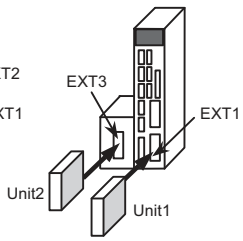
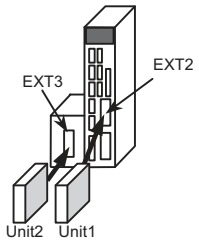
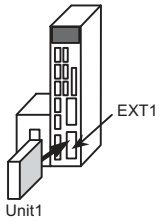
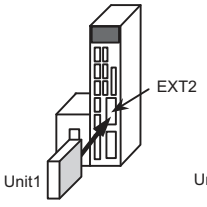
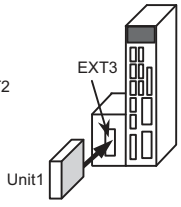
■ Parameter setting

Set parameters related to Ethernet with MELSEC's peripheral devices in the same way as parameter setting of MELSEC CPU, and write them on CNC by Personal computer.

(1) Network parameter setting

Set the network parameters by peripheral device and write them on CNC. An example of parameter setting by GPPW is as follows. Set the first I/O No. as follows according to the expansion slot to which the unit is inserted.

(a) Unit No.

Slot position	Start I/O No.	Mounting position of extension unit
EXT1	0200	When mounted in EXT1 and EXT2  When mounted in EXT1 and EXT3  When mounted in EXT2 and EXT3  When mounted in EXT1 only  When mounted in EXT2 only  When mounted in EXT3 only 
EXT2	0280	
EXT3	0300	

(b) Example of GX Developer setting

For details of the parameter setting, refer to the following.

C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373

POINT

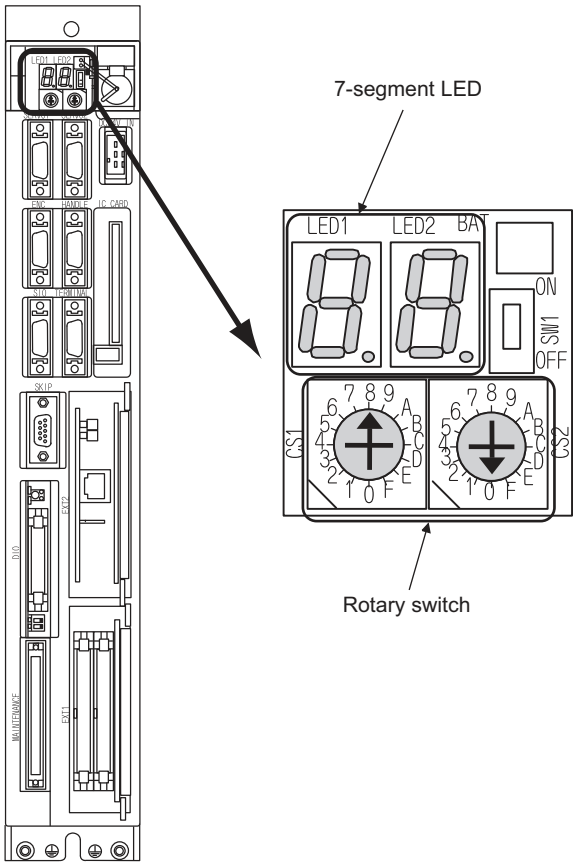
IP address setting

IP address setting on GX Developer is invalid.
Set the IP address by the 7-segment LED and rotary switch of the CNC side, referring to the next page.

(2) CNC side parameter setting

Confirm the CNC side parameter setting with the settings of IP address, gateway address, subnet mask and port No. by the 7-segment LED and rotary switch of the CNC side.
For details of the parameter setting operation, refer to the following.

C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373 IV Setting the Ethernet IP Address



17.6 Device Range that Can Be Set

For details of the device range that can be used on the GOT, refer to the following.

☞ 2.2 MELSEC-QnA, MELDAS C6 *

17.7 Precautions

17.7.1 Direct connection to CPU

■ Version of CNC

For MELDAS C6/C64, use NC system software version D0 or later.

17.7.2 MELSECNET/10 connection

■ Network configuration

Use the MELSECNET/10 mode of MELSECNET/H (PLC to PLC network) or MELSECNET/10 (PLC to PLC network) to configure a network including the GOT.

(1) The following networks including the GOT cannot be configured.
- MELSECNET/10 (Remote I/O network)
- MELSECNET/H (Remote I/O network)

(2) When configuring the network (MELSECNET/H (PLC to PLC network) including the GOT, refer to the following.

☞ 9. MELSECNET/H CONNECTION (PLC TO PLC NETWORK), MELSECNET/10 CONNECTION (PLC TO PLC NETWORK)

■ Monitoring range

Only CNC of the same networks No. can be monitored in GOT.

For details, refer to the following manual.

☞ 3.1 Access Range for Monitoring Stations on Network Systems

■ Starting GOT with CNC connection (MELSECNET/10 connection)

With the CNC connection (MESLSECNET/10 connection), the data link starts approximately 10 seconds after the GOT starts.

■ When a network error occurs in the system alarm

When a system alarm regarding a network error occurs with the CNC connection (MELSECNET/10 connection), the system alarm is kept displaying on the GOT even though the error factor is removed.

To cancel the system alarm display, restart the GOT.

■ Version of CNC

For MELDAS C6/C64, use NC system software version E0 or later.

17.7.3 CC-Link (ID) connection

■ Using cyclic transmission

(1) I/O signal for master station
Do not turn on the reserved output signals in the output signals (remote output: RY) to the GOT from the master station.
When the reserved output signal is turned on, the CNC system may be malfunctioned.
For the assignment of I/O signals in the GOT, refer to the following manual.

☞ MODEL GT15-J61BT13 CC-Link communication unit User's Manual

☞ GT15 CC-Link communication unit User's Manual

(2) CC-Link Mode
CNC is not compatible with CC-Link Ver.2.

(3) When GOT malfunctions
The cyclic output status remains the same as before becoming faulty.

■ For transient transmission

(1) Access range that can be monitored
The GOT can access to the CNC mounting the master and local station of the CC-Link System.
It cannot access another network via the CC-Link module.

■ GOT startup in CNC connection (CC-Link connection (intelligent device station))

In the CNC connection (CC-Link connection (intelligent device station)), the data link is started approximately 10 seconds after the GOT startup.

■ When a network error occurs in the system alarm

In the CNC connection (CC-Link connection (intelligent device station)), when a network error occurs in the system alarm, the system alarm message cannot be canceled even though the causes are removed.

To cancel the system alarm display, restart the GOT.

■ Version of CNC

For MELDAS C6/C64, use NC system software version D0 or later.

17.7.4 Ethernet connection

■ Via network system

GOT with Ethernet communication cannot access the CNCs in another network via the CNC (network module, Ethernet module, etc.).

■ When connecting to multiple GOTs

When connecting two or more GOTs in the Ethernet network, set each [PLC No.] to the GOT.

☞ 17.4.1 Setting communication interface (Communication settings)

■ When connecting to the multiple network equipment (including GOT) in a segment

By increasing the network load, the transmission speed between the GOT and CNC may be reduced.

The following actions may improve the communication performance.

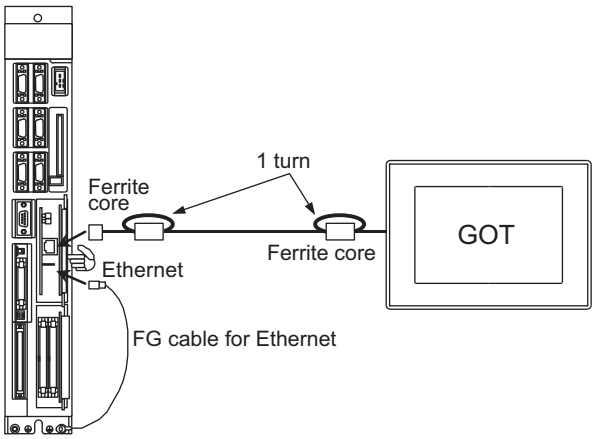
- Using a switching hub
- More high speed by 100BASE-TX (100Mbps)
- Reduction of the monitoring points on GOT

■ Ethernet cable connection

Ethernet cable is so susceptible to noise that you should wire power cables and electric supply cables separately. And you need to attach a ferrite core (attachment) on the control unit side.

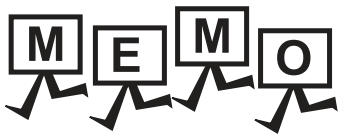
For details of the Ethernet cable connection, refer to the following

☞ C6/C64/C64T NETWORK INSTRUCTION MANUAL BNP-B2373 IX Connection Function with GOT

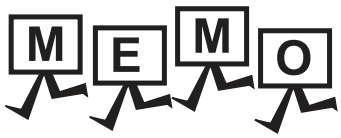


■ Version of CNC

For MELDAS C6/C64, use NC system software version D0 or later.


MEMO

MULTIPLE GOT CONNECTIONS


MEMO

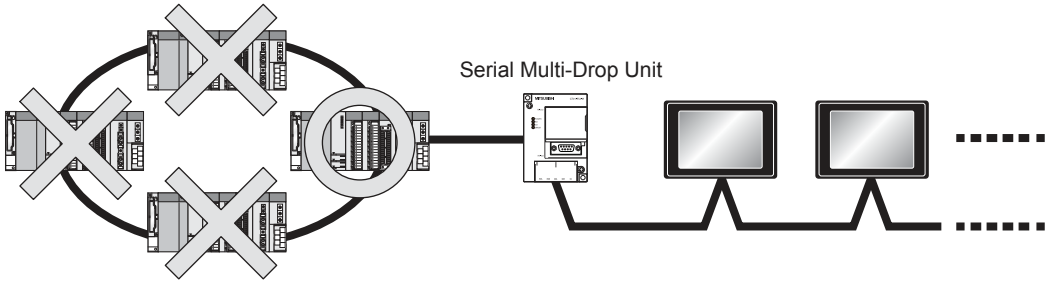
18

GOT MULTI-DROP CONNECTION

18. GOT MULTI-DROP CONNECTION

18.1 CPU that can be Monitored

The GOT can monitor only a CPU to which a serial multi-drop connection unit (GT01-RS4-M) is connected directly.



18.2 Connectable Model List

■ Connecting the CPU to the Serial Multi-Drop Connection Unit (hereinafter referred to as "master module") directly

The following table shows the connectable models.

Series	Model name	Clock	Communication type: Between CPU and master module	Communication type: Between master module and GOT	Connectable model	
MELSEC-Q (Q mode)*4	Q00JCPU	○	RS-232 RS-422	RS-485	GT27 GT23 GS	
	Q00CPU*1					
	Q01CPU*1					
	Q02CPU*1					
	Q02HCPU*1					
	Q06HCPU*1					
	Q12HCPU*1					
	Q25HCPU*1					
	Q02PHCPU	○	-	-	GT27 GT23 GS	
	Q06PHCPU					
	Q12PHCPU					
	Q25PHCPU					
	Q12PRHCPU (Main base)					
	Q25PRHCPU (Main base)					
	Q12PRHCPU (Extension base)	○	-	-	GT27 GT23 GS	
	Q25PRHCPU (Extension base)					
	Q00UJCPU	○	RS-232 RS-422	RS-485	GT27 GT23 GS	
	Q00UCPU					
	Q01UCPU					
	Q02UCPU					
	Q03UDCPU					
	Q04UDHCPU					
	Q06UDHCPU					
	Q10UDHCPU					
	Q13UDHCPU					
	Q20UDHCPU					
	Q26UDHCPU					
	Q03UDECPU	○	RS-232	RS-485	GT27 GT23 GS	*2
	Q04UDEHCPU					
	Q06UDEHCPU					
	Q10UDEHCPU					
	Q13UDEHCPU					
	Q20UDEHCPU					
	Q26UDEHCPU					
	Q50UDEHCPU					
	Q100UDEHCPU					
	Q03UDVCPU					
	Q04UDVCPU					
	Q06UDVCPU					
	Q13UDVCPU					
	Q26UDVCPU					
C Controller module	Q12DCCPU-V*3	○	RS-232	RS-485	GT27 GT23 GS	*2
	Q24DHCCPU-V					
	Q24DHCCPU-LS					
MELSEC-QS*4	QS001CPU	○	-	-	GT27 GT23 GS	

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.
*2 Access via the (RS-232) in the multiple CPU system.
*3 Use a module with the upper five digits of the serial No. later than 12042.
*4 Ww and Wr devices cannot be monitored.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
MELSEC-L[*23]	L02CPU[*4] L06CPU[*4] L26CPU[*4] L26CPU-BT[*4] L02CPU-P[*4] L06CPU-P[*4] L26CPU-P[*4] L26CPU-PBT[*4] L02SCPU L02SCPU-P	○	RS-232 RS-422	RS-485	GT27 GT23 GS
MELSEC-Q (A mode)[*2]	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	RS-232 RS-422	RS-485	GT27 GT23 GS
MELSEC-QnA (QnACPU)[*2]	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU	○	RS-422	RS-485	GT27 GT23 GS
	Q4ARCPU	○	RS-422	RS-485	GT27 GT23 GS
MELSEC-QnA (QnASCPU)[*2]	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	○	RS-422	RS-485	GT27 GT23 GS
MELSEC-A (AnCPU)[*3]	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU[*1] A1NCPUP21[*1] A1NCPUR21[*1] A2NCPU[*1] A2NCPUP21[*1] A2NCPUR21[*1] A2NCPU-S1[*1] A2NCPUP21-S1[*1] A2NCPUR21-S1[*1] A3NCPU[*1] A3NCPUP21[*1] A3NCPUR21[*1]	○	RS-422	RS-485	GT27 GT23 GS
MELSEC-A (AnSCPU)[*3]	A2USCPU	○	RS-422	RS-485	GT27 GT23 GS

(Continued to next page)

*1 When monitoring AnNCPU or A2SCPU, only the following or later software version is used to write to the CPU.
- AnNCPU(S1) with link: Version L or later, AnNCPU(S1) without link: Version H or later
- A2SCPU: Version H or later

*2 Ww and Wr devices cannot be monitored.
*3 SB, SW, Ww, Wr, ER, and BM devices cannot be monitored.
*4 When connecting in direct CPU connection, the adapter L6ADP-R2 is required.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
MELSEC-A (AnSCPU)*5	A2USCPU-S1	○	RS-422	RS-485	GT27 GT23 GS
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU*1				
	A2SHCPU				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A*5	A0J2HCPU*1	×	RS-422	RS-485	GT27 GT23 GS
	A0J2HCPUP21*1				
	A0J2HCPUR21*1				
	A0J2HCPU-DC24*1				
	A2CCPU*1	○	RS-422	RS-485	GT27 GT23 GS
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*2*3	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	Q173CPU*2*3				
	Q172CPUN*2				
	Q173CPUN*2				
	Q172HCPU	○	RS-232	RS-485	GT27 GT23 GS *4
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU	○	RS-232	RS-485	GT27 GT23 GS
	Q170MSCPU				
	Q170MSCPU-S1				
Motion controller CPU (A Series)*5	A273UCPU	○	-	-	GT27 GT23 GS
	A273UHCPU	○			
	A273UHCPU-S3				
	A373UCPU	○			
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				

(Continued to next page)

*1 When monitoring A0J2HCPU or A2CCPU, only the following or later software version is used to write to the CPU.
- A0J2HCPU (with/without link): Version E or later
- A0J2HCPU-DC24: Version B or later
- A2CCPU: Version H or later

*2 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00E or later
- SW6RN-SV22Q□: 00E or later
- SW6RN-SV43Q□: 00B or later

*3 Use main modules with the following product numbers.
- Q172CPU: Product number K******* or later
- Q173CPU: Product number J******* or later

*4 Access via the (RS-232) in the multiple CPU system.

*5 SB, SW, Ww, Wr, ER, and BM devices cannot be monitored.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
Motion controller CPU (A Series)*2	A171SHCPU	○	RS-422	RS-485	GT27 GT23 GS
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	RS-232	-	GT27 GT23 GS
	WS0-CPU1				
MELSECNET/H remote I/O station	QJ72LP25-25	×	RS-232	-	GT27 GT23 GS
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	-	GT27 GT23 GS
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	-	GT27 GT23 GS
CNC C70	Q173NCCPU	○	RS-232	-	GT27 GT23 GS
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	RS-232	-	GT27 GT23 GS
MELSEC-FX	FX_0	×	RS-422	RS-485	GT27 GT23 GS
	FX_{0S}	×			
	FX_{0N}				
	FX_1	×			
	FX_2	×			
	FX_{2C}	*1			
	FX_{1S}	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	× *1			
	FX_{3S}	○			
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

(Continued to next page)

*1 It is available by installing the real time clock function board or the EEPROM memory with the real time clock function.

*2 SB, SW, Ww, Wr, ER, and BM devices cannot be monitored.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
FREQROL	FREQROL-A500/A500L	×	-	-	GT27 GT23 GS
	FREQROL-F500/F500L				
	FREQROL-V500/V500L				
	FREQROL-E500				
	FREQROL-S500/S500E				
	FREQROL-F500J				
	FREQROL-D700				
	FREQROL-F700PJ				
	FREQROL-E700				
	FREQROL-A700				
	FREQROL-F700				
	FREQROL-F700P				
	FREQROL-A800				
	FREQROL-F800				
Sensorless servo	FREQROL-E700EX				
MELIPM	MD-CX522-□□K(-A0)				
MELSERVO	MR-J2S-□A	×	-	-	GT27 GT23 GS
	MR-J2S-□CP				
	MR-J2S-□CL				
	MR-J2M-P8A				
	MR-J2M-□DU				
	MR-J3-□A				
	MR-J3-□T				
	MR-J4-□A				
	MR-JE-□A				

■ Connecting the CPU to the Serial Multi-Drop Connection Unit (hereinafter referred to as "master module") in computer link connection

The following table shows the connectable models.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
MELSEC-Q (Q mode)*3	Q00JCPU	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	Q00CPU*1				
	Q01CPU*1				
	Q02CPU*1				
	Q02HCPU*1				
	Q06HCPU*1				
	Q12HCPU*1				
	Q25HCPU*1				
	Q02PHCPU	○	-	-	GT27 GT23 GS
	Q06PHCPU				
	Q12PHCPU				
	Q25PHCPU				
	Q12PRHCPU (Main base)				
	Q25PRHCPU (Main base)				
	Q12PRHCPU (Extension base)	○			
	Q25PRHCPU (Extension base)				
	Q00UJCPU	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	Q00UCPU				
	Q01UCPU				
	Q02UCPU				
	Q03UDCPU				
	Q04UDHCPU				
	Q06UDHCPU				
	Q10UDHCPU				
	Q13UDHCPU				
	Q20UDHCPU				
	Q26UDHCPU				
	Q03UDECPU	○			
	Q04UDEHCPU				
	Q06UDEHCPU				
	Q10UDEHCPU				
	Q13UDEHCPU				
	Q20UDEHCPU				
	Q26UDEHCPU				
	Q50UDEHCPU				
	Q100UDEHCPU				
	Q03UDVCPU				
	Q04UDVCPU				
	Q06UDVCPU				
	Q13UDVCPU				
	Q26UDVCPU				
C Controller module	Q12DCCPU-V*2	○	RS-232	RS-485	GT27 GT23 GS
	Q24DHCCPU-V				
	Q24DHCCPU-LS				
MELSEC-QS	QS001CPU	○	-		GT27 GT23 GS

(Continued to next page)

*1 When in multiple CPU system configuration, use CPU function version B or later.
*2 Use a module with the upper five digits of the serial No. later than 12042.
*3 Ww and Wr devices cannot be monitored.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
MELSEC-L*1	L02CPU	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	L06CPU				
	L26CPU				
	L26CPU-BT				
	L02CPU-P				
	L06CPU-P				
	L26CPU-P				
	L26CPU-PBT				
	L02SCPU				
	L02SCPU-P				
MELSEC-Q (A mode)*1	Q02CPU-A	○	-	-	GT27 GT23 GS
	Q02HCPU-A				
	Q06HCPU-A				
MELSEC-QnA (QnACPU)*1	Q2ACPU	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	Q2ACPU-S1				
	Q3ACPU				
	Q4ACPU				
	Q4ARCPU	○	-	-	GT27 GT23 GS
MELSEC-QnA (QnASCPU)*1	Q2ASCPU	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	Q2ASCPU-S1				
	Q2ASHCPU				
	Q2ASHCPU-S1				
MELSEC-A (AnCPU)	A2UCPU	○	RS-232 RS-422	-	GT27 GT23 GS
	A2UCPU-S1				
	A3UCPU				
	A4UCPU				
	A2ACPU				
	A2ACPUP21				
	A2ACPUR21				
	A2ACPU-S1				
	A2ACPUP21-S1				
	A2ACPUR21-S1				
	A3ACPU				
	A3ACPUP21				
	A3ACPUR21				
	A1NCPU				
	A1NCPUP21				
	A1NCPUR21				
	A2NCPU				
	A2NCPUP21				
	A2NCPUR21				
	A2NCPU-S1				
	A2NCPUP21-S1				
	A2NCPUR21-S1				
	A3NCPU				
	A3NCPUP21				
	A3NCPUR21				
MELSEC-A (AnSCPU)	A2USCPU	○	RS-232 RS-422		GT27 GT23 GS

(Continued to next page)

*1 Ww and Wr devices cannot be monitored.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
MELSEC-A (AnSCPU)	A2USCPU-S1	○	-	-	GT27 GT23 GS
	A2USHCPU-S1				
	A1SCPU				
	A1SCPUC24-R2				
	A1SHCPU				
	A2SCPU				
	A2SHCPU				
	A1SJCPU				
	A1SJCPU-S3				
	A1SJHCPU				
MELSEC-A	A0J2HCPU	×	-	-	GT27 GT23 GS
	A0J2HCPUP21				
	A0J2HCPUR21				
	A0J2HCPU-DC24				
	A2CCPU	○			
	A2CCPUP21				
	A2CCPUR21				
	A2CCPUC24				
	A2CCPUC24-PRF				
	A2CJCPU-S3				
	A1FXCPU				
Motion controller CPU (Q Series)	Q172CPU*1*2	○	RS-232 RS-422	RS-485	GT27 GT23 GS
	Q173CPU*1*2				
	Q172CPUN*1*2				
	Q173CPUN*1*2				
	Q172HCPU	○			GT27 GT23 GS *3
	Q173HCPU				
	Q172DCPU				
	Q173DCPU				
	Q172DCPU-S1				
	Q173DCPU-S1				
	Q172DSCPU				
	Q173DSCPU				
	Q170MCPU	○			GT27 GT23 GS
	Q170MSCPU				
	Q170MSCPU-S1				
Motion controller CPU (A Series)	A273UCPU	○	RS-232 RS-422	-	GT27 GT23 GS
	A273UHCPU				
	A273UHCPU-S3				
	A373UCPU				
	A373UCPU-S3				
	A171SCPU				
	A171SCPU-S3				
	A171SCPU-S3N				

(Continued to next page)

*1 When using SV13, SV22, or SV43, use the motion controller CPU on which any of the following main OS version is installed.
- SW6RN-SV13Q□: 00E or later
- SW6RN-SV22Q□: 00E or later
- SW6RN-SV43Q□: 00B or later

*2 Use main modules with the following product numbers.
- Q172CPU: Product number K******* or later
- Q173CPU: Product number J******* or later

*3 Access via the (RS-232) in the multiple CPU system.

Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
Motion controller CPU (A Series)	A171SHCPU	○	-	-	GT27 GT23 GS
	A171SHCPUN				
	A172SHCPU				
	A172SHCPUN				
	A173UHCPU				
	A173UHCPU-S1				
MELSEC-WS	WS0-CPU0	×	-	-	GT27 GT23 GS
	WS0-CPU1				
MELSECNET/H remote I/O station	QJ72LP25-25	×	-	-	GT27 GT23 GS
	QJ72LP25G				
	QJ72BR15				
CC-Link IE Field Network head module	LJ72GF15-T2	×	-	-	GT27 GT23 GS
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	×	-	-	GT27 GT23 GS
CNC C70	Q173NCCPU	○		-	GT27 GT23 GS
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	○	-	-	GT27 GT23 GS
MELSEC-FX	FX_0	×	-	-	GT27 GT23 GS
	FX_{0S}	×			
	FX_{0N}				
	FX_1	×			
	FX_2	×			
	FX_{2C}	*1			
	FX_{1S}	○			
	FX_{1N}				
	FX_{2N}				
	FX_{1NC}				
	FX_{2NC}	× *1			
	FX_{3S}	○			
	FX_{3G}				
	FX_{3GC}				
	FX_{3GE}				
	FX_{3U}				
	FX_{3UC}				

(Continued to next page)

*1 It is available by installing the real time clock function board or the EEPROM memory with the real time clock function.

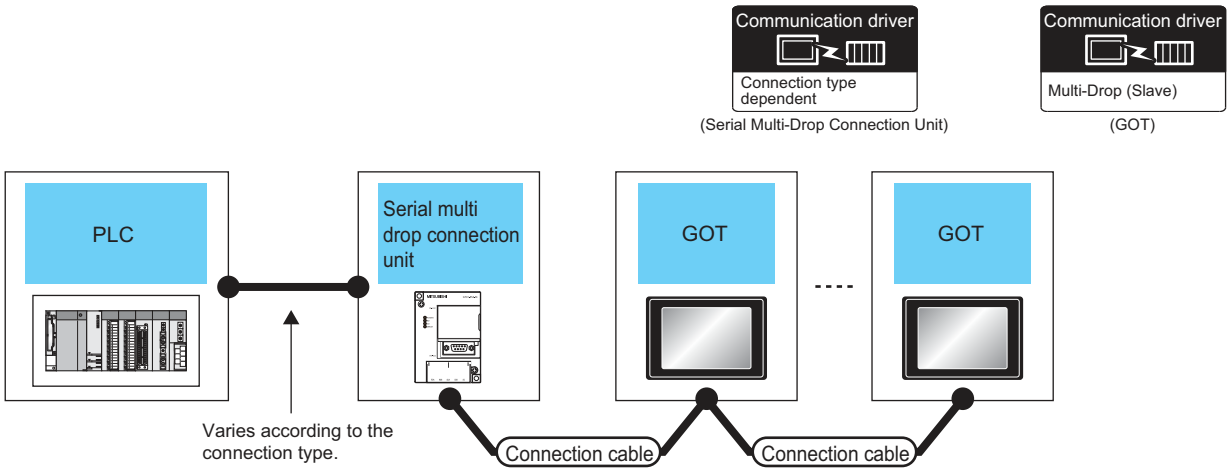
Series	Model name	Clock	Communication type		Connectable model
			Between CPU and master module	Between master module and GOT	
FREQROL	FREQROL-A500/A500L	×	-	-	GT27 GT23 GS
	FREQROL-F500/F500L				
	FREQROL-V500/V500L				
	FREQROL-E500				
	FREQROL-S500/S500E				
	FREQROL-F500J				
	FREQROL-D700				
	FREQROL-F700PJ				
	FREQROL-E700				
	FREQROL-A700				
	FREQROL-F700				
	FREQROL-F700P				
	FREQROL-A800				
	FREQROL-F800				
Sensorless servo	FREQROL-E700EX				
MELIPM	MD-CX522-□□K(-A0)				
MELSERVO	MR-J2S-□A	×	-	-	GT27 GT23 GS
	MR-J2S-□CP				
	MR-J2S-□CL				
	MR-J2M-P8A				
	MR-J2M-□DU				
	MR-J3-□A				
	MR-J3-□T				
	MR-J4-□A				
	MR-JE-□A				

■ [Controller Type] and [Communication driver] of GT Designer3

The following table shows the [Controller Type] and [Communication driver] of GT Designer3 for which the GOT multi-drop connection is available.

GOT type	PLC ↔ Serial Multi-Drop Connection Unit		
	Connection type	Type	Serial Multi-Drop Connection driver
GT27 GT23 GS	DIRECT CONNECTION TO CPU COMPUTER LINK CONNECTION	MELSEC-QnU/DC, Q17nD/M/NC/DR, CRnD-700	QnA/L/Q CPU
		MELSEC-QnA/Q/QS, MELDAS C6*	
		MELSEC-Q(MULTI)/Q MOTION	
		MELSEC-L	
	DIRECT CONNECTION TO CPU	MELSEC-A	MELSEC-A
		MELSEC-FX	MELSEC-FX

18.3 System Configuration



PLC	Serial Multi-Drop Connection Unit		Connection cable	GOT		Max. distance	Number of connectable equipment
	Model	Communication type	Cable model	Option device	Model		
For details of the system configuration between the Serial Multi-Drop Connection Unit and PLC, refer to the corresponding section.	GT01-RS4-M	RS-485	User preparing RS485 connection diagram 1)	- (Built into GOT)	GT27 GT23 GS	500m*2	16 GOTs for Serial Multi-Drop Connection Unit*3
				GT15-RS4-9S	GT27 GT23 GS		
			User preparing RS485 connection diagram 2)	GT15-RS4-TE	GT27 GT23 GS		

*1 Connect it to the RS-422/485 interface (built into GOT).
*2 The maximum distance from the PLC to the terminal GOT.
*3 When the number of connected GOTs is increased, the response performance decreases.

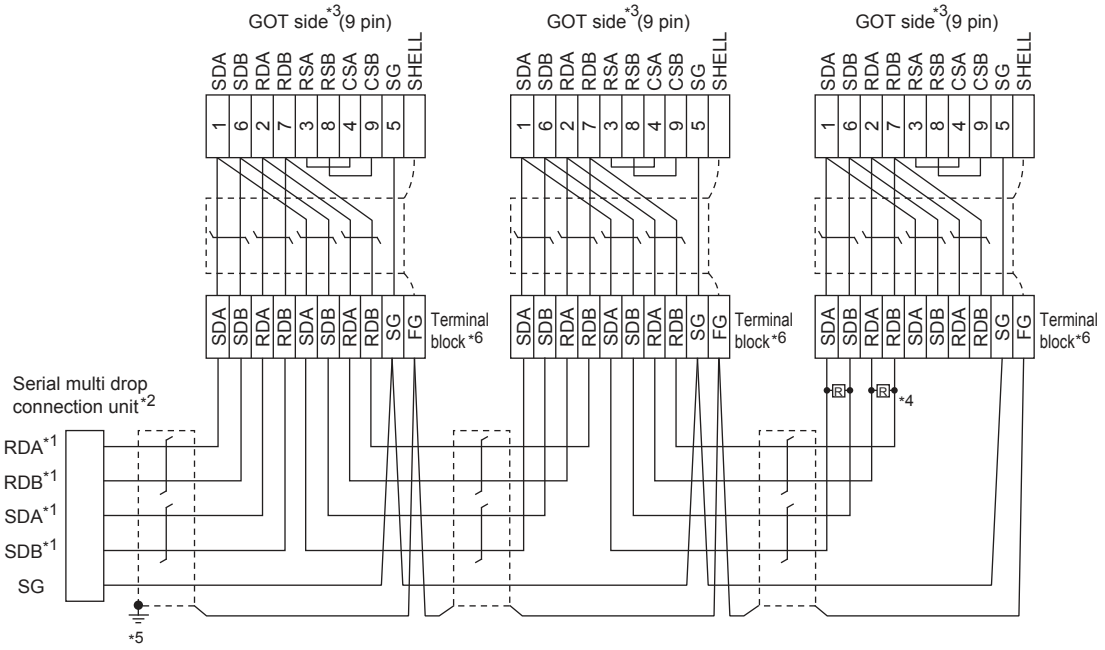
18.4 Connection Diagram

The following diagram shows the cable connection between the serial multi-drop connection unit and the GOT.

18.4.1 RS-485 cable

■ Connection diagram

(1) RS485 connection diagram 1)



*1 Use the twisted pair cable for SDA/SDB and RDA/RDB.

*2 Set the terminating resistor selector to "330Ω".

*3 Set the terminating resistor setting switch to "Disable".

1.4.3 Terminating resistors of GOT

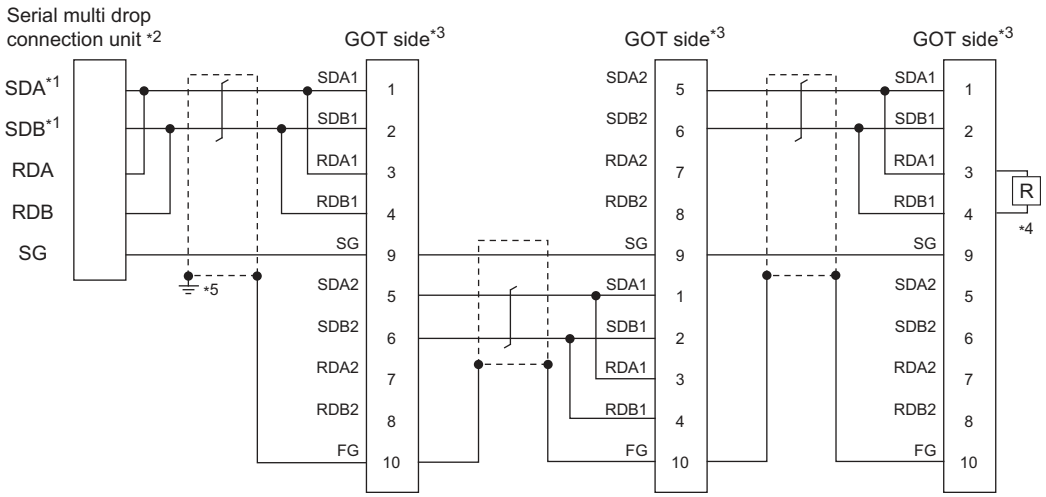
*4 Connect a 330Ω terminating resistor to the GOT to be a terminal.

*5 Make sure to ground the shield of the cable with a ground resistance of 100 Ωor less.

*6 For the cable for converting D-sub9 pin connector to terminal block, refer to the following.

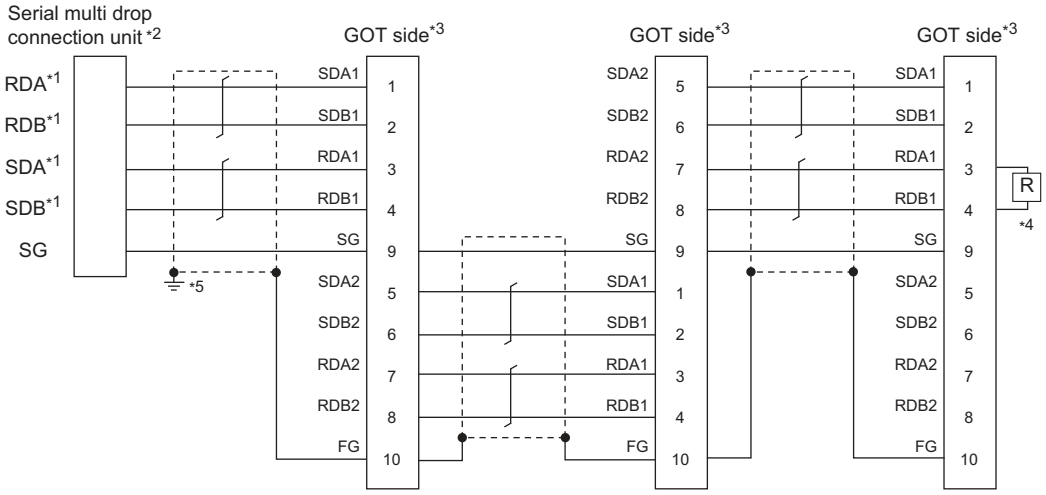
■ Precautions when preparing a cable(2)

(2) RS485 connection diagram 2)
(For 1 pair wiring)



*1 Use the twisted pair cable for SDA/SDB.
*2 Set the terminating resistor selector to "110Ω".
*3 Set the terminating resistor setting switch of the GOT main unit to "Disable".
1.4.3 Terminating resistors of GOT
*4 Connect a 110Ω terminating resistor to the GOT to be a terminal.
*5 Make sure to ground a cable shield line by applying Class D Grounding.

(3) RS485 connection diagram 2)
(For 2 pair wiring)



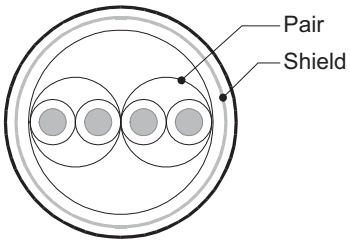
*1 Use the twisted pair cable for SDA/SDB, RDA/RDB.
*2 Set the terminating resistor selector to "330Ω".
*3 Set the terminating resistor setting switch of the GOT main unit to "Disable".
1.4.3 Terminating resistors of GOT
*4 Connect a 330Ω terminating resistor to the GOT to be a terminal.
*5 Make sure to ground a cable shield line by applying Class D Grounding.

■ Precautions when preparing a cable

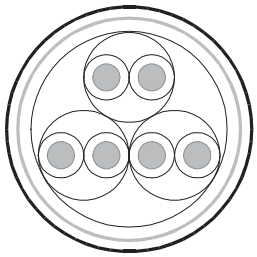
(1) Cable

Use a shielded twisted pair cable of 0.3mm^2 or more as a cable for GOT multi-drop connection.The following shows recommended model names and manufacturers of the cable to be used.

Manufacturer	Model	Remark
Mitsubishi Cable Industries,Ltd	SPEV(SB)-0.5-2P	Two-pair cable of 0.5mm^2
Showa Electric Wire & Cable Co.,Ltd	KMPEV-SB CWS-178 0.5SQ × 2P	Two-pair cable of 0.5mm^2
Sumitomo Electric Industries.,Ltd	DPEV SB 0.3 × 3P	Three-pair cable of 0.3mm^2
	DPEV SB 0.5 × 3P	Three-pair cable of 0.5mm^2
The Furukawa Electric Co.,Ltd	D-KPEV-SB 0.5 × 3P	Three-pair cable of 0.5mm^2
Fujikura Ltd.	IPEV-SB 2P × 0.3 mm^2	Two-pair cable of 0.3mm^2
	IPEV-SB 2P × 0.5 mm^2	Two-pair cable of 0.5mm^2



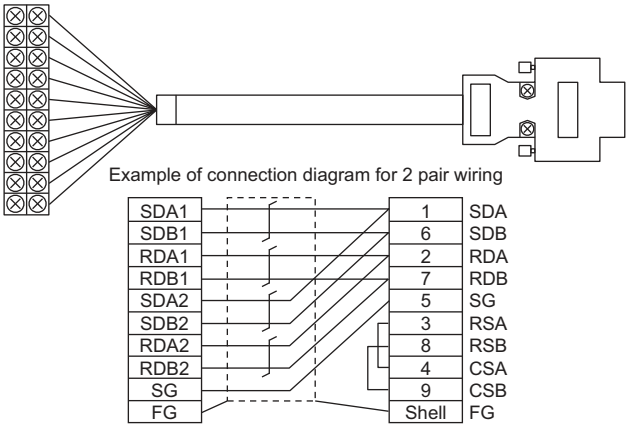
Two-pair cable structural drawing example



Three-pair cable structural drawing example

(2) Cable for converting D-sub9 pin connector to terminal block

Create by yourself, referring to the following connection diagram.



Make sure to connect the wiring branched on the GOT side connector.

Use a shielded twisted pair cable of 0.2mm^2 or more.

Use an applicable cable to D-sub connector.

Wiring should be the shortest distance.

(3) GOT side connector

For the GOT side connector, refer to the following.

☞ 1.4.1 GOT connector specifications

■ Connecting terminating resistors

When connecting a Serial Multi-Drop Connection Unit to the GOT, a terminating resistor must be connected to the GOT.

Set the terminating resistor setting switch to "Disable".

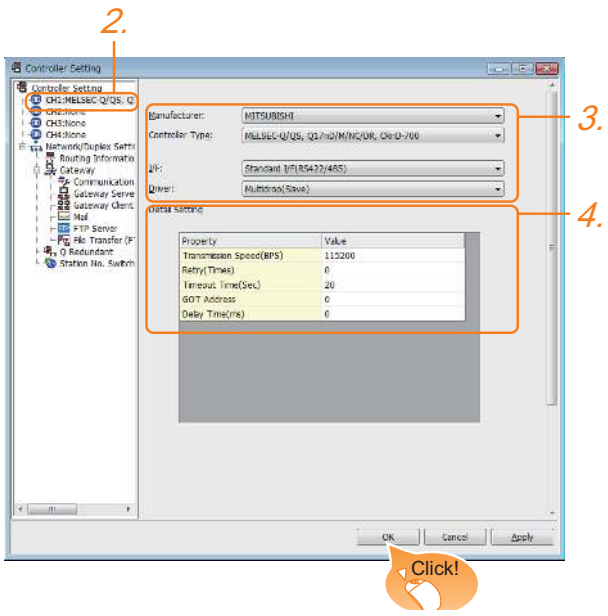
For the procedure to set the terminating resistor, refer to the following.

☞ 1.4.3 Terminating resistors of GOT

18.5 GOT Side Settings

18.5.1 Setting communication interface (communication settings)

Set the channel of connecting equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set the following items.
   - Manufacturer: Set it according to the connected equipment.
   - Controller Type: Set it according to the connected equipment.
   - I/F: Interface to be used
   - Driver: Multi-Drop (slave)
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.
   ☞ 18.5.2 Communication detail settings

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.
☞ 1.1.2 I/F communication setting

18.5.2 Communication detail settings

Make the settings according to the usage environment.

Property	Value
Transmission Speed(BPS)	115200
Retry(Times)	0
Timeout Time(Sec)	20
GOT Address	0
Delay Time(ms)	0

Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 115200bps)	4800bps, 9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
GOT Address	Specify the station number of the host station in the system configuration. (Default: 0)	0 to 15
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 ms

POINT

(1) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after writing [Communication Settings] of project data.
For details on the Utility, refer to the following manual.
☞ GOT2000 Series User's Manual (Utility)

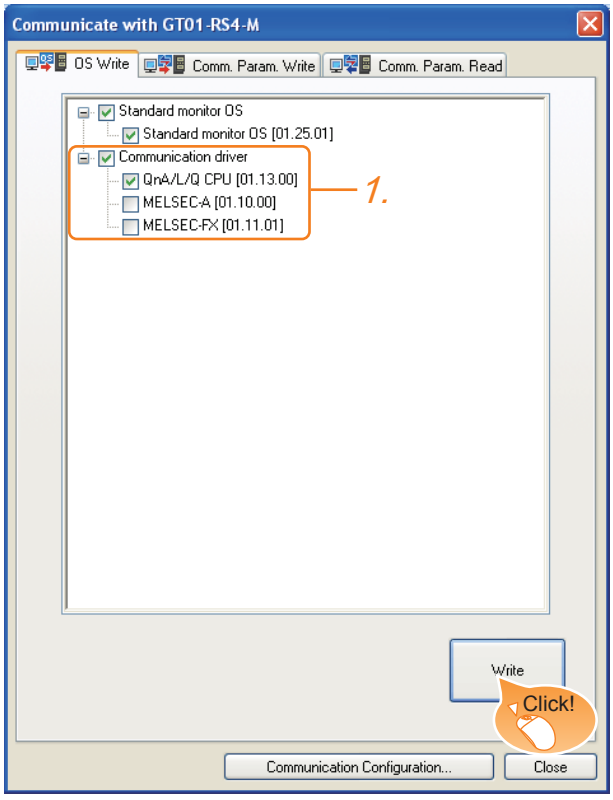
(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

18.6 Setting of Serial Multi-Drop Connection Unit

18.6.1 Write the OS

Write the standard monitor OS and communication driver according to the desired connection type onto the serial multi-drop connection unit.
For the OS writing methods, refer to the following manual.

GT Designer3 Version1 Screen design manual



1. Check-mark a communication driver according to the desired connection type and click the [Write] button.

18.6.2 Setting communication interface (Communication settings)

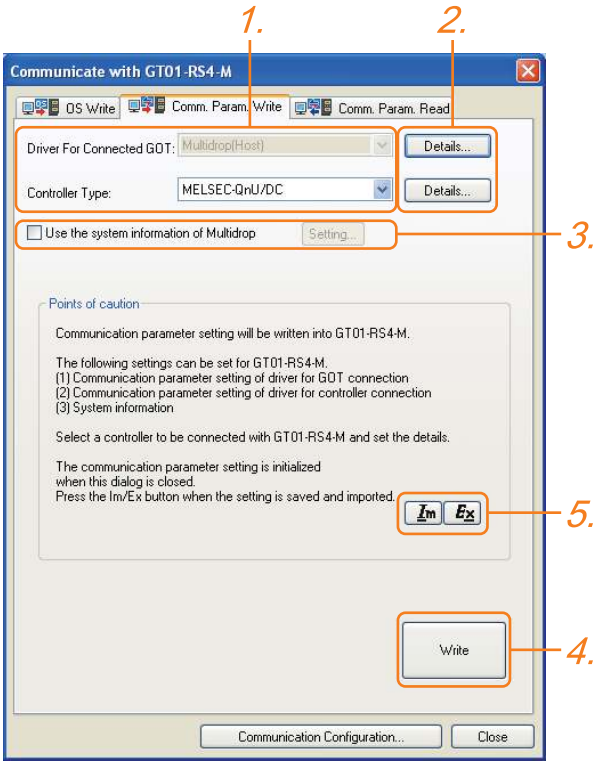
Make the Serial Multi-Drop Connection Unit interface setting on [Communication with GT01-RS4-M] of GT Designer 3.

For the communication interface driver, set the same communication driver as the serial multi-drop connection.

For details on [Communication with GT01-RS4-M] of GT Designer3, refer to the manuals.

GT Designer3 Version1 Screen design manual

■ Controller setting



1. Set the following to the driver for the connected equipment.
   - Connection type dependent

   The driver for connection with the GOT is fixed to the following one.
   - Multi-drop(Host)

2. Perform the detailed settings for the driver.

   ☞ ■ Communication detail settings

3. Set [Use the system information of Multidrop] as necessary.

   ☞ ■ Setting the multi-drop system information function

4. Click the [Write] button when settings are completed.

5. If the [Communication with GT01-RS4-M] dialog box is closed, communication setting contents for GT01-RS4-M does not remain.
   - To maintain the communication setting contents, click Ex (export).

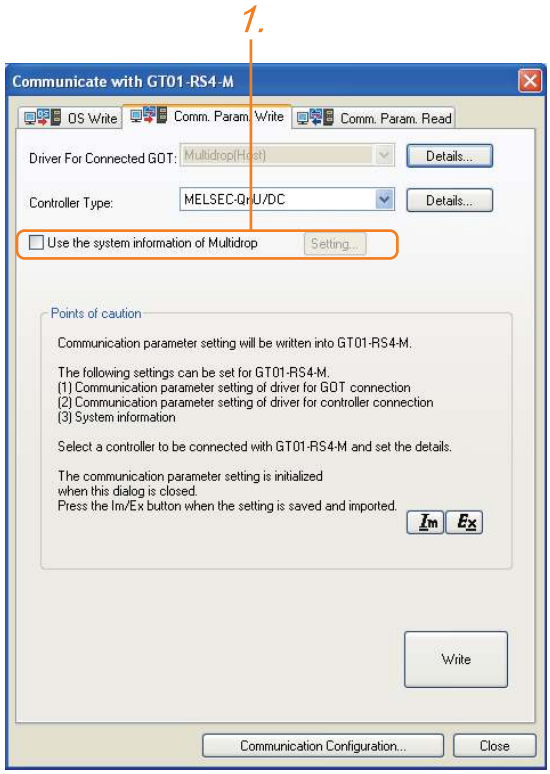
   ☞ ■ Exporting/Importing the communication setting contents
   - To use communication setting contents which are saved previously, click Im (import).

   ☞ ■ Exporting/Importing the communication setting contents

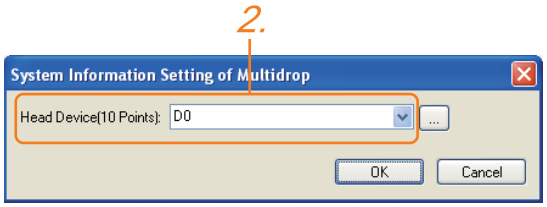
■ Setting the multi-drop system information function

When checking the connection status of each GOT which is connected to GT01-RS4-M on the PLC side, set the multi-drop system information function.
The GOT connection status is stored in the PLC side word device.

(1) Setting on the PLC side word device



1. Select [Use the system information of Multidrop] and click the [Set] button. The following dialog window is displayed.



2. Set the PLC side word device to [Head Device (10 Points)]. In this example, "D0" is set.

(2) Assignment contents of the PLC side word device
The following table shows the device assignment contents when setting [Head Device (10 Points)] to "D0".

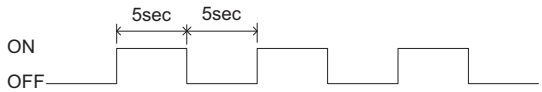
Device	Description
D0 (Head device+0)	Control signal 1-1
D1(Head device+1)	Station information notification signal
D2(Head device+2)	(Reserve)
D3(Head device+3)	(Reserve)
D4(Head device+4)	(Reserve)
D5(Head device+5)	Slave station control signal
D6(Head device+6)	(Reserve)
D7(Head device+7)	(Reserve)
D8(Head device+8)	(Reserve)
D9(Head device+9)	(Reserve)

(3) Details on the word device assignment contents

(a) Control signal 1-1

Bit position	Description	
bit0	10 second cycle flicker signal	
bit1 to 15	(Reserve)	

< 10 second cycle flicker signal *1 >
By the repetition of turning ON/OFF every 5 seconds, the connection between GT01-RS4-M and the PLC can be confirmed on the PLC side. When no repetition of this ON/OFF is observed, GT01-RS4-M is not connected to the PLC.



*1 When writing or clearing data on the program area from the personal computer to the PLC using FA transparent function, flicker of the signal as shown above may be temporarily stopped.

(b) Station information notification signal *2
This signal notifies the status of the slave station (GOT) which is connected to the master station (GT01-RS4-M). Only the bit corresponding to the number of connected slave station (GOT) is turned ON and other bits are turned OFF.

bit15	bit14	.....	bit2	bit1	bit0
Station No. 15	Station No. 14	.....	Station No. 2	Station No. 1	Station No. 0

- 1: Connected
- 0: Unconnected (Including communication error status)

*2 When the communication between GT01-RS4-M and the PLC becomes faulty, the station information notification signal is not updated.

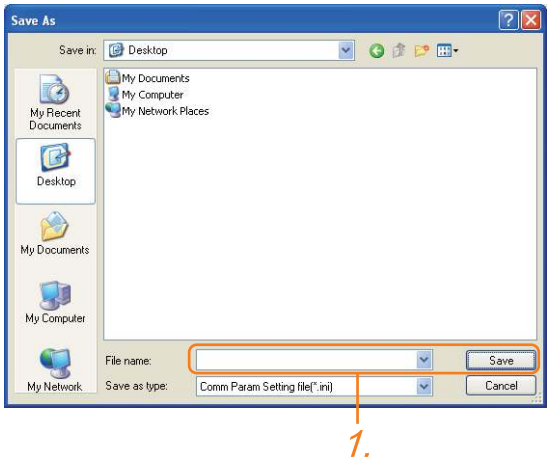
(c) Slave station control signal
This signal controls slave stations which are not updated by the master station.
Usually, the master station accesses all stations (up to 16 stations). In addition, if stations are temporarily in communication error due to a power disconnection or screen data transfer during the steady operation, the automatic recovery of the station is executed for one station per ten seconds. Therefore, the automatic recovery may take maximum 2 minutes and 30 seconds.
Using this control signal, the number of slave stations to be monitored by the master station can be reduced to the actual number of slave stations to be used by a user. This makes the automatic recovery processing smooth. If an error occurs in only one station, the time for the station to recover automatically can be reduced within 10 seconds.

<table>
<tr><th>Device value</th><th>Action</th></tr>
<tr><td>0</td><td>The master station accesses all the slave stations (station 0 to 15). When the multi-drop system information is not used, the operation is the same.</td></tr>
<tr><td>Other than 0</td><td>Turning on the bit corresponding to a station No. disconnects the specified slave station from the master station.
<table>
<tr><th>bit15</th><th>bit14</th><th>.....</th><th>bit2</th><th>bit1</th><th>bit0</th></tr>
<tr><td>Station No. 15</td><td>Station No. 14</td><td>.....</td><td>Station No. 2</td><td>Station No. 1</td><td>Station No. 0</td></tr>
</table>
1...Connected
0...Unconnected</td></tr>
</table>

When the bits are off and the master station and the slave stations are in communication, the communication with the corresponding slave stations is disconnected if the above corresponding bits are turned on.

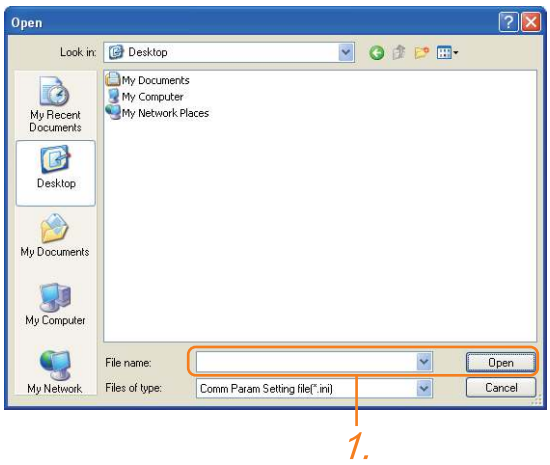
■ Exporting/Importing the communication setting contents

(1) Export



1. After determining the storage location as necessary, name the file and save it.
The file format is [*.ini] (fixed).

(2) Import

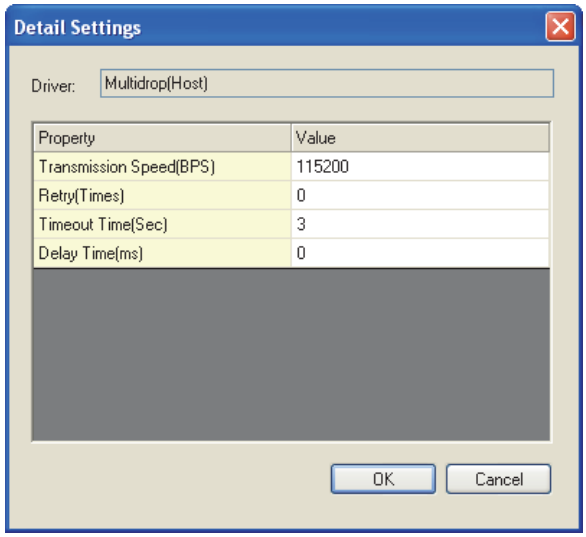


1. Enter the name of the file previously saved and open the file.
The file format is [*.ini] (fixed).

■ Communication detail settings

Make the settings according to the usage environment.

(3) For the connection with GOT



Item	Description	Range
Transmission Speed	Set this item when change the transmission speed used for communication with the connected equipment. (Default: 115200bps)	4800bps, 9600bps, 19200bps, 38400bps, 57600bps, 115200bps
Retry	Set the number of retries to be performed when a communication timeout occurs. When receiving no response after retries, the communication times out. (Default: 0time)	0 to 5times
Timeout Time	Set the time period for a communication to time out. (Default: 3sec)	1 to 30sec
Delay Time	Set this item to adjust the transmission timing of the communication request from the GOT. (Default: 0ms)	0 to 300 ms

(4) For the connected equipment

Set the communication detail settings of the driver for controllers according to the connection type.

☞ Refer to each chapter.

18.6.3 Setting switches

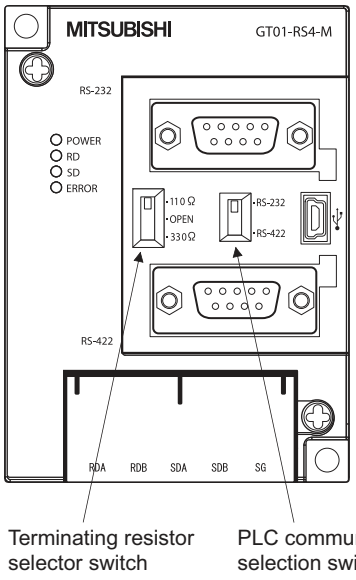
Set the switches according to the connection type.

POINT

Serial Multi-Drop Connection Unit

For details on the Serial Multi-Drop Connection Unit, refer to the following manual.

☞ Serial Multi-Drop Connection Unit User's Manual



Terminating resistor selector switch

PLC communication selection switch

18.7 Precautions

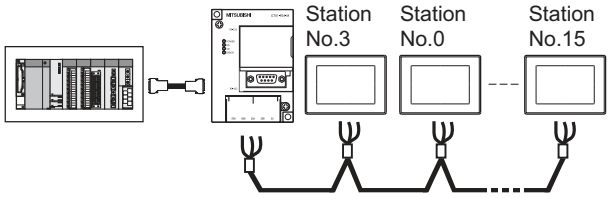
■ Connecting GOT2000 in multi-drop connection

(1) Standard monitor OS installation, Writing Communication driver
When connecting GOT2000 in multi-drop connection, the writing of the standard monitor OS and communication driver to the GOT from GT Designer3 (GOT1000) (Version 1.12N or later), as well as the writing of the standard monitor OS and communication driver to the serial multi-drop connection unit are required
The standard monitor OS or communication driver cannot be installed from GT Designer3 (GOT2000).

(2) Device specification
Network No. and station No. are not supported.

■ Station number setting on GOT

Set each station number so that no station number overlaps.When the station No. is duplicated, the GOT whose station No. is duplicated cannot be monitored normally.
The station number can be set without regard to the cable connection order.There is no problem even if station numbers are not consecutive.



The example of a Station No. setting

■ Extended/Option function of GOT

The extended/option functions of GOT shown below are not available.
System monitor, Device monitor, Ladder monitor, A list editor, FX list editor, Intelligent unit monitor, Network monitor, Q motion monitor, Servo amplifier monitor, CNC monitor, Backup/restore, CNC data I/O, SFC monitor, Ladder editor, Log viewer, MELSEC-L troubleshoot, Motion SFC, motion program (SV43) editor, Motion program (SV43) I/O

■ System alarm

The alarms of the serial multi-drop connection unit are displayed on the system alarm.The alarms of the connected PLC are not displayed.

■ Activating the serial multi-drop connection unit

The master module detects a slave GOT, which is connected, at the startup.It may take time to detect again the slave station which is not detected at this point.Activate the master module in the condition that a communication can be made after the startup of the slave GOT.

■ Using the multi-drop connection in the multi-channel configuration

If a communication timeout error occurs when using the multi-drop connection in the multi-channel configuration, set the send delay time to the serial multi-drop connection unit side.

☞ ■ Communication detail settings

■ Device update cycle

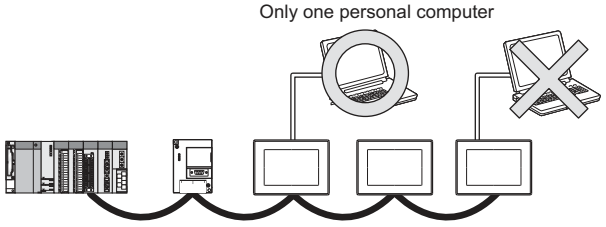
- When the number of connected slave GOTs and the device points of each GOT increase, the device update cycle on the screen may get slower. In such a case, it is recommended to reduce the device points of each GOT. (Please consider 250 points as a guide of 1 GOT, and 750 points as a guide of the total points.) In addition, when a timeout error occurs, make the timeout time longer in the communication settings of the slave GOT.
- When the device number is set randomly, the device update cycle becomes slower compared to the case that the device number is set consecutively.Therefore, it is recommended to set the device number consecutively.
- Depending on the device points or combination, it may take time to switch the screen.At this time, the device update cycle of other slave station is also affected.

■ FA transparent function

FA transparent function is available for each GOT in the GOT multi-drop connection system.

(1) Standard monitor OS installation, Writing Communication driver
When using FA transparent function in GOT multi-drop connection, the writing of the standard monitor OS and communication driver to the GOT from GT Designer3 (GOT1000) (Version 1.18U or later), as well as the writing of the standard monitor OS and communication driver to the serial multi-drop connection unit are required.

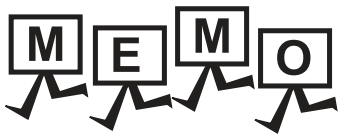
(2) Number of personal computers
Only one personal computer can be connected to the multi-drop connection system.



(3) Monitor speed of GOT

The monitoring performance slows down according to the number of monitoring GOTs. While using FA transparent function, the monitoring performance of the whole multi-drop system decreases. As a result, timeout error may occur in GOTs in the system.

MULTI-CHANNEL FUNCTION


MEMO

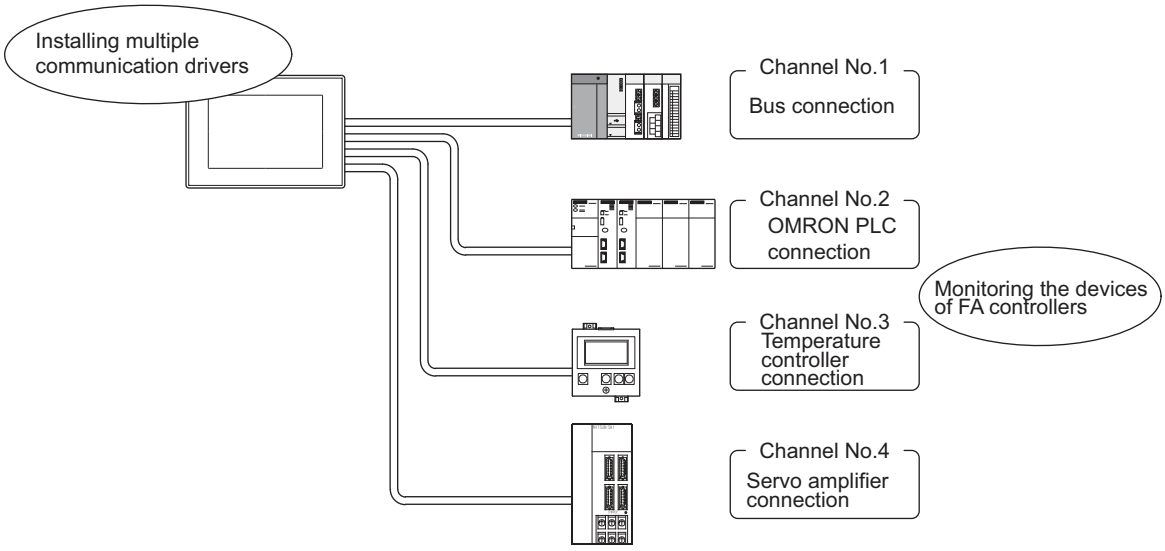
19

MULTI-CHANNEL FUNCTION

19. MULTI-CHANNEL FUNCTION

19.1 What is Multi-channel Function?

Multi-channel Function is a function to monitor up to four FA controllers (PLC CPU, temperature controller, inverter, etc.) on one GOT by writing multiple communication drivers in the GOT.



POINT

(1) Before using the multi-channel function
This manual describes the procedure to use the multi-channel function, based on the following system configuration example.

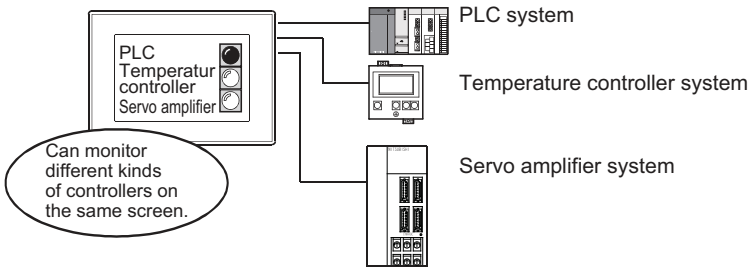
19.2.1 Bus connection and serial connection
19.2.2 Ethernet multiple connection

(2) System configuration when the multi-channel function is used
The system configuration between GOT and the controllers is the same as that of when not using the multi-channel function.
For the system configuration between GOT and the controllers, refer to the following.

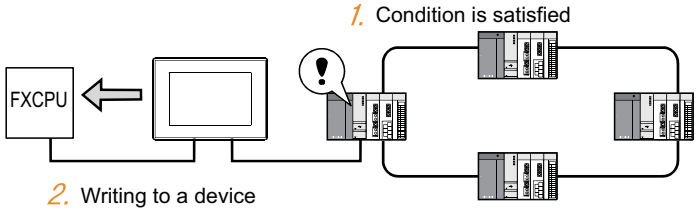
Each chapter indicating the system configuration

■ Features of the multi-channel function

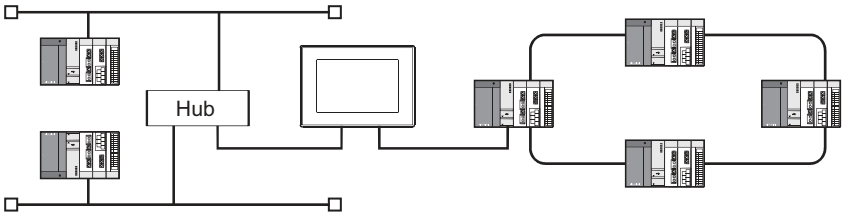
(1) With a single unit of GOT, the system consisting of PLC CPU, temperature controller, servo amplifier and other controllers can be configured.
One GOT can monitor a PLC CPU, temperature controller and servo amplifier, etc. Therefore, the system configuration, in which several controllers are mixed, can be easily established.
In addition, each system can be monitored on the GOT screen, and the unified management of the information is possible.



(2) Controlling FXCPU/third party PLC, etc. through the network (MELSECNET/H, etc.)
It is possible to control FXCPU/third party PLC, etc. through the network (MELSECNET/H, etc.).
For example, it is possible to execute read/write of a device such as FXCPU when the condition is satisfied, using the device of the PLC CPU on the network (MELSECNET/H, etc.) as the trigger for action.



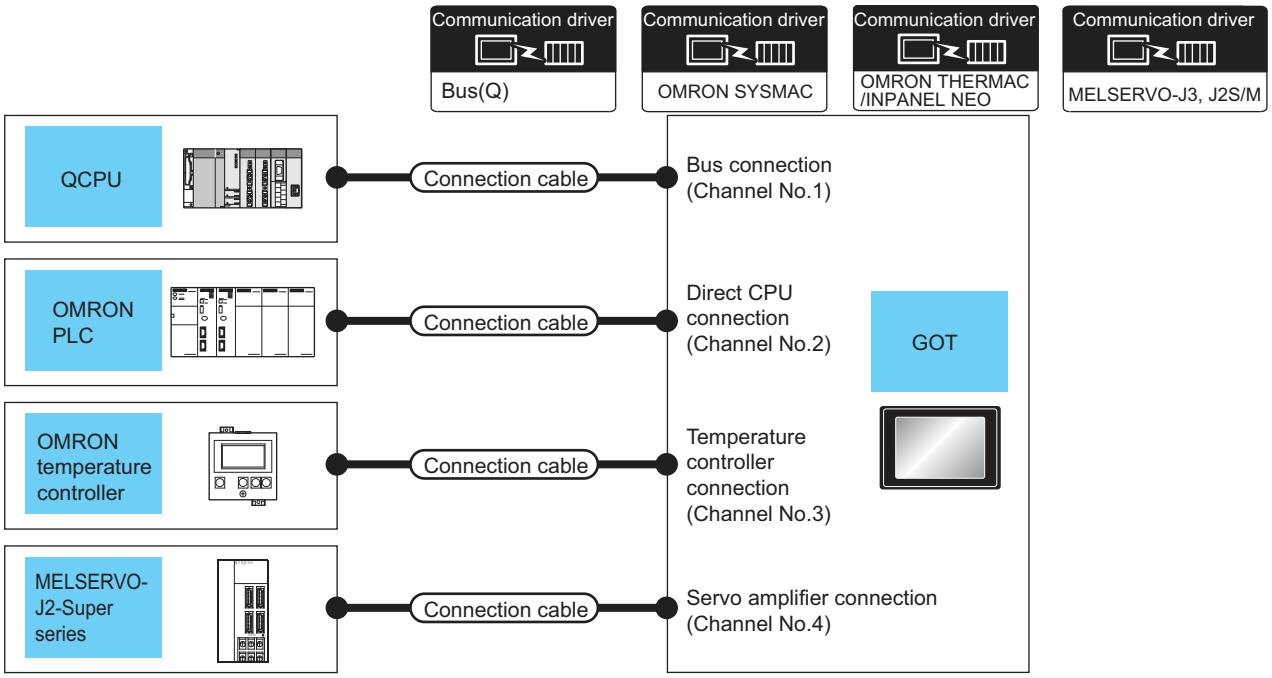
(3) With one GOT, the Ethernet connection and the bus or network connection are available in combination.
One GOT can make the Ethernet connections and the bus or network connection. Therefore, the system configuration, in which several networks are linked, can be established.
Also, the GOT can monitor multiple controllers on an Ethernet network. (Multi-channel Ethernet connection)



19.2 System Configuration

19.2.1 Bus connection and serial connection

One GOT can monitor a PLC CPU, temperature controller and servo amplifier, etc. Therefore, the system configuration, in which several controllers are mixed, can be easily established.
In addition, each system can be monitored on the GOT screen, and the unified management of the information is possible.



PLC	Connection type	Connection cable	GOT			Number of connectable equipment
			Channel No.	Option device	Model	
MELSEC-Q	Bus connection	For the system configuration between GOT and the controllers, refer to the following. ☞ Each chapter indicating the system configuration	1	GT15-QBUS	GT27 GT23 GS	4 connected equipment for 1 GOT (4 channels)
OMRON PLC	Direct CPU connection		2	- (Built into GOT)		
OMRON temperature controller			3	GT15-RS2-9P		
MELSERVO-J2-Super			4	GT15-RS4-9S		
OMRON PLC	Direct CPU connection	For the system configuration between GOT and the controllers, refer to the following. ☞ Each chapter indicating the system configuration	1	- (Built into GOT)	GT27 GT23 GS	2 connected equipment for 1 GOT (2 channels)
OMRON temperature controller			2			

POINT

Controllers that use Channels No.5 to 8

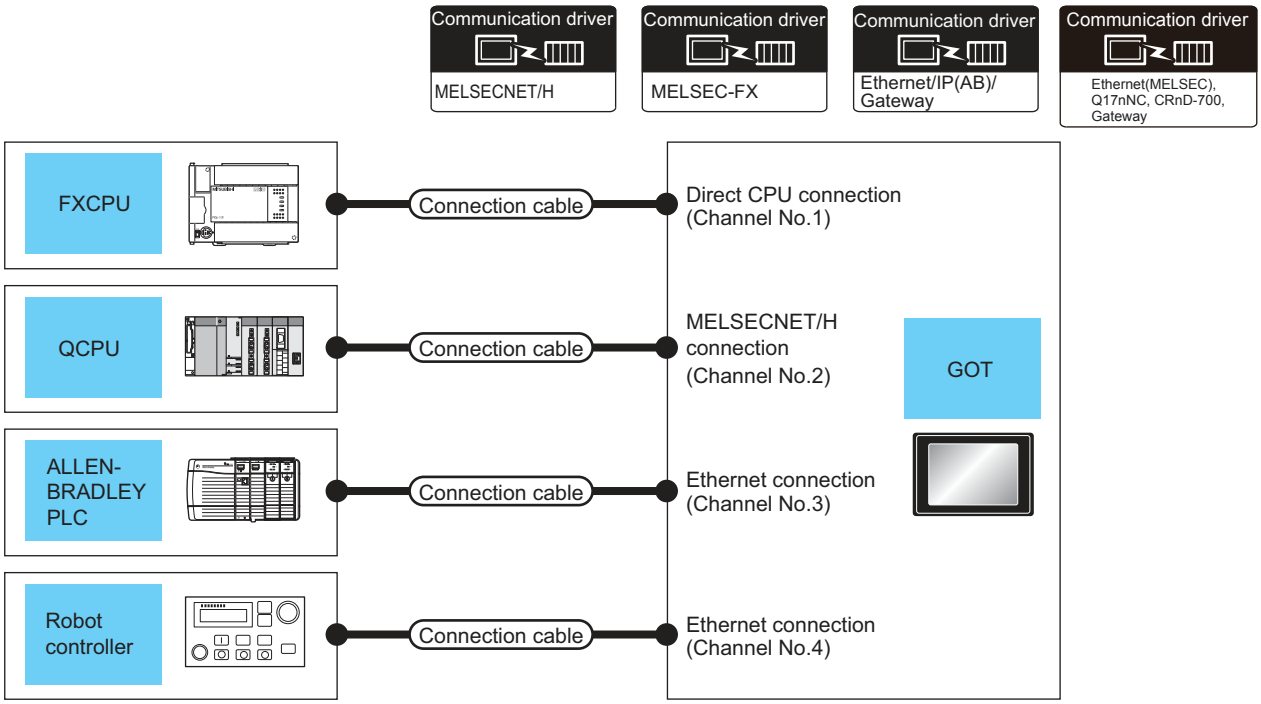
The following shows the drivers that can be set to Channels No. 5 to 8.
For the system configuration and connection condition with the controller, refer to the chapter of each controller.

Channel No.	Driver*1	Reference
5 to 7	Barcode Reader, RFID Controller, PC Remote Operation (Serial)	GOT1000 Series Connection Manual (Microcomputer, MODBUS, Products, Peripherals) ☞ BAR CODE READER CONNECTION ☞ PC REMOTE CONNECTION ☞ RFID CONNECTION
8	Barcode Reader, RFID Controller, PC Remote Operation (Serial)	

*1 Only one channel can be assigned to one driver.

19.2.2 Ethernet multiple connection

One GOT can make several Ethernet connections and the bus or network connections. Therefore, the system configuration, in which several networks are linked, can be established.



PLC	Connection type	Connection cable	GOT			Number of connectable equipment
			Channel No.	Option device	Model	
MELSEC-FX	Direct CPU connection	For the system configuration between GOT and the controllers, refer to the following. ☞ Each chapter indicating the system configuration	1	GT15-RS2T4-9P	GT27 GT23 GS	4 connected equipment for 1 GOT (4 channels)
QCPU	MELSECNET/H		2	GT15-J71LP23-25		
ALLEN-BRADLEY PLC	Ethernet		3	- (Built into GOT)		
Robot controller			4			
ALLEN-BRADLEY PLC	Ethernet	For the system configuration between GOT and the controllers, refer to the following. ☞ Each chapter indicating the system configuration	1	- (Built into GOT)	GT27 GT23 GS	2 connected equipment for 1 GOT (2 channels)
OMRON PLC			2			

19.3 GOT Side Settings

19.3.1 Basics of interface selection

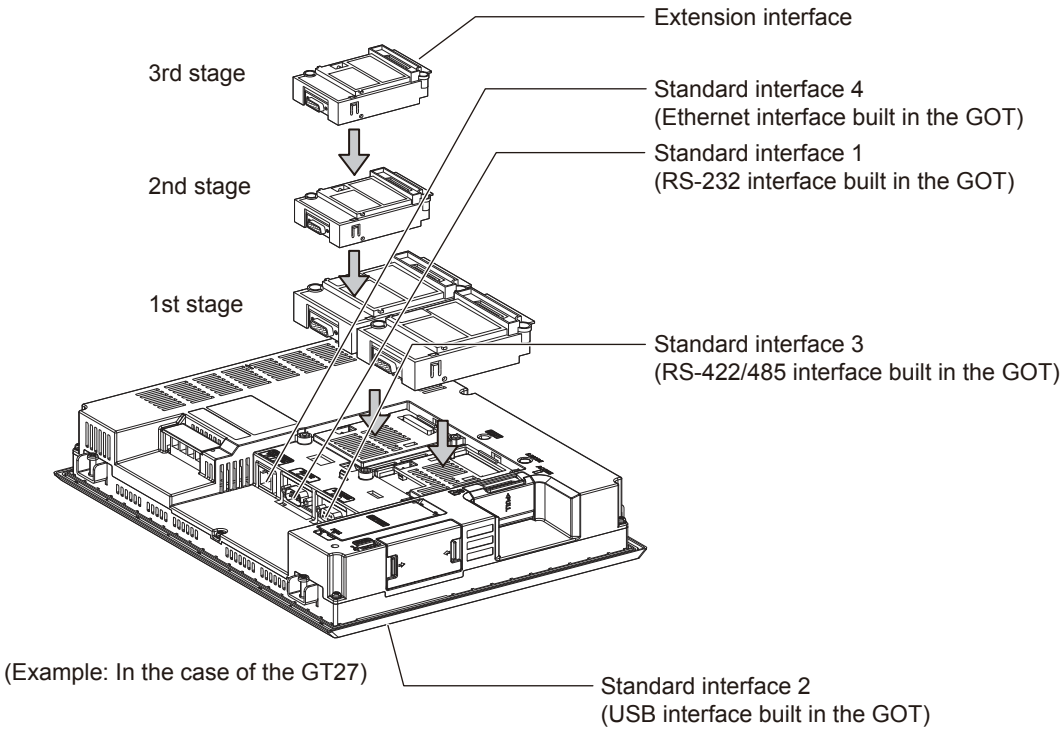
This section explains basic knowledge of the multi-channel function.

A general flow of operation from system selection for the multi-channel function to drawing is explained in 19.3.2 to 19.3.6.
It is recommended to refer to 19.3.2 to 19.3.6 when making necessary settings using the multi-channel function for the first time.

■ Multi-channel function specifications

How the units are installed and the multi-channel function specifications are described below.

(1) Image drawing of unit installation



(Example: In the case of the GT27)

(2) Specifications

Item	Specifications	Description
Max. number of channels	4 channels	• In bus connection and network connection (*1), only 1 channel can be set for one GOT. • For the Ethernet connection (*2), up to 4 channels can be set. • When the Ethernet interface built in the GOT is used for connection other than communication with a controller (*3), the connection is not included in the count of the number of channels. • The interface used for connecting to an external device (*4) is not included in the count of the number of channels.
Max. installable number of modules	3	• Multiple identical units can be installed only for serial communication units. • It is necessary to calculate the consumed current. (☞This section ■ Calculating consumed current)
Allowable number of stages	Max. 3 stages (2 slots)	• A module that occupies 2 slots (*5, *6, *7) must be installed at the first stage. • For the video/RGB display, RGB output, and multimedia function, install the unit indicated in *6 at the first stage and the other units at the second or later stage. • When a unit indicated in *7 is used, other extension units cannot be installed. • The CF card unit must be installed on the last stage, if used.

*1 MELSECNET/H connection, MELSECNET/10 connection, CC-Link IE Controller Network connection, CC-Link connection (intelligent device station)

*2 Ethernet connection, MODBUS®/TCP connection

*3 Gateway function, MES interface function, Ethernet download

*4 Barcode reader, RFID controller, or personal computer (writing remote personal computer operation (serial), FA transparent function, OS install, project data)

*5 GT15-QBUS2, GT15-ABUS2, GT15-J71GP23-SX, GT15-J71LP23-25, GT15-J71BR13, GT15-J61BT13

*6 GT27-V4-Z, GT27-R2-Z, GT27-V4R1-Z, GT27-ROUT-Z, GT27-MMR-Z

*7 GT15-75QBUSL, GT15-75QBUS2L, GT15-75ABUSL, GT15-75ABUS2L

■ Calculating consumed current

For using multiple extension units, a bar code reader, or a RFID controller, the total current for the extension units, bar code reader, or RFID controller must be within the current that the GOT can supply.
For the current that the GOT can supply and the current for the extension units, bar code reader, or RFID controller, refer to the following tables. Make sure that the total of consumed current is within the capacity of the GOT.

(1) Current supply capacity of the GOT

GOT type	Capacity (A)
GT2712-S	
GT2710-S	
GT2710-V	
GT2708-S	
GT2708-V	

(2) Current consumed by an extension unit/barcode reader/RFID controller

Module type		Consumed current (A)
GT15-QBUS, GT15-75QBUSL,	GT15-QBUS2, GT15-75QBUS2L	0.275*1
GT15-ABUS, GT15-75ABUSL,	GT15-ABUS2, GT15-75ABUS2L	0.12
GT15-RS2-9P		0.29
GT15-RS4-9S		0.33
GT15-RS4-TE		0.3
GT15-J71GP23-SX		1.07
GT15-J71GF13-T2		0.96
GT15-J71LP23-25		0.56
GT15-J71BR13		0.77
GT15-J61BT13		0.56

Module type	Consumed current (A)
GT27-V4-Z	0.12*1
GT27-R2-Z	0*1
GT27-V4R1-Z	0.12*1
GT27-ROUT-Z	0.11*1
GT27-MMR-Z	0.27*1
GT15-SOUT	0.08
GT15-DIO	0.1
GT15-DIOR	0.1
Bar code reader	*2

*1 Value used for calculating the current consumption of the multi-channel function.
For the specifications of the unit, refer to the manual included with the unit.

*2 When the GOT supplies power to a barcode reader or an RFID controller from the standard interface, add their consumed current. (Maximum value is less than 0.3 A)

(3) Calculation example

(a) When connecting the GT15-J71BR13, GT15-RS4-9S (2 units), and a bar code reader (0.12 A) to the GT2710-V

Current supply capacity of GOT (A)	Total consumed current (A)
2.4	0.77 + 0.33 + 0.33 + 0.12 = 1.55

Since the calculated value is within the capacity of the GOT, they can be connected to the GOT.

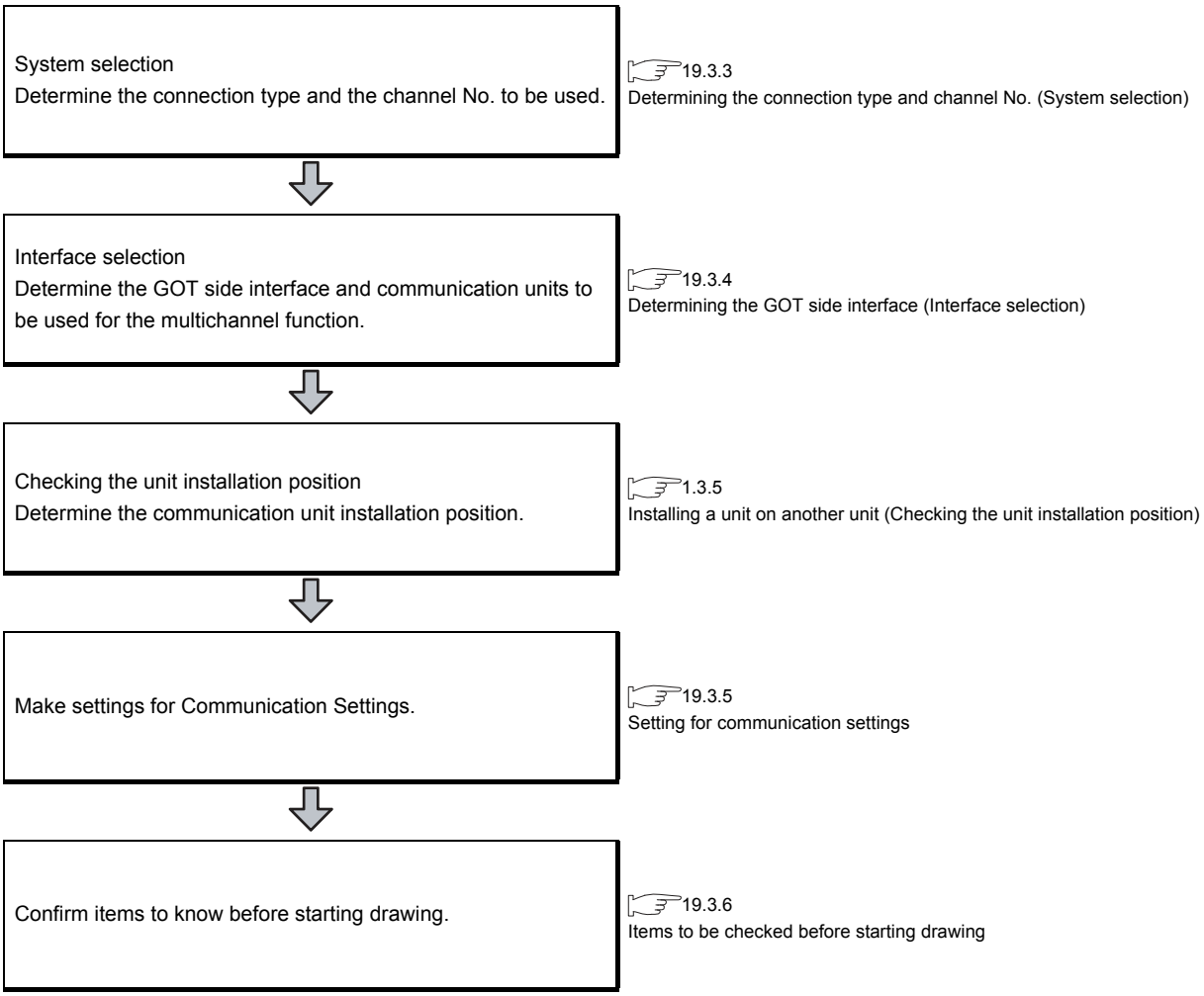
(b) When connecting the GT27-MMR-Z, GT15-J71GP23-SX, GT15-RS4-9S (2 units), and a bar code reader (0.3A) to the GT2712-S

Current supply capacity of GOT (A)	Total consumed current (A)
2.4	0.27 + 1.07 + 0.33 + 0.3 = 1.97

Since the calculated value is within the capacity of the GOT, they can be connected to the GOT.

19.3.2 General flow from system selection to drawing

System selection for using the multi-channel function is explained below.
Make selection and setting for the multi-channel function by following the order shown below.



19.3.3 Determining the connection type and channel No. (System selection)

■ Determining the connection type

For GOT27, the combinations of the bus or network connection, the Ethernet connection, and the serial connection are available as shown in the following table.

Connection type		Reference
Bus/network connection	Bus connection	5. BUS CONNECTION
	MELSECNET/H connection (PLC to PLC network)	9. MELSECNET/H CONNECTION (PLC TO PLC NETWORK)
	MELSECNET/10 connection (PLC to PLC network)	10. MELSECNET/10 CONNECTION (PLC TO PLC NETWORK)
	CC-Link IE Controller Network connection	11. CC-Link IE CONTROLLER NETWORK CONNECTION
	CC-Link IE Field Network connection	12. CC-Link IE FIELD NETWORK CONNECTION
	CC-Link connection (intelligent device station)	13. CC-Link CONNECTION (INTELLIGENT DEVICE STATION)
	CNC connection (MELSECNET/10 connection (PLC to PLC network))	18.2.2 MELSECNET/10 connection (PLC to PLC network)
	CNC connection (CC-Link connection (intelligent device station))	18.2.3 CC-Link connection (intelligent device station)
Ethernet connection	Ethernet connection	8. ETHERNET CONNECTION
	Robot controller connection	17. ROBOT CONTROLLER CONNECTION
	CNC connection (Ethernet connection)	18.2.4 Ethernet connection
	Third party PLC connection (Ethernet connection)	Non-Mitsubishi Products 1 • 3. CONNECTION TO OMRON PLC 3.3 Ethernet Connection Non-Mitsubishi Products 2 • 6. CONNECTION TO YASKAWA PLC 6.3 Ethernet Connection • 7. CONNECTION TO YOKOGAWA PLC 7.3 Ethernet Connection • 10. CONNECTION TO ALLEN-BRADLEY PLC 10.3 Ethernet Connection • 14. CONNECTION TO SIEMENS PLC 14.3 Ethernet Connection
	Microcomputer connection (Ethernet)	Microcomputer, MODBUS Products, Peripherals • 3. MICROCOMPUTER CONNECTION (ETHERNET)
	MODBUS®/TCP connection	Microcomputer, MODBUS Products, Peripherals • 5. MODBUS(R)/TCP CONNECTION
Serial connection	Direct CPU connection	6. DIRECT CONNECTION TO CPU
	Computer link connection	7. COMPUTER LINK CONNECTION
	CC-Link connection (via G4)	14. CC-Link CONNECTION (Via G4)
	Inverter connection	15. INVERTER CONNECTION
	Servo amplifier connection	16. SERVO AMPLIFIER CONNECTION
	CNC connection (serial connection)	18.2.1 Direct connection to CPU
	GOT Multi- Drop Connection	19. GOT MULTI-DROP CONNECTION
	Third party PLC connection (serial connection)	Non-Mitsubishi Products 1 • 4. CONNECTION TO OMRON PLC 4.2 Serial Connection • 6. CONNECTION TO KEYENCE PLC • 7. CONNECTION TO KOYO EI PLC • 8. CONNECTION TO JTEKT PLC • 9. CONNECTION TO SHARP PLC • 12. CONNECTION TO TOSHIBA PLC • 13. CONNECTION TO TOSHIBA MACHINE PLC • 15. CONNECTION TO PANASONIC EW PLC Non-Mitsubishi Products 2 • 2. CONNECTION TO HITACHI IES PLC • 3. CONNECTION TO HITACHI PLC • 4. CONNECTION TO FUJI FA PLC • 6. CONNECTION TO YASKAWA PLC 6.2 Serial Connection • 7. CONNECTION TO YOKOGAWA PLC 7.2 Serial Connection • 10. CONNECTION TO ALLEN-BRADLEY PLC 10.2 Serial Connection • 11. CONNECTION TO GE FANUC PLC • 16. CONNECTION TO MURATEC CONTROLLER

(Continued to next page)

Connection type		Reference
Serial connection	Third party PLC connection (serial connection)	Non-Mitsubishi Products 2 • 12. CONNECTION TO LS INDUSTRIAL SYSTEMS PLC • 14. CONNECTION TO SIEMENS PLC
	Third party safety controller connection	Non-Mitsubishi Products 2 • 13. CONNECTION TO SICK SAFETY CONTROLLER
	Third party servo amplifier connection	Non-Mitsubishi Products 2 • 14. CONNECTION TO PANASONIC SERVO AMPLIFIER
	Third party robot controller connection	Non-Mitsubishi Products 2 • 2. CONNECTION TO IAI ROBOT CONTROLLER • 15. CONNECTION TO HIRATA CORPORATION HNC CONTROLLER
	Third party temperature controller connection	Non-Mitsubishi Products 1 • 5. CONNECTION TO OMRON TEMPERATURE CONTROLLER • 10. CONNECTION TO SHINKO TECHNOS INDICATING CONTROLLER • 11. CONNECTION TO CHINO CONTROLLER Non-Mitsubishi Products 2 • 5. CONNECTION TO FUJI SYS TEMPERATURE CONTROLLER • 8. CONNECTION TO YOKOGAWA TEMPERATURE CONTROLLER • 3. CONNECTION TO AZBIL (former YAMATAKE) CONTROL EQUIPMENT • 9. CONNECTION TO RKC TEMPERATURE CONTROLLER
	Microcomputer Connection (Serial)	Microcomputer, MODBUS Products, Peripherals • 2. MICROCOMPUTER CONNECTION (SERIAL)
	MODBUS®/RTU connection	Microcomputer, MODBUS Products, Peripherals • 4. MODBUS(R)/RTU CONNECTION

The following shows the applicable combinations of connection types, the number of channels, and restricted functions.

○: Allowed △: Restricted

Item	Allowable combination of connection types	GOT to be used	Functions that are restricted by the connection type*1		
		GT27	FA transparent function		
			RS-232	USB	Ethernet
(a)	• Bus/network connection: 1 channel • Serial connection: 1 to 3 channels	Max. 4 channels	△*2	○	○
(b)	• Bus/network connection: 1 channel • Ethernet connection: 1 to 3 channels	Max. 4 channels	△*2	○	△*3
(c)	• Ethernet connection: 1 to 3 channels • Serial connection: 1 to 3 channels	Max. 4 channels	△*2	○	△*3
(d)	• Bus/network connection: 1 channel • Ethernet connection: 1 to 2 channels • Serial connection: 1 to 2 channels	Max. 4 channels	△*2	○	△*3
(e)	• Serial connection: 4 channels	Max. 4 channels	△*2	○	○
(f)	• Ethernet connection: 4 channels	Max. 4 channels	△*2	○	×

*1 When the functions below are used, the connectable number of channels may be restricted depending on the combination of the functions to be used.
- Barcode function
- RFID function
- Remote personal computer operation function
- Video display function
- Multimedia function
- External I/O function
- RGB display function
- Report function
- Sound output function

The video display function, multimedia function and RGB display function cannot be used together.
For details, refer to the following.

19.3.4 Determining the GOT side interface (Interface selection)

*2 For the FA transparent function via the RS-232 connection, the RS-232 interface built in the GOT is available only.
When the RS-232 interface built in the GOT is already used, the FA transparent function is not available.

*3 When a GOT and PLC are connected by Ethernet connection, connecting a GOT and a personal computer by Ethernet is not allowed.

■ Determining the channel No.

(1) Channel No. of PLC, motion controller, temperature controller, inverter, servo amplifier, CNC, robot controller

After determining the connection type to be used, determine the channel Nos. (CH No. 1 to CH No. 4) to be used for the respective connection types.

There are no special cautions to be attended to for determining channel Nos.

Set the channel No. by selecting [Common] → [Controller Setting] from the menu.

☞ 1.1.1 Setting connected equipment (Channel setting)

(2) Channel No. of external devices (fingerprint unit, barcode reader, RFID controller, personal computer and serial printer)

When connecting a barcode reader, RFID controller, or personal computer, select the channel No. (No. 5 to No. 8) for each external device.

(a) Number of external devices that can be connected to the GOT

One barcode reader, RFID controller, or personal computer can be connected to one GOT.

One driver must be set for one channel No. (No. 5 to No. 8) in the communication settings.

(b) Operator authentication (external authentication)

When using the operator authentication (external authentication), the RFID controller is available for the channel No. 8 only.

(c) External devices that requires the power supply from the GOT

When using the barcode reader or RFID controller that requires the power supply from the GOT, set the channel No.8.

When the channel No.5 to No.7 is set, the GOT cannot supply the power.

Write Check Sheet

☞19.5
Multi-channel Function Check Sheet

Write down the following items selected in this section to the check sheet.

①Selection of connection type

Write down the name of connection type to be used.

■ Check sheet No.1 (selection of connection type and interface)

(1) Channel No. of PLC, motion controller CPU, temperature controller, inverter, servo amplifier, CNC, robot controller (No.1 to No.4)

CH No.	① Selection of connection type (☞ 19.3.3)	② Selection of interface (communication unit) (☞ 19.3.4)
1	Connection name: Bus(Q)	
2	Connection name: OMRON PLC	
3	Connection name: OMRON temp.	
4	Connection name: Servo amplifier	

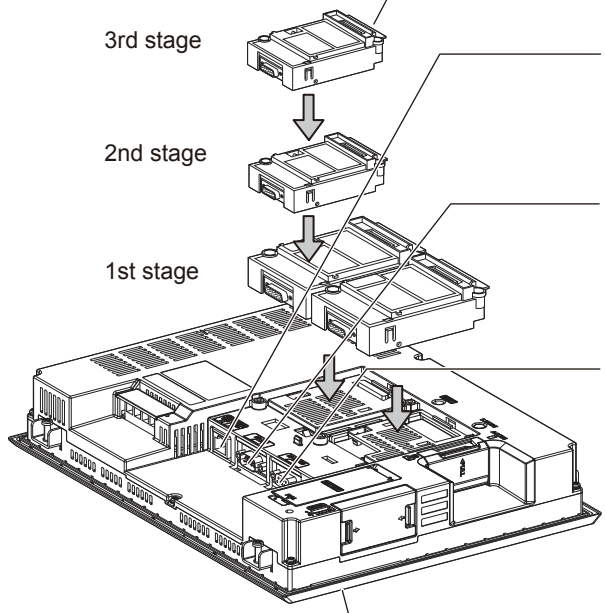
(2) Channel No. of barcode reader, RFID controller, personal computer (CH No. 5 to 8)

CH No.	① Selection of connection type (☞ 19.3.3)	② Selection of interface (communication unit) (☞ 19.3.4)
5	Connection name: Barcode reader	
6	Connection name:	
7	Connection name:	
8	Connection name: RFID controller connection	

19.3.4 Determining the GOT side interface (Interface selection)

To use the multi-channel function, add interfaces to the GOT with the following methods if required.

- Install communication units on the extension interfaces.
- Use communication units installed on the extension interfaces with the RS-232 interface, the RS422/485 interface, and/or the Ethernet interface built in the GOT.



(Example: In the case of the GT27)

Extension interface
Extension interface allows the installation of a communication unit up to the 3rd stage. These communication units cannot be used if installed in the 4th or higher stage.

Standard interface 4
(Ethernet interface built in the GOT)
Allows controllers to be connected via Ethernet. Up to four channels can be set.

Standard interface 1
(RS-232 interface built in the GOT)
Allows a controller to be connected via the serial communication.

Standard interface 3
(RS-422/485 interface built in the GOT)
Allows a controller to be connected via the serial communication.

Standard interface 2
(USB interface built in the GOT)
Not used for the multi-channel function.

For the connection via the connection type selected in 19.3.3, select interfaces and communication units to be used. Select the interfaces and communication units according to the connection type by referring to the following.

Selected connection type	Reference for required interface and communication unit
• Bus connection	☞ This section ■ GOT interface used for bus connection
• MELSECNET/H connection (PLC to PLC network)	☞ This section ■ GOT interface used for network connection
• MELSECNET/10 connection (PLC to PLC network)	
• CC-Link IE Controller Network connection	
• CC-Link IE Field Network connection	
• CC-Link connection (intelligent device station)	
• CNC connection (MELSECNET/10 connection (PLC to PLC network), CC-Link connection (intelligent device station))	
• Ethernet connection	☞ This section ■ GOT interface used for Ethernet connection
• Third party PLC connection (Ethernet connection)	
• Robot controller connection	
• CNC connection (Ethernet connection)	
• Microcomputer connection (Ethernet)	
• MODBUS®/TCP connection	
• Direct CPU connection	☞ This section ■ GOT interface used for serial connection
• Computer link connection	
• CC-Link connection (via G4)	
• Inverter connection	
• Servo amplifier connection	
• CNC connection (serial connection)	
• GOT Multi- Drop Connection	
• Third party PLC connection (serial connection)	
• Third party safety controller connection	
• Third party servo amplifier connection	
• Third party robot controller connection	
• Third party temperature controller connection	
• Microcomputer Connection (Serial)	
• MODBUS®/RTU connection	
• Other functions	☞ This section ■ Interfaces and option units used for other functions

■ GOT interface used for bus connection

For the bus connection, use the following communication units.

Interface	Model*1
Bus connection unit	GT15-75QBUS(2)L, GT15-75ABUS(2)L, GT15-QBUS(2), GT15-ABUS(2)

*1 To mount multiple units, the GT15-QBUS(2) or GT15-ABUS(2) is required.

POINT

(1) Bus connection units to be used
GT15-QBUS(2) and GT15-ABUS(2) can be used independent of the number of serial connection channels. When using the multi-channel function for the first time, it is recommended to use GT15-QBUS(2) or GT15-ABUS(2).

(2) Restrictions by bus connection unit installation
For the following functions, use the GT15-QBUS(2) or GT15-ABUS(2), regardless of the number of channels used for the serial connection.
With the GT15-75QBUS(2)L or GT15-75ABUS(2)L, the following functions are not available.

Function		
Remote personal computer operation (serial), External I/O function,	Video display function, RGB display function,	Multimedia function, Sound output function

■ GOT interface used for network connection

For the network connection, use the following communication units.

Interface	Model
MELSECNET/H communication unit	GT15-J71LP23-25,GT15-J71BR13
CC-Link IE Controller Network communication unit	GT15-J71GP23-SX
CC-Link IE Field Network communication unit	GT15-J71GF13-T2
CC-Link communication unit	GT15-J61BT13

■ GOT interface used for Ethernet connection

For the Ethernet connection, use the following interface built in the GOT and communication unit.

Interface	Name
Name	Ethernet interface*1

*1 Up to four channels can be used.

■ GOT interface used for serial connection

For the serial connection, provide interfaces equivalent to the number of channels by using the following interfaces built in the GOT and communication units in combinations.

Interface	Name/model
Interface built in GOT	RS-232 interface*1, RS-422/485 interface
Serial communication module	GT15-RS2-9P,GT15-RS4-9S,GT15-RS4-TE

*1 The operator authentication (external authentication) or the FA transparent function (RS-232 communication) uses the RS-232 interface built in the GOT.

■ Interfaces and option units used for other functions

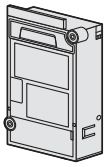
When the following functions are used in combinations, the number of available channels may vary according to the combinations of units

Function		Reference
Sound output function	External I/O function,	(1) (a)
Remote personal computer operation (serial), Multimedia function,	Video display function, RGB display function	(1) (b)
Remote personal computer operation (Ethernet), Gateway function,	Ethernet download, MES interface function	(1) (c)
RFID function,	Barcode function, Remote personal computer operation (serial),	(1) (d)

Refer to the explanation below to check if the number of channels for the multi-channel function to be used is restricted or not. If it is restricted, review the system configuration.

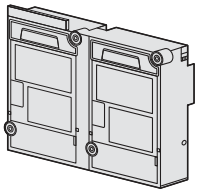
(1) Number of stages taken up by the individual functions (number of slots)

(a) Report function and sound output function



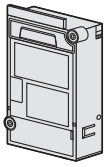
The printer unit, sound output unit, or external I/O unit is required depending on the function to be used.
Each unit uses one stage (one slot) of an extension interface.

(b) Remote personal computer operation (serial), video display function, multimedia function and RGB display function



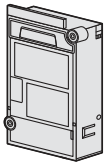
A video input unit, an RGB input unit, a video/RGB input unit, an RGB output unit or a multimedia unit is required corresponding to the function to be used.
Each type of unit uses 1 stage (2 slots) of extension interface.
Only one piece of each type of unit can be installed on a GOT.

(c) Remote personal computer operation (Ethernet), Ethernet download, and gateway function



Use the interface built in the GOT.
The Ethernet communication unit is not applicable.

(d) Barcode function, RFID function, and remote personal computer operation (serial)



Use the interface built in the GOT or a serial communication unit.
A serial communication unit uses 1 stage (1 slot) of extension interface.

Write Check Sheet

19.5
Multi-channel Function Check Sheet

Write down the following items selected in this section to the check sheet.

②Selection of interface (communication unit)

Write down the name of interface and the model name of communication unit to be used for each of the connection type.

■ Check sheet No.1 (selection of connection type and interface)

(1) Channel No. of PLC, motion controller CPU, temperature controller, inverter, servo amplifier, CNC, robot controller (No.1 to No.4)

CH No.	① Selection of connection type (19.3.3)	② Selection of interface (communication unit) (19.3.4)
1	Connection name: Bus(Q)	GT15-QBUS2
2	Connection name: OMRON PLC	Ethernet interface built in the GOT
3	Connection name: OMRON temp.	RS-422/485 interface built in the GOT
4	Connection name: Servo amplifier	GT15-RS2-9P

(2) Channel No. of barcode reader, RFID controller, personal computer (CH No. 5 to 8)

CH No.	① Selection of connection type (19.3.3)	② Selection of interface (communication unit) (19.3.4)
5	Connection name: Barcode reader	GT15-RS2-9P
6	Connection name:	
7	Connection name:	
8	Connection name: RFID controller connection	RS-232 interface built in the GOT

(Continued to next page)

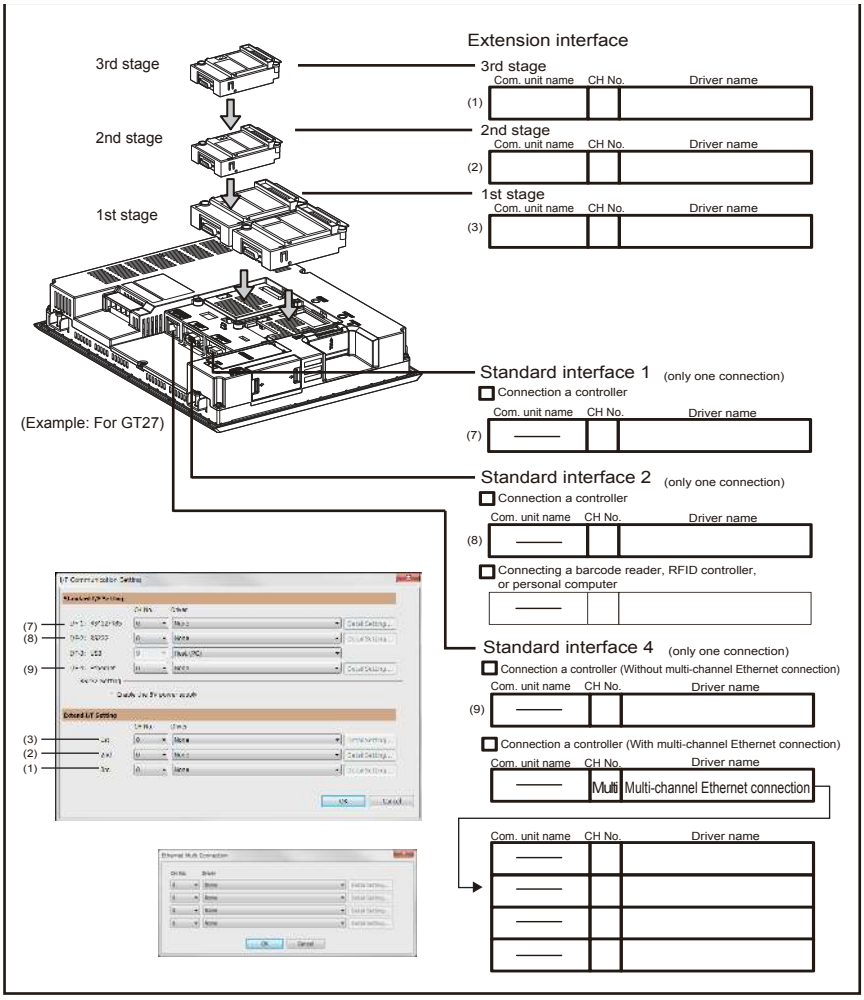
Write Check Sheet

19.5
Multi-channel Function Check Sheet

Write down the following items to the check sheet.

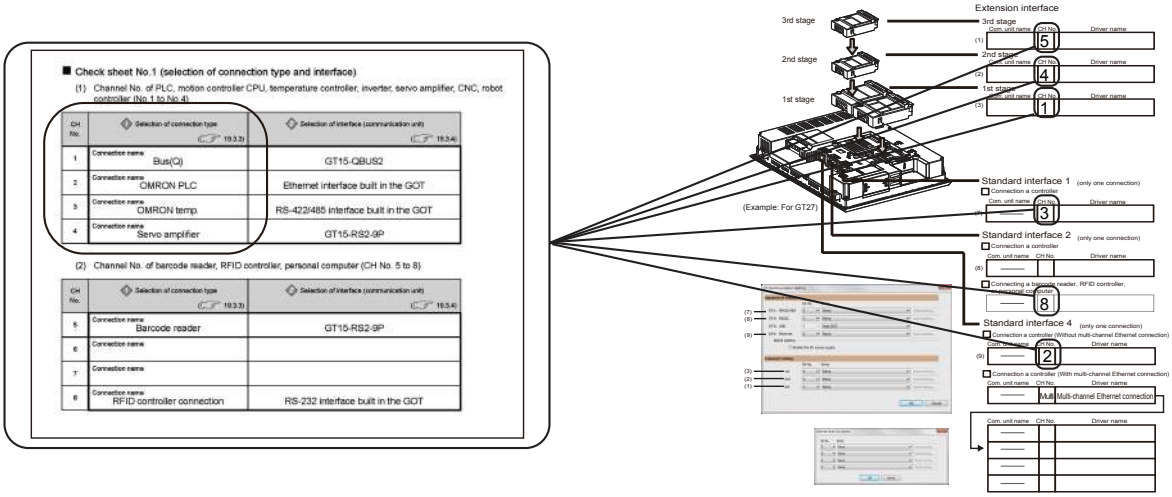
◈3 Attaching the communication unit

1. Write down the name of communication unit to be used for each of the connection type.



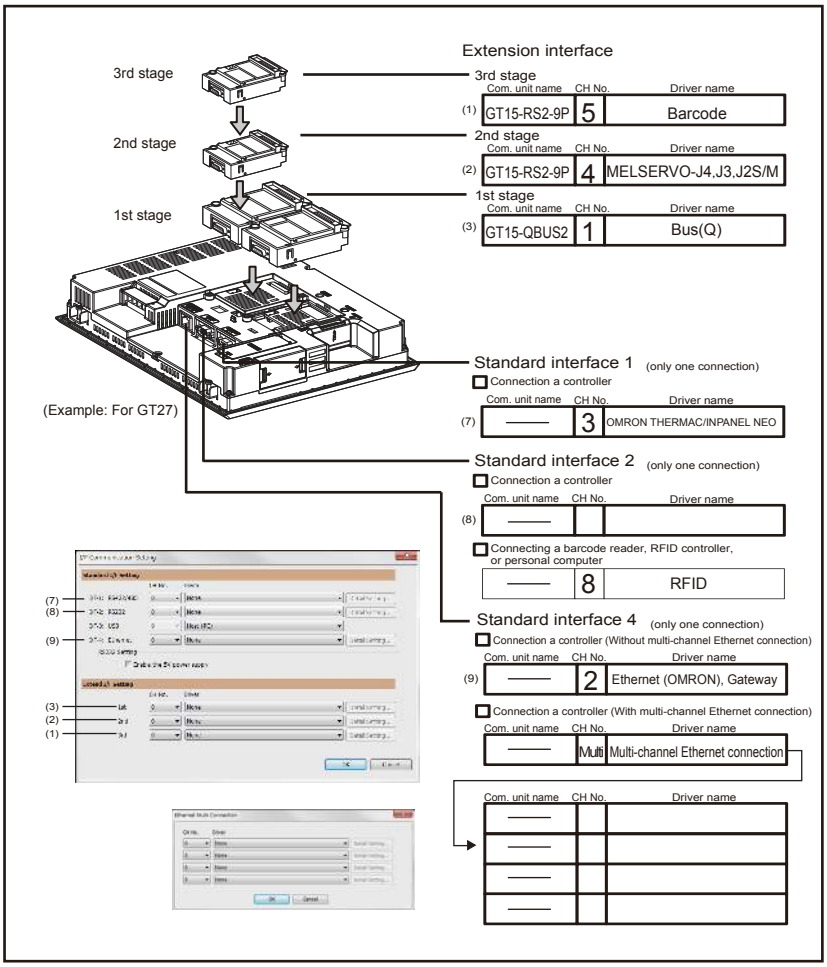
(Continued to next page)

2. After writing down the names of communication units, write down CH No. to be assigned to respective units based on the entry in ■ Check Sheet No. 1 (selection of connection type and interface).



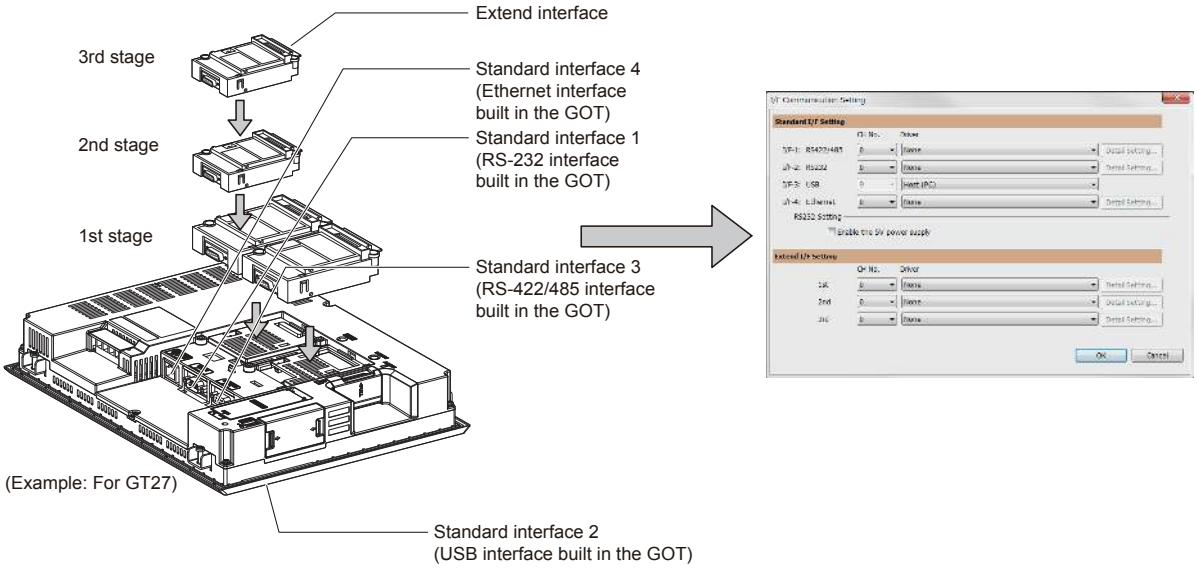
3. After writing down CH No., write down the communication driver name for each connection type. For the communication drivers used for the respective connection types, refer to the following.

☞ Chapters of each respective connection type



19.3.5 Setting for communication settings

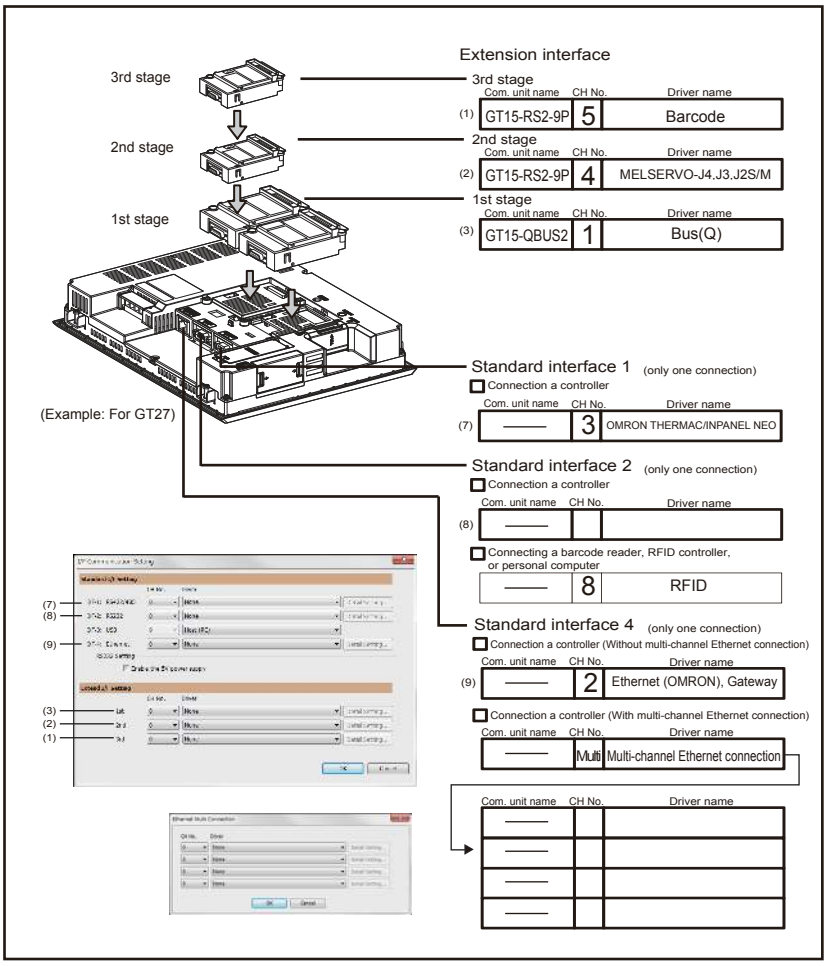
Make communication settings based on the interface and the installation position of the respective communication units.



Check

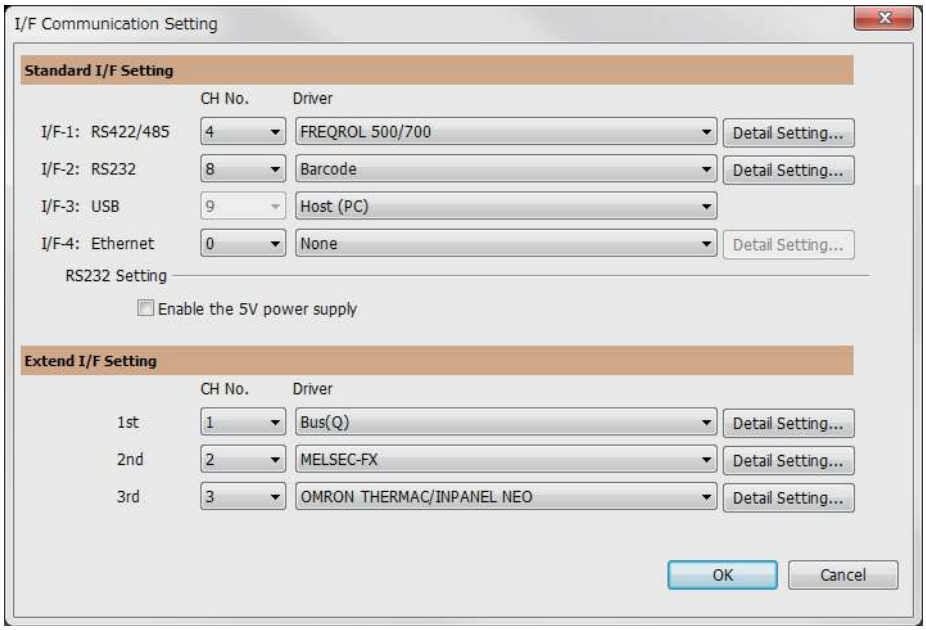
19.5
Multi-channel Function Check Sheet

Make settings for Communication Settings by GT Designer3 referring to the check sheet where the necessary information has been written.
The positions that the settings should be made on the communication settings screen are specified on the check sheet by numbers.

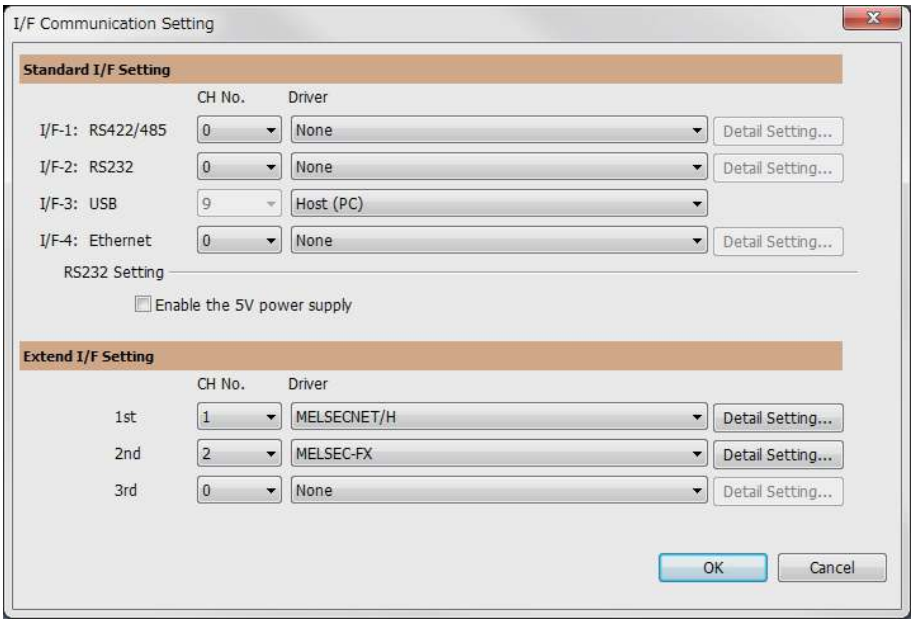


This completes the setting for Communication Settings.
Create a screen with GT Designer3.

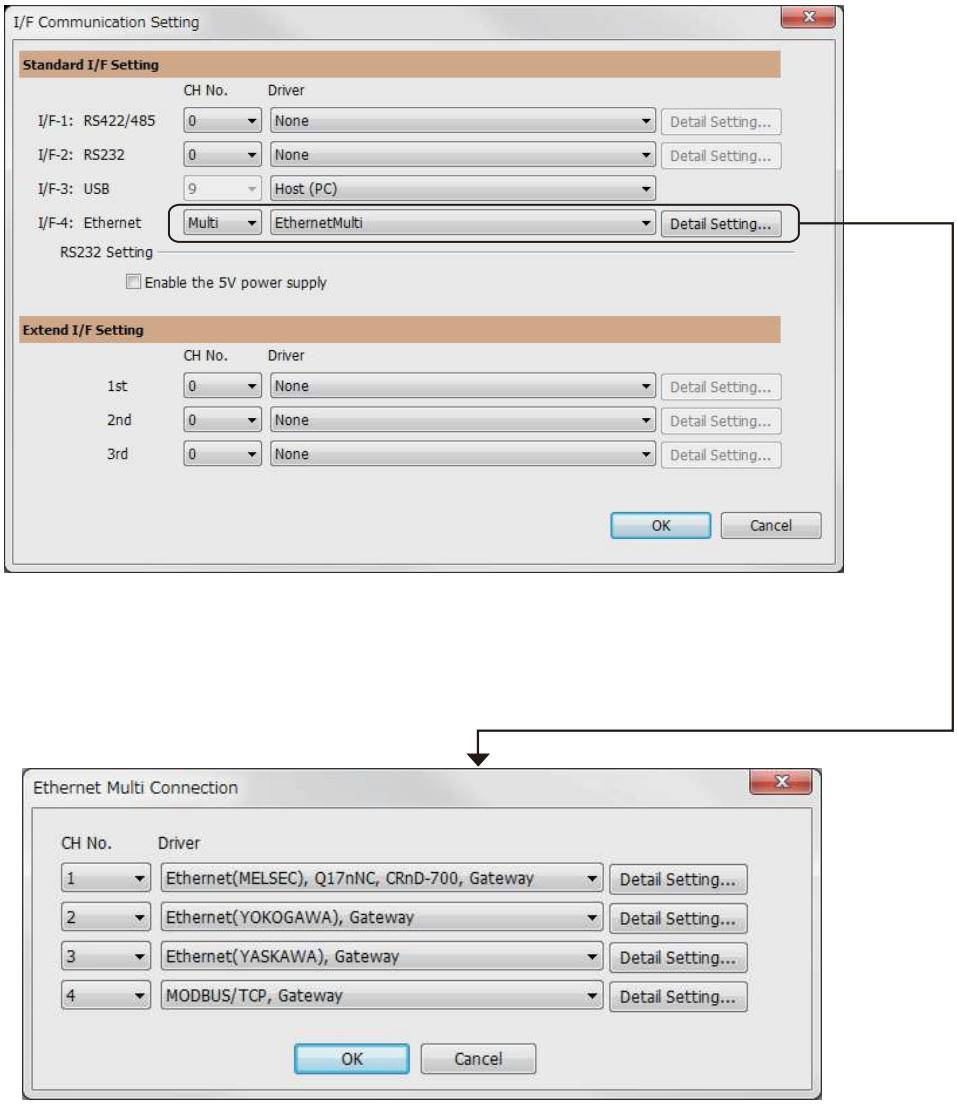
Example: Setting example for "Bus connection (1 channel) + Serial connection (3 channels) + Bar code reader"



Example: Setting example for "MELSECNET/H connection (1 channel) + Serial connection (1 channel)"



Example: Setting example for Ethernet connection (4 channels)



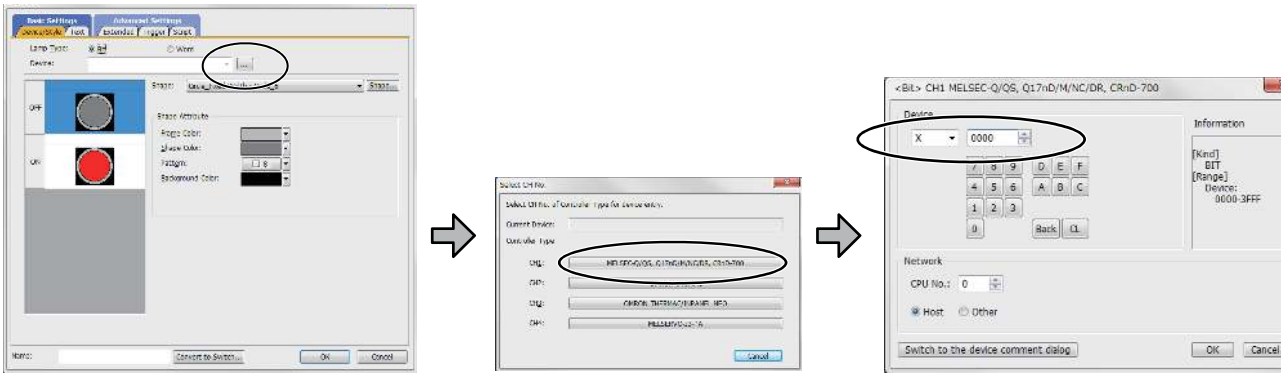
19.3.6 Items to be checked before starting drawing

The following describes that should be understood before starting drawing and the functions that should be set beforehand when using the multi-channel function.

■ Device settings

It is necessary to set the device to be used together with the CH No.

GT Designer3 (GOT2000) Help



1. Click the device setting button.

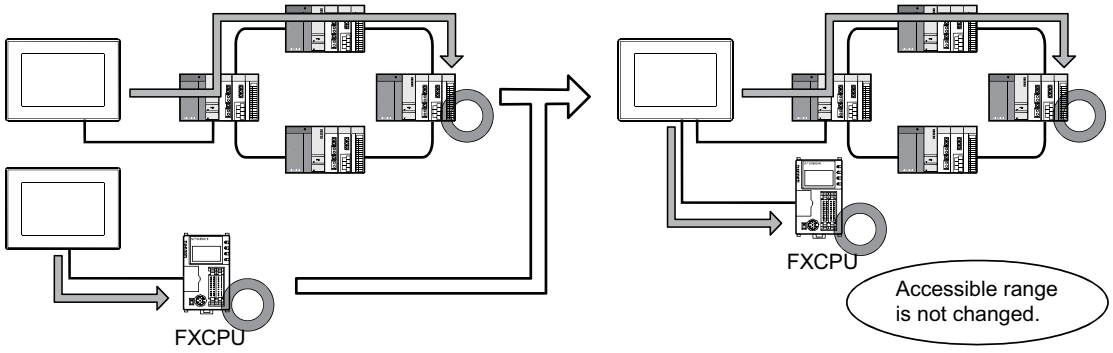
2. Click the controller to be set.

3. Set the device.

■ Accessible range for monitoring

The accessible range for monitoring is not changed even when the multi-channel function is used.

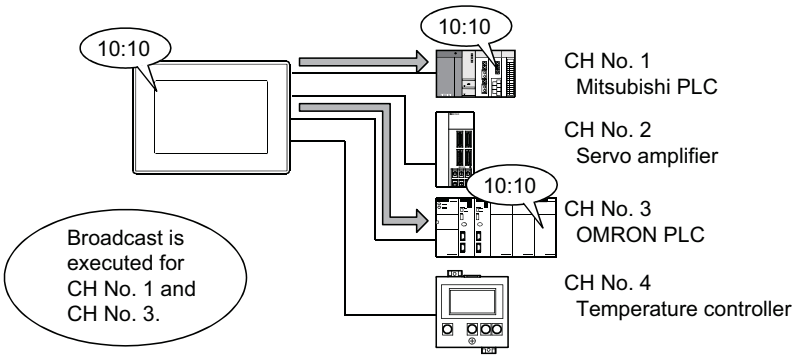
3. ACCESS RANGE FOR MONITORING



■ Clock function

Set the controller for which adjust/broadcast should be executed by the CH No.

☞ GT Designer3 (GOT2000) Help

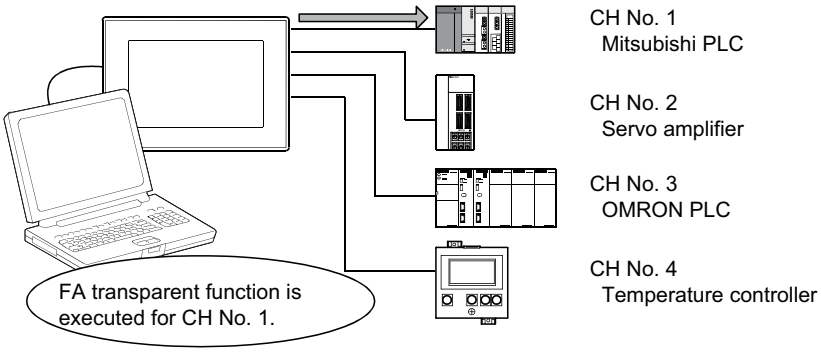


■ FA transparent function

Set the controller for which the FA transparent function should be executed by the CH No.

☞ 18.5.1 Setting communication interface (communication settings)

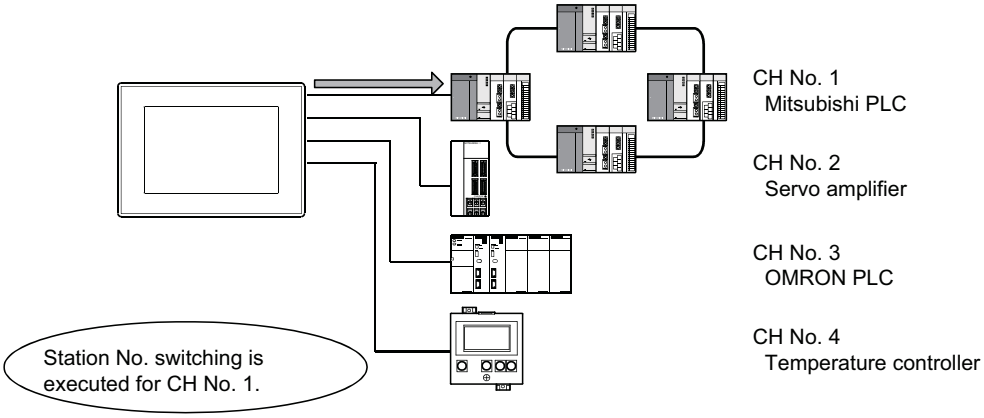
The set CH No. can be changed by the Utility.
To execute the FA transparent function for other CH No., change the CH No. using the Utility.



■ Station No. switching function

Set the controller for which the station No. switching function should be executed by the CH No.

☞ GT Designer3 (GOT2000) Help



19.4 Precautions

19.4.1 Precautions for use

■ Occurrence of the same system alarm at different channels

When the advanced system alarm is used, if the system alarms with the same error code occur in different channels the GOT treats the alarms as the same system alarm.
Therefore, if the system alarms with the same error code occur one by one, the time of later system alarm occurrence is not reflected to the GOT.

■ Confirmation of the channel No. at which a system alarm occurred

When a system alarm occurred, confirm the channel No. where the alarm occurred, using the procedure indicated below.

(1) Check by [System alarm display] of the utility.

☞ GOT2000 Series User's Manual (Utility)

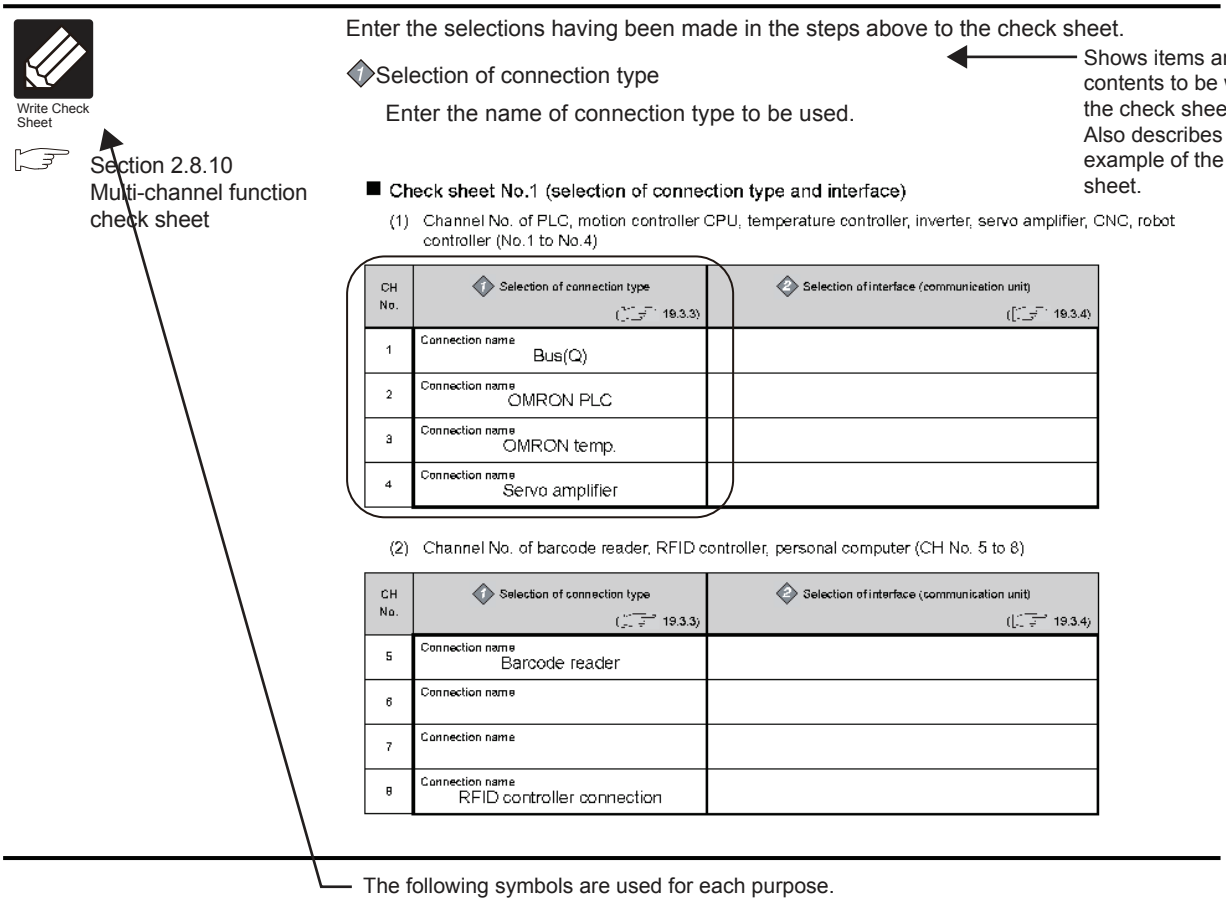
(2) Monitor the internal devices of the GOT.

☞ GT Designer3 (GOT2000) Help

19.5 Multi-channel Function Check Sheet

This section provides the check sheet to be used for Communication Settings when the multi-channel function is used.

Sections 20.3.3 to 20.3.5 contain explanations of the items to be checked on the check sheet.
Checking items explained in these sections using the check sheet on the following page allows you to complete the setting for the multi-channel function.



■ Check sheet No.1 (selection of connection type and interface)

(1) Channel No. of PLC, motion controller CPU, temperature controller, inverter, servo amplifier, CNC, robot controller (No.1 to No.4)

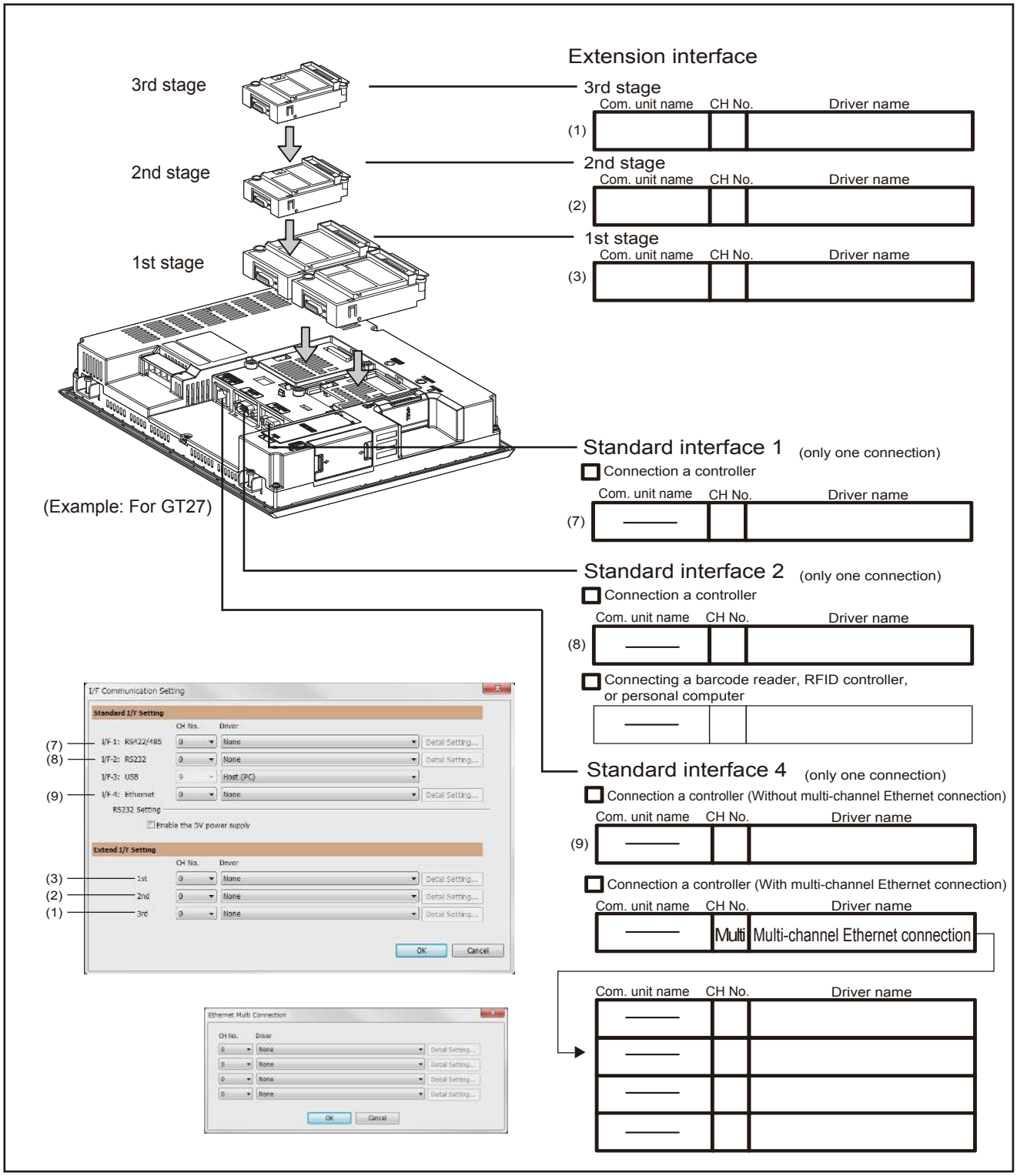
CH No.	① Selection of connection type (☞ 19.3.3)	② Selection of interface (communication unit) (☞ 19.3.4)
1	Connection name	
2	Connection name	
3	Connection name	
4	Connection name	

(2) Channel No. of barcode reader, RFID controller, personal computer (CH No. 5 to 8)

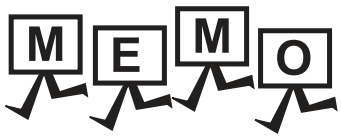
CH No.	① Selection of connection type (☞ 19.3.3)	② Selection of interface (communication unit) (☞ 19.3.4)
5	Connection name	
6	Connection name	
7	Connection name	
8	Connection name	

■ Check sheet No. 2 (selection of GOT side interface)

③ Attaching the communication unit
(☞ 1.3.5)



FA TRANSPARENT FUNCTION


MEMO

20

FA TRANSPARENT FUNCTION

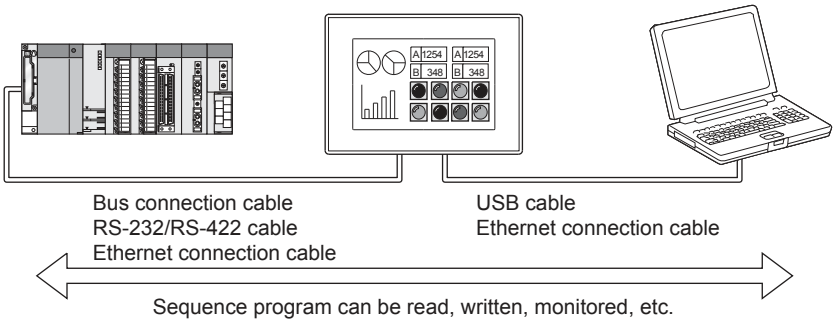
20. FA TRANSPARENT FUNCTION

■ Wireless LAN connection precautions

Wireless LAN connection is available for use only in Japan.

20.1 FA Transparent Function

The FA transparent function allows the sequence programs of the Mitsubishi PLC to be read, written and monitored from a personal computer connected via a GOT.



20.2 Compatible Software

The following shows the software compatible with the FA transparent function.

POINT

(1) The range accessible by software when FA transparent function is used
Use of the FA transparent function does not affect the range accessible by the software.
For details on accessible range, refer to the manual for the respective software.

(2) The software settings when using FA transparent function
For the software settings, refer to the following when using FA transparent function.

☞ 20.6.1 Accessing the PLC by the PX Developer, GX Configurator
☞ 20.6.2 Accessing by GX Works2
☞ 20.6.3 Accessing by GX LogViewer
☞ 20.6.4 Accessing PLC by GX Configurator-QP
☞ 20.6.5 Accessing by the MT Developer
☞ 20.6.6 Accessing by the MT Works2
☞ 20.6.7 Accessing the servo amplifier by the MR Configurator
☞ 20.6.8 Accessing the servo amplifier by the MR Configurator2
☞ 20.6.9 Accessing the inverter by the FR Configurator
☞ 20.6.10 Accessing PLC by FX Configurator-FP
☞ 20.6.11 Accessing by FX3U-ENET-L Configuration tool
☞ 20.6.12 Accessing by RT ToolBox2
☞ 20.6.13 Accessing by NC Configurator
☞ 20.6.14 Accessing by MELSOFT Navigator
☞ 20.6.15 Accessing by QnUDVCPU•LCPU Logging Configuration Tool
☞ 20.6.16 Accessing by Setting/ Monitoring tool for C Controller module

■ When connecting the GOT and the personal computer by USB

(1) When connecting the GOT and PLC in bus connection
The following shows the software and the accessible PLC CPUs.

PLC CPU	Software
QCPU (Q mode), C Controller module	MELSOFT Navigator*1 GX Works2*2 PX Developer*3 MX Component*4, MX Sheet*5 Setting/Monitoring tool for C Controller module*6 QnUDVCPU•LCPU Logging Configuration Tool*8
QCPU (A mode), QnA/ACPU, motion controller CPU (A Series)	MX Component*4, MX Sheet*5
Motion controller CPU (Q Series)	MELSOFT Navigator*1 MT Works2*9, MX Component*4, MX Sheet*5
CNC CPU(Q173NCCPU)	NC Configurator*10
Robot controller (CRnQ-700)	RT ToolBox2*11
MELSERVO(MR-J3-B)*14	MR Configurator2*12*13
MELSERVO(MR-J4-B)*14	MR Configurator2*12*13

*1 MELSOFT Navigator Version 1.71Z or later is required to use the FA transparent function.
*2 GX Works2 Version 1.497T or later is required to use the FA transparent function.
*3 PX Developer Version 1.40S or later is required to use the FA transparent function.
*4 MX Component that you can use the FA transparent function is scheduled to be supported soon.
*5 The MX Sheet, please use the MX Component (will be supported soon).
*6 Setting/Monitoring tool for C Controller module Version 4.04E or later is required to use the FA transparent function. (Available soon)
*7 GX LogViewer Version 1.32J or later is required to use the FA transparent function.
*8 QnUDVCPU•LCPU Logging Configuration Tool Version 1.32J or later is required to use the FA transparent function.
*9 MT Developer Version 1.66U or later is required to use the FA transparent function.
*10 NC Configurator that you can use the FA transparent function is scheduled to be supported soon.
*11 RT ToolBox2 Version 3.00 or later is required to use the FA transparent function.
*12 Start MR Configurator2 with MT Developer2 Version 1.66U or later.
*13 MR Configurator Version 1.23Z or later is required to use the FA transparent function.
*14 A motion controller is required between the GOT and PLC in bus connection.

(2) When connecting the GOT and PLC in direct CPU connection
The following shows the software and the accessible PLC CPUs.

PLC CPU	Software
QCPU (Q mode)	MELSOFT Navigator*1 GX Works2*2 PX Developer*3 MX Component*4, MX Sheet*5 GX Logviewer*6 QnUDVCPU•LCPU Logging Configuration Tool*7
LCPU*15	MELSOFT Navigator*1 GX Works2*2 MX Component*4, MX Sheet*5, GX Logviewer*6 QnUDVCPU•LCPU Logging Configuration Tool*7
QCPU (A mode), QnA/ACPU, motion controller CPU (A Series)	MX Component*4, MX Sheet*5
FXCPU	MELSOFT Navigator*1 GX Works2*2 FX Configurator-FP*9 FX3U-ENET-L Configuration tool *10 MX Component*4, MX Sheet*5
Motion controller CPU (Q Series)	MELSOFT Navigator*1 MT Works2*11, MX Component*4, MX Sheet*5
FREQROL A700/F700/E700/D700 Series	FR Configurator*12
Sensorless servo (FREQROL E700EX)	FR Configurator*12
Robot controller (CRnQ-700)	RT ToolBox2*13
MELSERVO(MR-J3-B)*16	MR Configurator2*14*15
MELSERVO(MR-J4-B)*16	MR Configurator2*14*15

*1 MELSOFT Navigator Version 1.71Z or later is required to use the FA transparent function.
*2 GX Works2 Version 1.497T or later is required to use the FA transparent function.
*3 PX Developer Version 1.40S or later is required to use the FA transparent function.
*4 MX Component that you can use the FA transparent function is scheduled to be supported soon.
*5 The MX Sheet, please use the MX Component (will be supported soon).
*6 GX LogViewer Version 1.32J or later is required to use the FA transparent function.
*7 QnUDVCPU•LCPU Logging Configuration Tool Version 1.32J or later is required to use the FA transparent function.
*8 The adapter (L6ADP-R2) is required.
*9 FX Configurator-FP that you can use the FA transparent function is scheduled to be supported soon.
*10 FX3U-ENET-L Configuration tool that you can use the FA transparent function is scheduled to be supported soon.
*11 MT Developer Version 1.66U or later is required to use the FA transparent function.
*12 FR Configurator that you can use the FA transparent function is scheduled to be supported soon.
*13 RT ToolBox2 Version 3.00 or later is required to use the FA transparent function.
*14 Start MR Configurator2 with MT Developer2 Version 1.66U or later.
*15 MR Configurator2 Version 1.24A or later is required to use the FA transparent function.
*16 A motion controller is required between the GOT and PLC in direct CPU connection.

(3) When connecting the GOT and PLC in computer link connection
The following shows the software and the accessible PLC CPUs.

PLC CPU	Software
QCPU (Q mode)	MELSOFT Navigator*1 GX Works2*2 PX Developer*3 MX Component*4, MX Sheet*5 GX LogViewer*6 QnUDVCPU•LCPU Logging Configuration Tool*7
LCPU	MELSOFT Navigator*1 GX Works2*2 MX Component*4, MX Sheet*5, GX LogViewer*6 QnUDVCPU•LCPU Logging Configuration Tool*7
Motion controller CPU (Q Series)	MX Component*4, MX Sheet*5

*1 MELSOFT Navigator Version 1.71Z or later is required to use the FA transparent function.
*2 GX Works2 Version 1.497T or later is required to use the FA transparent function.
*3 PX Developer Version 1.40S or later is required to use the FA transparent function.
*4 MX Component that you can use the FA transparent function is scheduled to be supported soon.
*5 The MX Sheet, please use the MX Component (will be supported soon).
*6 GX LogViewer Version 1.32J or later is required to use the FA transparent function.
*7 QnUDVCPU•LCPU Logging Configuration Tool Version 1.32J or later is required to use the FA transparent function.

(4) When connecting the GOT and PLC in Ethernet communication
The following shows the software and the accessible PLC CPUs.

PLC CPU	Software
QCPU (Q mode)*1, C Controller module	MELSOFT Navigator*1 GX Works2*2*3 MX Component*4, MX Sheet*5 Setting/Monitoring tool for C Controller module*6 GX LogViewer*7 QnUDVCPU•LCPU Logging Configuration Tool*8
LCPU	MELSOFT Navigator*1 GX Works2*2 MX Component*4, MX Sheet*5, GX LogViewer*7 QnUDVCPU•LCPU Logging Configuration Tool*8
FXCPU	GX Works2*2
QCPU (A mode), QnA/ACPU*1	MX Component*4, MX Sheet*5
Motion controller CPU (Q Series)	MELSOFT Navigator*1 MT Works2*10
CNC CPU(Q173NCCPU)	NC Configurator*11
Robot controller (CRnQ-700, CRnD-700)	RT ToolBox2*12
MELSERVO(MR-J3-B) *15	MR Configurator2*13*14
MELSERVO(MR-J4-B) *15	MR Configurator2*13*14

*1 MELSOFT Navigator Version 1.71Z or later is required to use the FA transparent function.
*2 GX Works2 Version 1.497T or later is required to use the FA transparent function.
*3 GX Works2 Version 1.34L or later is required to execute the FA transparent function with using CC-Link IE Field Network Ethernet adapter (NZ2GF-ETB).
C controller module does not support CC-Link IE Field Network.
*4 MX Component that you can use the FA transparent function is scheduled to be supported soon.
*5 The MX Sheet, please use the MX Component (will be supported soon).
*6 Setting/Monitoring tool for C Controller module Version 4.04E or later is required to use the FA transparent function.(will be supported soon)
*7 GX LogViewer Version 1.32J or later is required to use the FA transparent function.
*8 QnUDVCPU•LCPU Logging Configuration Tool Version 1.32J or later is required to use the FA transparent function.
*9 Only QCPU can be connected.To connect to QnA/ACPU, connect via QCPU.
*10 MT Developer2 Version 1.66U or later is required to use the FA transparent function.
*11 NC Configurator that you can use the FA transparent function is scheduled to be supported soon.
*12 RT ToolBox2 Version 3.00 or later is required to use the FA transparent function.
*13 Start MR Configurator2 with MT Developer2 Version 1.66U or later.
*14 MR Configurator2 Version 1.23Z or later is required to use the FA transparent function.
*15 A motion controller is required between the GOT and PLC in Ethernet connection.

■ When connecting the GOT and the personal computer by Ethernet

(1) When connecting the GOT and PLC in Bus connection
The following shows the software and the accessible PLC CPUs.

PLC CPU	Software
QCPU (Q mode), C Controller module	GX Works2 *1, MX Component *2, MX Sheet*3, Setting/Monitoring tool for C Controller module*8
Motion controller CPU (Q series)	MT Works2*4
MELSERVO(MR-J3-B) *5	MR Configurator2*6
MELSERVO(MR-J4-B) *5	MR Configurator2*7

*1 GX Works2 Version 1.48A or later is required to use the FA transparent function.
*2 MX Component Version 3.15R or later is required to use the FA transparent function.
*3 MX Component Version 3.15R or later is required for MX Sheet to use the FA transparent function.
*4 Use MT Works2 Version 1.25B or later for MT Works2.
*5 A motion controller is required between the GOT and PLC in bus connection.
*6 Use MR Configurator2 Version 1.07H or later for MR Configurator2.
*7 Use MR Configurator2 Version 1.09K or later for MR Configurator2.
*8 Setting/Monitoring tool for C Controller module Version 4.00A or later is required to use the FA transparent function.

(2) When connecting the GOT and PLC in direct CPU connection
The following shows the software and the accessible PLC CPUs.

PLC CPU	Software
QCPU (Q mode)	GX Works2 *1, MX Component *3, MX Sheet*4
LCPU*2	GX Works2 *1, MX Component *3, MX Sheet*4
FXCPU	GX Works2*5
Motion controller CPU (Q series)	MT Works2*6
MELSERVO(MR-J3-B)*9	MR Configurator2*7
MELSERVO(MR-J4-B)*9	MR Configurator2*8

*1 GX Works2 Version 1.48A or later is required to use the FA transparent function.
*2 The adapter (L6ADP-R2) is required.
*3 MX Component Version 3.15R or later is required to use the FA transparent function.
*4 MX Component Version 3.15R or later is required for MX Sheet to use the FA transparent function.
*5 GX Works2 Version 1.73B or later is required for GX Works2 to use the FA transparent function.
*6 MT Works2 Version 1.25B or later is required for MT Works2 to use the FA transparent function.
*7 MR Configurator2 Version 1.07H or later is required for MR Configurator2 to use the FA transparent function.
*8 MR Configurator2 Version 1.09K or later is required to use the FA transparent function.
*9 A motion controller is required between the GOT and PLC in direct CPU connection.

(3) When connecting the GOT and PLC in computer link connection
The following shows the software and the accessible PLC CPUs.

PLC CPU	Software
QCPU (Q mode)	GX Works2 *1, MX Component *2, MX Sheet*3
LCPU*2	GX Works2 *1, MX Component *2, MX Sheet*3

*1 GX Works2 Version 1.48A or later is required to use the FA transparent function.
*2 MX Component Version 3.15R or later is required to use the FA transparent function.
*3 MX Component Version 3.15R or later is required for MX Sheet to use the FA transparent function.

20.3 List of Models that Can Be Monitored

The following models support FA transparent function.

■ When connecting the GOT and the personal computer by USB

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
MELSEC-Q (Q mode)	Q00JCPU Q00CPU Q01CPU Q02CPU Q02HCPU Q06HCPU Q12HCPU Q25HCPU	GX Works2 GX Configurator PX Developer MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q12PRHCPU (Main base) Q25PRHCPU (Main base) Q12PRHCPU (Extension base) Q25PRHCPU (Extension base)		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q00UJCPU Q00UCPU Q01UCPU Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU		GT27 GT23 GS	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS
	Q03UDVCPU*2 Q04UDVCPU*2 Q06UDVCPU*2 Q13UDVCPU*2 Q26UDVCPU*2		GT27 GT23 GS	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system, since QnUDEHCPU, QnUDVCPU has no direct coupled I/F.

*2 QnUDVCPU is applicable to QnUDVCPU•LCPU Logging Configuration Tool and GX LogViewer.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
C Controller module	Q12DCCPU-V Q24DHCCPU-V Q24DHCCPU-LS	GX Works2 MX Component MX Sheet	GT27 GT23 GS *2	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS *2
	Q24DHCCPU-V Q24DHCCPU-LS	Setting/Monitoring tool for C Controller module	GT27 GT23 GS *2	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS
MELSEC-QS	QS001CPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L06CPU-P L26CPU-P L02CPU-P L26CPU-PBT L02SCPU L02SCPU-P	GX Works2 GX LogViewer MX Component MX Sheet QnUDVCPU•LCPU Logging Configuration Tool	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU	MX Component MX Sheet	GT27 GT23 GS *3	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system since Q12DCCPU-V1 and Q24DHCCPU-V have no direct coupled I/F.
*2 When using Q12DCCPU-V1 or Q24DHCCPU-V as the connected CPU, only MX Component can be used.
When accessing other CPUs relaying Q12DCCPU-V or Q24DHCCPU-V, GX Works2 can also be used.
*3 Do not execute the write during RUN in the bus connection.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
MELSEC-A (AnCPU)	A2NCPUP21 A2NCPUR21 A2NCPU-S1 A2NCPUP21-S1 A2NCPUR21-S1 A3NCPU A3NCPUP21 A3NCPUR21	MX Component MX Sheet	GT27 GT23 GS *2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-A (AnSCPU)	A2USCPU A2USCPU-S1 A2USHCPU-S1 A1SCPU A1SCPUC24-R2 A1SHCPU A2SCPU A2SCPU-S1 A2SHCPU A2SHCPU-S1 A1SJCPU A1SJCPU-S3 A1SJHCPU	MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-A	A0J2HCPU A0J2HCPUP21 A0J2HCPUR21 A0J2HCPU-DC24	MX Component MX Sheet	GT27 GT23 GS *2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	A2CCPU A2CCPUP21 A2CCPUR21 A2CCPUC24 A2CCPUC24-PRF A2CJCPU-S3 A1FXCPU	MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
Motion controller CPU (Q Series)	Q172CPU Q173CPU Q172CPUN Q173CPUN	MT Developer	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q172HCPU Q173HCPU	MT Developer MR Configurator	GT27 GT23 GS	GT27 GT23 GS *1		

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system since only the USB port is available as the direct coupled I/F for Q172H/Q173HCPU.

*2 Do not execute the write during RUN in the bus connection.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
Motion controller CPU (Q Series)	Q172DCPU	MT Works2	GT27 GT23 GS	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS
	Q173DCPU					
	Q172DCPU-S1					
	Q173DCPU-S1					
	Q172DSCPU					
	Q173DSCPU					
	Q170MCPU	MT Works2 GX Works2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q170MSCPU					
	Q170MSCPU-S1					
Motion controller CPU (A Series)	A273UCPU	MX Component MX Sheet	GT27 GT23 GS *2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	A273UHCPU					
	A273UHCPU-S3					
	A373UCPU					
	A373UCPU-S3					
	A171SCPU					
	A171SCPU-S3					
	A171SCPU-S3N					
	A171SHCPU					
	A171SHCPUN					
	A172SHCPU					
	A172SHCPUN					
	A173UHCPU					
	A173UHCPU-S1					
MELSEC-FX	FX_0, FX_{0S}, FX_{0N}, FX_1, FX_2, FX_{2C}, FX_{1S}, FX_{1N}, FX_{2N}, FX_{1NC}, FX_{2NC}	GX Works2 MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	$FX_{3G(c)}$, FX_{3S}, FX_{3GE}	FX Configurator-FP MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
		GX Works2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	$FX_{3U(c)}$	FX Configurator-FP FX3U-ENET-L Configuration tool MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
		GX Works2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system since Q172H/Q173HCPU has no direct coupled I/F.
*2 Do not execute the write during RUN in the bus connection.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
MELSEC-WS	WS0-CPU0	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	WS0-CPU1					
MELSECNET/H Remote I/O station	QJ72LP25-25	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	QJ72LP25G					
	QJ72BR15					
CC-Link IE Field Network head module	LJ72GF15-T2	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	GX Works2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	**GT27** **GT23** GS
CNC	CNC C70 (Q173NCCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	NC Configurator	**GT27** GT23 GS	**GT27** **GT23** GS *1	**GT27** **GT23** GS	**GT27** **GT23** GS *2
	MELDAS C6/C64	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
Robot controller	CRnQ-700 (Q172DRCPU)	RT ToolBox2	**GT27** GT23 GS	**GT27** **GT23** GS *3	GT27 GT23 GS	**GT27** **GT23** GS
	CRnD-700 CR750-D CR751-D		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	**GT27** **GT23** GS

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system since Q173NCCPU has no direct coupled I/F.
*2 Connect to the DISPLAY I/F of Q173NCCPU.
*3 Use the serial port of QCPU in the multiple CPU system, since CRnQ-700 has no direct coupled I/F.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
FREQROL	FREQROL-A500/A500L	FR Configurator	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	FREQROL-F500/F500L					
	FREQROL-V500/V500L					
	FREQROL-E500					
	FREQROL-S500/S500E					
	FREQROL-F500J					
	FREQROL-D700					
	FREQROL-E700					
	FREQROL-A700					
	FREQROL-F700					
	FREQROL-A800	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	FREQROL-F800					
Sensorless servo	FREQROL-E700EX	FR Configurator	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELIPM	MD-CX522-□□K(-A0)					
MELSERVO	MR-J2S-□A	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-J2S-□CP					
	MR-J2S-□CL					
	MR-J2M-P8A					
	MR-J2M-□DU					
	MR-J3-□A					
	MR-J3-□T					
	MR-J3-□B	MR Configurator	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
		MR Configurator2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-J4-□A	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-J4-□B MR-J4W2-□B MR-J4W3-□B	MR Configurator2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-JE-□A	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS

■ When connecting the GOT and the personal computer by Ethernet or wireless LAN

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
MELSEC-Q (Q mode)	Q00JCPU Q00CPU Q01CPU Q02CPU Q02HCPU Q06HCPU Q12HCPU Q25HCPU	GX Works2 MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q12PRHCPU (Main base) Q25PRHCPU (Main base) Q12PRHCPU (Extension base) Q25PRHCPU (Extension base)		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q00UJCPU Q00UCPU Q01UCPU Q02UCPU Q03UDCPU Q04UDHCPU Q06UDHCPU Q10UDHCPU Q13UDHCPU Q20UDHCPU Q26UDHCPU		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q03UDECPU Q04UDEHCPU Q06UDEHCPU Q10UDEHCPU Q13UDEHCPU Q20UDEHCPU Q26UDEHCPU Q50UDEHCPU Q100UDEHCPU			GT27 GT23 GS *1		
	Q03UDVCPU Q04UDVCPU Q06UDVCPU Q13UDVCPU Q26UDVCPU					

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system, since QnUDEHCPU, QnUDVCPU has no direct coupled I/F.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
C controller module	Q12DCCPU-V Q24DHCCPU-V Q24DHCCPU-LS	GX Works2 MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS
	Q24DHCCPU-V Q24DHCCPU-LS	Setting/Monitoring tool for C Controller module	GT27 GT23 GS	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS
MELSEC-QS	QS001CPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-L	L02CPU L06CPU L26CPU L26CPU-BT L02CPU-P L06CPU-P L26CPU-P L26CPU-PBT L02SCPU L02SCPU-P	GX Works2 MX Component MX Sheet	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-Q (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	-				
MELSEC-QnA (QnACPU)	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-QnA (QnASCPU)	Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
MELSEC-A (AnCPU)	A2UCPU A2UCPU-S1 A3UCPU A4UCPU A2ACPU A2ACPUP21 A2ACPUR21 A2ACPU-S1 A2ACPUP21-S1 A2ACPUR21-S1 A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system since Q12DCCPU-V1 and Q24DHCCPU-V have no direct coupled I/F.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
MELSEC-A (AnCPU)	A2NCPUP21	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	A2NCPUR21					
	A2NCPU-S1					
	A2NCPUP21-S1					
	A2NCPUR21-S1					
	A3NCPU					
	A3NCPUP21					
	A3NCPUR21					
MELSEC-A (AnSCPU)	A2USCPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	A2USCPU-S1					
	A2USHCPU-S1					
	A1SCPU					
	A1SCPUC24-R2					
	A1SHCPU					
	A2SCPU					
	A2SCPU-S1					
	A2SHCPU					
	A2SHCPU-S1					
	A1SJCPU					
	A1SJCPU-S3					
	A1SJHCPU					
MELSEC-A	A0J2HCPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	A0J2HCPUP21					
	A0J2HCPUR21					
	A0J2HCPU-DC24					
	A2CCPU	-				
	A2CCPUP21					
	A2CCPUR21					
	A2CCPUC24					
	A2CCPUC24-PRF					
	A2CJCPU-S3					
	A1FXCPU					
Motion controller CPU (Q Series)	Q172CPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q173CPU					
	Q172CPUN					
	Q173CPUN					
	Q172HCPU					
	Q173HCPU					

(Continued to next page)

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
Motion controller CPU (Q Series)	Q172DCPU	MT Works2	GT27 GT23 GS	GT27 GT23 GS *1	GT27 GT23 GS	GT27 GT23 GS
	Q173DCPU					
	Q172DCPU-S1					
	Q173DCPU-S1					
	Q172DSCPU					
	Q173DSCPU					
	Q170MCPU	MT Works2 GX Works2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	Q170MSCPU					
	Q170MSCPU-S1					
Motion controller CPU (A Series)	A273UCPU	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	A273UHCPU					
	A273UHCPU-S3					
	A373UCPU					
	A373UCPU-S3					
	A171SCPU					
	A171SCPU-S3					
	A171SCPU-S3N					
	A171SHCPU					
	A171SHCPUN					
	A172SHCPU					
	A172SHCPUN					
	A173UHCPU					
	A173UHCPU-S1					
MELSEC-FX	FX_0	GX Works2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	FX_{0S}					
	FX_{0N}					
	FX_1					
	FX_2					
	FX_{2C}					
	FX_{1S}					
	FX_{1N}					
	FX_{2N}					
	FX_{1NC}					
	FX_{2NC}					
	FX_{3S}					
	$FX_{3G(C)}$					
	FX_{3GE}					
	$FX_{3U(C)}$					
MELSEC-WS	WS0-CPU0	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	WS0-CPU1					

(Continued to next page)

*1 Use the serial port of QCPU in the multiple CPU system since Q172D/Q173DCPU has no direct coupled I/F.

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
MELSECNET/H Remote I/O station	QJ72LP25-25	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	QJ72LP25G					
	QJ72BR15					
CC-Link IE Field Network head module	LJ72GF15-T2	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
CC-Link IE Field Network Ethernet adapter module	NZ2GF-ETB	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
CNC	CNC C70 (Q173NCCPU)	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MELDAS C6/C64		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
Robot controller	CRnQ-700 (Q172DRCPU) CR750-Q (Q172DRCPU) CR751-Q (Q172DRCPU)	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	CRnD-700 CR750-D CR751-D		GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
FREQROL	FREQROL-A500/A500L	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	FREQROL-F500/F500L					
	FREQROL-V500/V500L					
	FREQROL-E500					
	FREQROL-S500/S500E					
	FREQROL-F500J					
	FREQROL-D700					
	FREQROL-E700					
	FREQROL-A700					
	FREQROL-F700					
	FREQROL-A800					
	FREQROL-F800					
Sensorless servo	FREQROL-E700EX					
MELIPM	MD-CX522-□□K(-A0)					

(Continued to next page)

Series	Model name	Target software	Connection type			
			Bus connection	Direct CPU connection	Computer link connection	Ethernet connection
MELSERVO	MR-J2S-□A	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-J2S-□CP					
	MR-J2S-□CL					
	MR-J2M-P8A					
	MR-J2M-□DU					
	MR-J3-□A					
	MR-J3-□T					
	MR-J3-□B*1*2	MR Configurator2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-J4-□A	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-J4-□B*1*2 MR-J4W2-□B*1*2 MR-J4W3-□B*1*2	MR Configurator2	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS
	MR-JE-□A	-	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS	GT27 GT23 GS

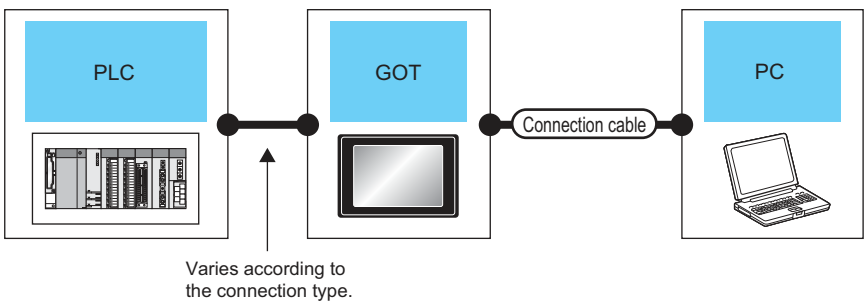
*1 A motion controller is required between the GOT and PLC in bus connection.

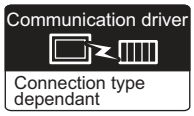
*2 A motion controller is required between the GOT and PLC in direct CPU connection.

20.4 System Configuration

20.4.1 GX Works2, GX LogViewer, MX Component, MX Sheet, QnUDVCPU•LCPU Logging Configuration Tool, Setting/Monitoring tool for C Controller module

■ When connecting the GOT and the personal computer by USB

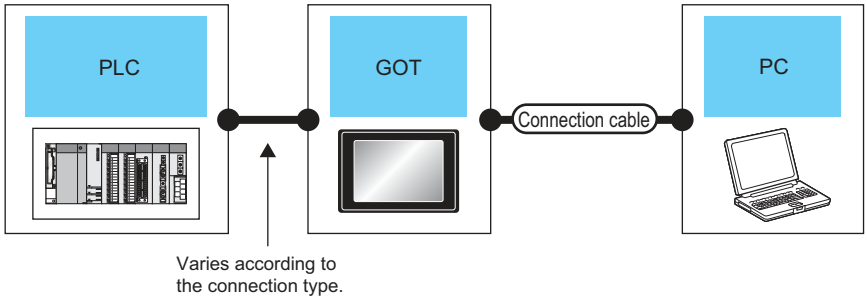




PLC	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ DIRECT CONNECTION TO CPU*4 ☞ COMPUTER LINK CONNECTION*1*4 ☞ ETHERNET CONNECTION ☞ GOT MULTI-DROP CONNECTION*3	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	GX Works2 GX LogViewer MX Component MX Sheet QnUDVCPU•LCPU Logging Configuration Tool Setting/Monitoring tool for C Controller module	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. ☞ BUS CONNECTION*2	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	GX Works2 GX LogViewer MX Component MX Sheet QnUDVCPU•LCPU Logging Configuration Tool Setting/Monitoring tool for C Controller module	1 personal computer for 1 GOT

*1 Applicable to the QCPU only
*2 QnUDVCPUoLCPU Logging Configuration Tool is not applicable to the bus connection
*3 GX LogViewer, MX Component, MX Sheet, QnUDVCPU•LCPU Logging Configuration Tool and Setting/Monitoring tool for C Controller module are not supported.
*4 Not applicable to Setting/Monitoring tool for C Controller module.

■ When connecting the GOT and the personal computer by Ethernet



Communication driver
Connection type dependant

PLC	GOT		Connection cable*1	Maximum segment length*2	Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model		Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ DIRECT CONNECTION TO CPU*4 ☞ COMPUTER LINK CONNECTION*4	GT27 GT23 GS	- (Built into GOT)	Twisted pair cable • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP): Category 3, 4, and 5 • 100BASE-TX Shielded twisted pair cable (STP): Category 5 and 5e	100m	GX Works2 Setting/ Monitoring tool for C Controller module	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. ☞ BUS CONNECTION*3	GT27 GT23 GS					

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system.
Connect to the Ethernet module, hub, transceiver, or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standards.
A cross cable is available for connecting the GOT to the Ethernet module.

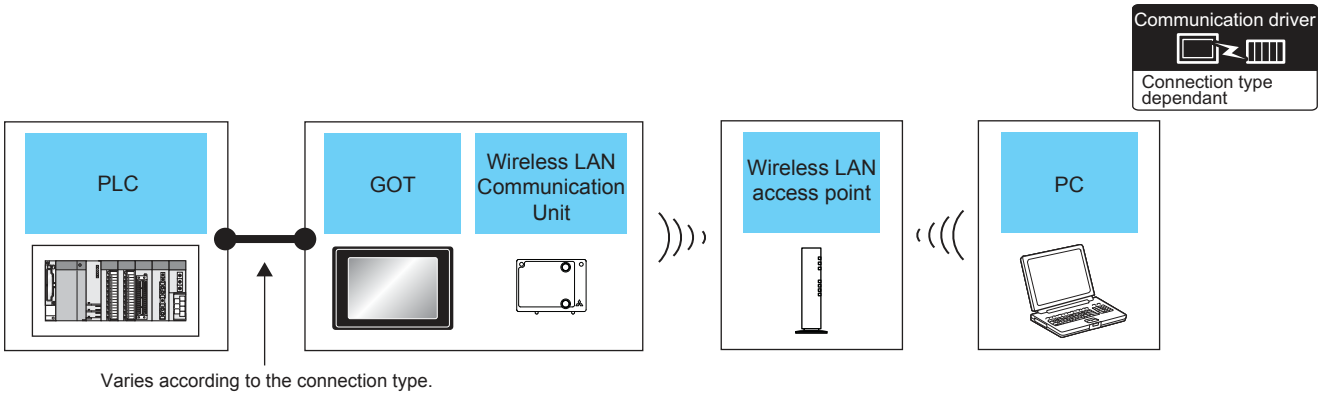
*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

*3 LCPU is not applicable to the bus connection.

*4 Not applicable to Setting/Monitoring tool for C Controller module.

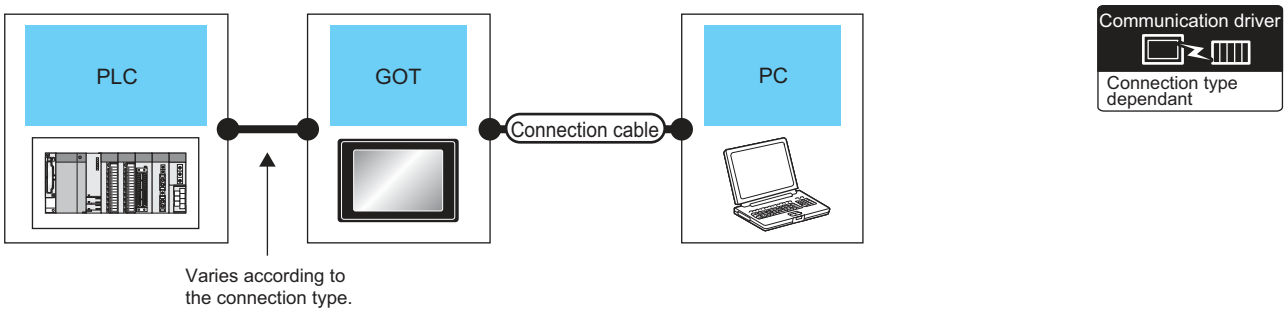
■ When connecting the GOT and the personal computer by wireless LAN



PLC	GOT		Wireless LAN access point	Personal computer	Number of connectable equipment
Connection type	Model	Option device	Model name	Software	
For the system configuration between the GOT and PLC, refer to the following. BUS CONNECTION*1 DIRECT CONNECTION TO CPU*2 COMPUTER LINK CONNECTION*2	GT27 GT23 GS	GT25-WLAN	For the wireless LAN access point, use the access point compatible with IEEE802.11b/g/n.	GX Works2 Setting/ Monitoring tool for C Controller module	1 personal computer for 1 GOT

*1 LCPU is not applicable to the bus connection.
*2 Not applicable to Setting/Monitoring tool for C Controller module.

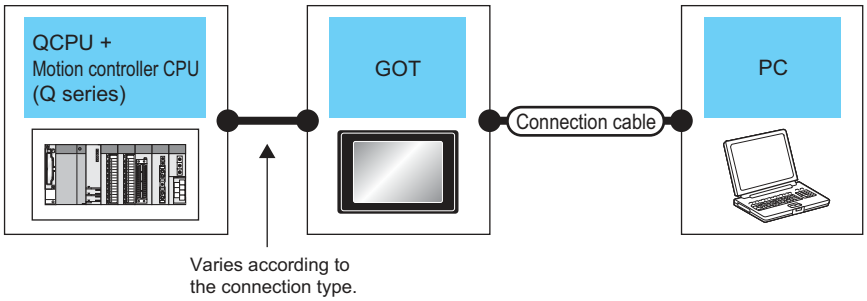
20.4.2 PX Developer, GX Configurator

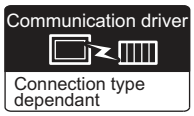


PLC	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For the system configuration between the GOT and PLC, refer to the following. DIRECT CONNECTION TO CPU COMPUTER LINK CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	PX Developer GX Configurator	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. BUS CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	PX Developer GX Configurator	1 personal computer for 1 GOT

20.4.3 MT Developer, MT Works2

■ When connecting the GOT and the personal computer by USB

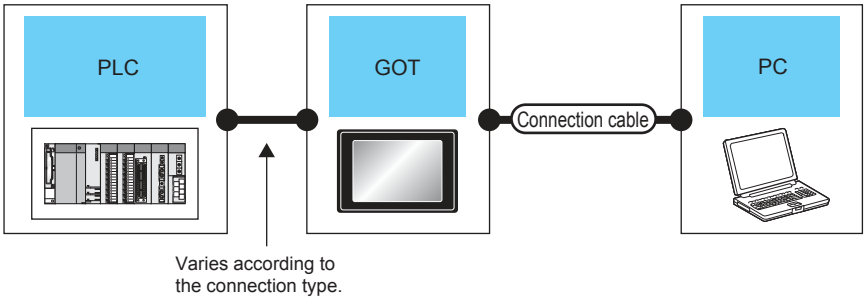




PLC	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ DIRECT CONNECTION TO CPU ☞ ETHERNET CONNECTION ☞ GOT MULTI-DROP CONNECTION*1	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	MT Developer MT Works2	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. ☞ BUS CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	MT Developer MT Works2	1 personal computer for 1 GOT

*1 GX LogViewer, MX Component and MX Sheet are not supported.

■ When connecting the GOT and the personal computer by Ethernet



PLC	GOT		Connection cable*1	Maximum segment length*2	Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model		Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ DIRECT CONNECTION TO CPU	GT27 GT23 GS	- (Built into GOT)	Twisted pair cable • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP): Category 3, 4, and 5 • 100BASE-TX Shielded twisted pair cable (STP): Category 5 and 5e	100m	MT Works2	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. ☞ BUS CONNECTION*3	GT27 GT23 GS	- (Built into GOT)	Twisted pair cable • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP): Category 3, 4, and 5 • 100BASE-TX Shielded twisted pair cable (STP): Category 5 and 5e	100m	MT Works2	1 personal computer for 1 GOT

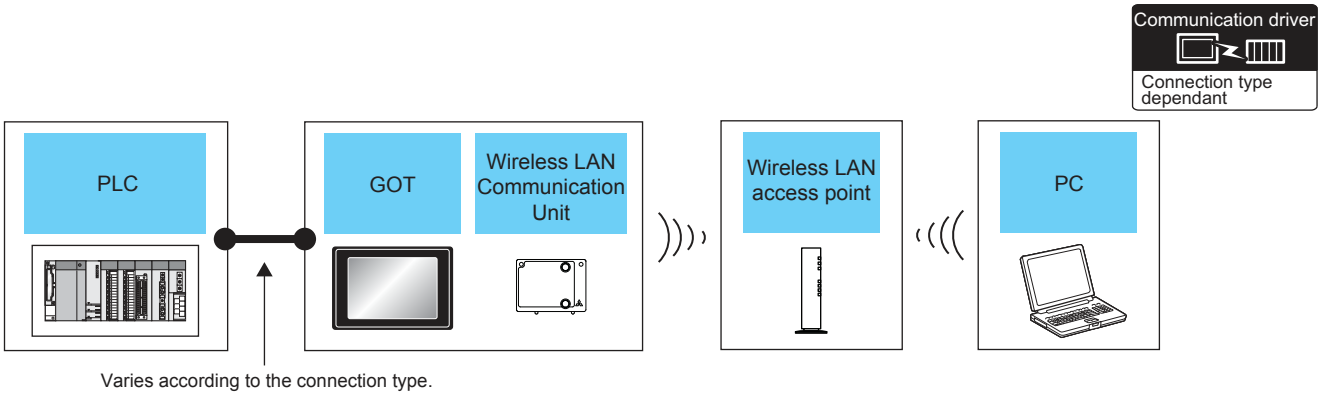
*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system.
Connect to the Ethernet module, hub, transceiver, or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standards.
A cross cable is available for connecting the GOT to the Ethernet module.

*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
- 10BASE-T: Max. 4 nodes for a cascade connection (500m)
- 100BASE-TX: Max. 2 nodes for a cascade connection (205m)

When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

*3 LCPU is not applicable to the bus connection.

■ When connecting the GOT and the personal computer by wireless LAN

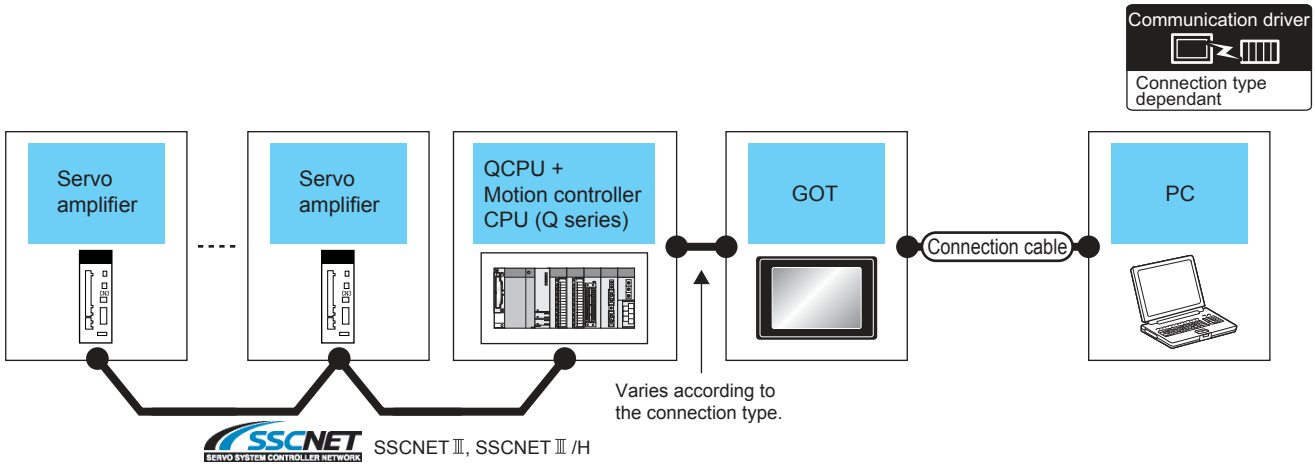


PLC	GOT		Wireless LAN access point	Personal computer	Number of connectable equipment
Connection type	Model	Option device	Model name	Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ BUS CONNECTION*1 ☞ DIRECT CONNECTION TO CPU	GT27 GT23 GS	GT25-WLAN	For the wireless LAN access point, use the access point compatible with IEEE802.11b/g/n.	MT Works2	1 personal computer for 1 GOT

*1 LCPU is not applicable to the bus connection.

20.4.4 MR Configurator, MR Configurator2

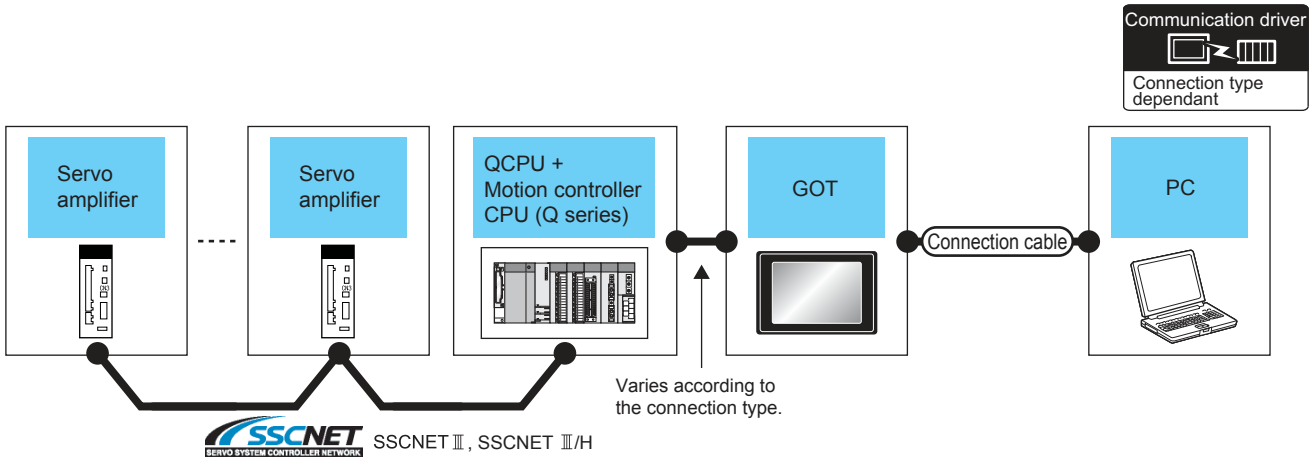
■ When connecting the GOT and the personal computer by USB



PLC	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ DIRECT CONNECTION TO CPU ☞ ETHERNET CONNECTION*1	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	MR Configurator MR Configurator2	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. ☞ BUS CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	MR Configurator MR Configurator2	1 personal computer for 1 GOT

*1 Only MR Configurator2 is compatible with the Ethernet connection.

■ When connecting the GOT and the personal computer by Ethernet



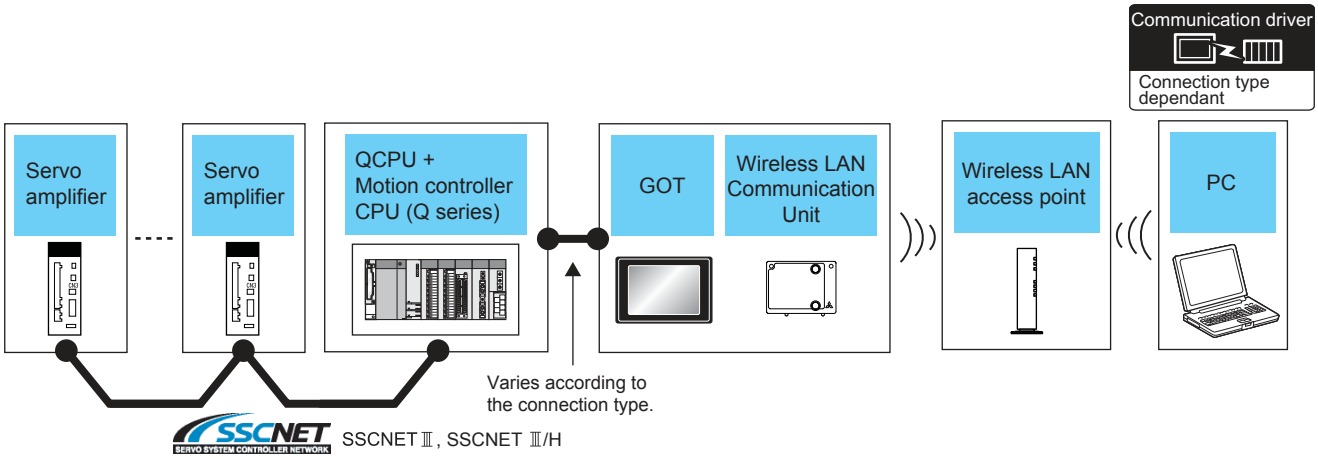
PLC	GOT		Connection cable*1	Maximum segment length*2	Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model		Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ DIRECT CONNECTION TO CPU	GT27 GT23 GS	- (Built into GOT)	Twisted pair cable • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP): Category 3, 4, and 5 • 100BASE-TX Shielded twisted pair cable (STP): Category 5 and 5e	100m	MR Configurator2	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. ☞ BUS CONNECTION*3	GT27 GT23 GS	- (Built into GOT)	Twisted pair cable • 10BASE-T Shielded twisted pair cable (STP) or unshielded twisted pair cable (UTP): Category 3, 4, and 5 • 100BASE-TX Shielded twisted pair cable (STP): Category 5 and 5e	100m	MR Configurator2	1 personal computer for 1 GOT

*1 The destination connected with the twisted pair cable varies with the configuration of the applicable Ethernet network system. Connect to the Ethernet module, hub, transceiver, or other system equipment corresponding to the applicable Ethernet network system.
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standards.
A cross cable is available for connecting the GOT to the Ethernet module.

*2 A length between a hub and a node.
The maximum distance differs depending on the Ethernet device to be used.
The following shows the number of the connectable nodes when a repeater hub is used.
• 10BASE-T: Max. 4 nodes for a cascade connection (500m)
• 100BASE-TX: Max. 2 nodes for a cascade connection (205m)
When switching hubs are used, the cascade connection between the switching hubs has no logical limit for the number of cascades.
For the limit, contact the switching hub manufacturer.

*3 LCPU is not applicable to the bus connection.

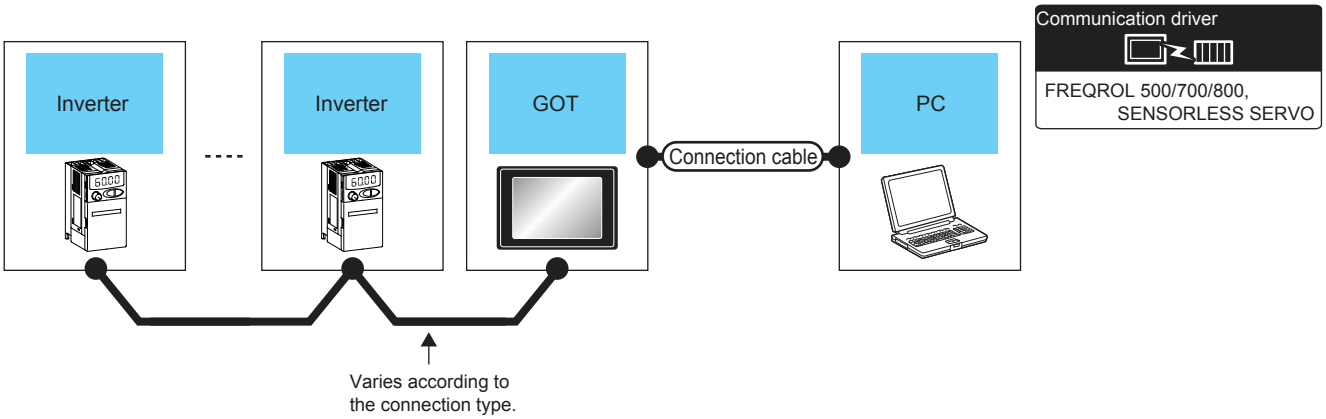
■ When connecting the GOT and the personal computer by wireless LAN



PLC	GOT		Wireless LAN access point	Personal computer	Number of connectable equipment
Connection type	Model	Option device	Model name	Software	
For the system configuration between the GOT and PLC, refer to the following. BUS CONNECTION*1 DIRECT CONNECTION TO CPU	GT27 GT23 GS	GT25-WLAN	For the wireless LAN access point, use the access point compatible with IEEE802.11b/g/n.	MR Configurator2	1 personal computer for 1 GOT

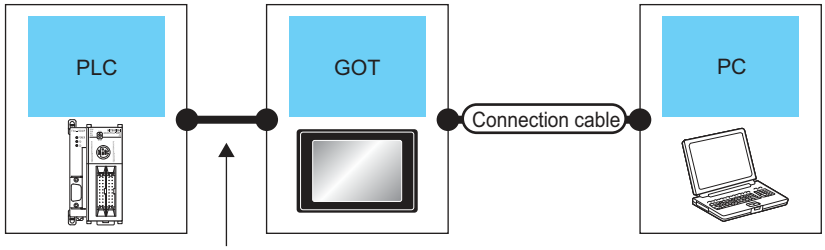
*1 LCPU is not applicable to the bus connection.

20.4.5 FR Configurator



Inverter	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For details on the system configuration between GOT and Mitsubishi inverter, refer to the following. INVERTER CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	FR Configurator	1 personal computer for 1 GOT

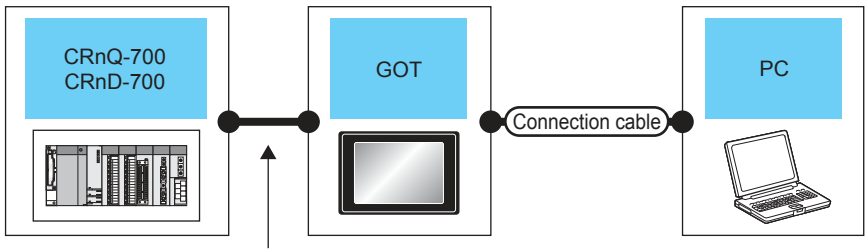
20.4.6 FX Configurator-FP, FX3U-ENET-L Configuration tool



Communication driver
MELSEC-FX

PLC	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For the system configuration between the GOT and PLC, refer to the following. DIRECT CONNECTION TO CPU	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	FX Configurator-FP, FX3U-ENET-L Configuration tool	1 personal computer for 1 GOT

20.4.7 RT ToolBox2

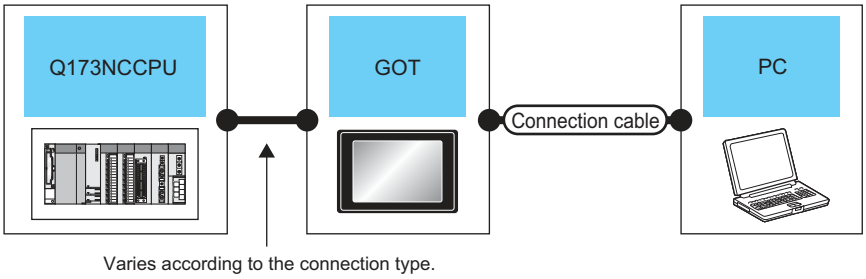


Communication driver
Connection type dependant

PLC	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For the system configuration between the GOT and PLC, refer to the following. DIRECT CONNECTION TO CPU*1 ETHERNET CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	RT ToolBox2	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. BUS CONNECTION*1	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	RT ToolBox2	1 personal computer for 1 GOT

*1 CRnD-700 is not applicable to the bus connection, the direct CPU connection.

20.4.8 NC Configurator



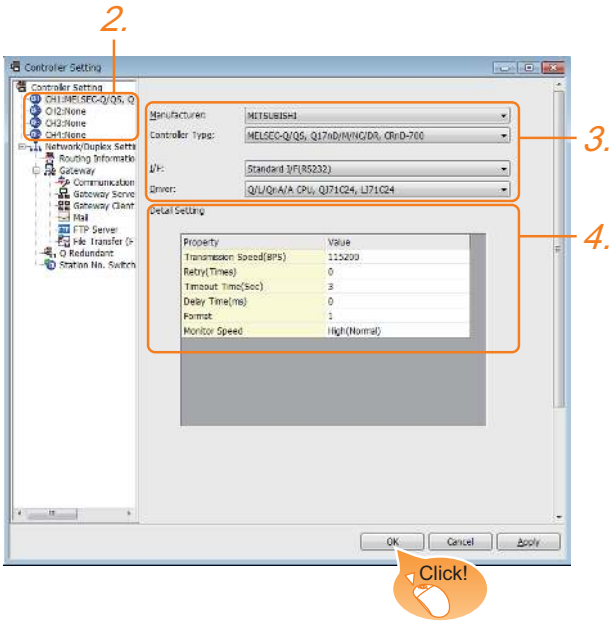
PLC	GOT		Connection cable		Personal computer	Number of connectable equipment
Connection type	Model	Interface	Cable model	Max. distance	Software	
For the system configuration between the GOT and PLC, refer to the following. ☞ETHERNET CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	NC Configurator	1 personal computer for 1 GOT
For the system configuration between the GOT and PLC, refer to the following. ☞BUS CONNECTION	GT27 GT23 GS	USB	GT09-C30USB-5P(3m) GT09-C20USB-5P(2m)	3m	NC Configurator	1 personal computer for 1 GOT

20.5 GOT Side Settings

20.5.1 Setting communication interface

■ Controller setting

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. The Controller Setting window is displayed. Select the channel to be used from the list menu.
3. Set Manufacturer, Controller Type, I/F, and Driver according to the connected equipment to be used.
4. The detailed setting is displayed after Manufacturer, Controller Type, I/F, and Driver are set.
   Make the settings according to the usage environment.

Click the [OK] button when settings are completed.

POINT

The settings of connecting equipment can be confirmed in [I/F Communication Setting].
For details, refer to the following.

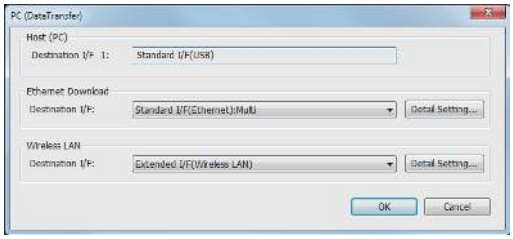
1.1.2 I/F communication setting

■ Communication setting with personal computer

Set the communication setting between the GOT and the personal computer.

For details of the setting contents, refer to the following manual.

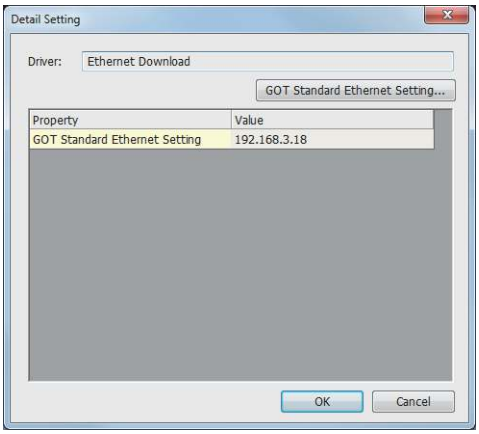
GT Designer3 (GOT2000) Help



1. Select [Common]→[Peripheral Setting]→[PC(Data Transfer)]from the menu.
2. The [PC (Data Transfer)] is displayed. Set the interface of the GOT to be used in the communication with the personal computer.

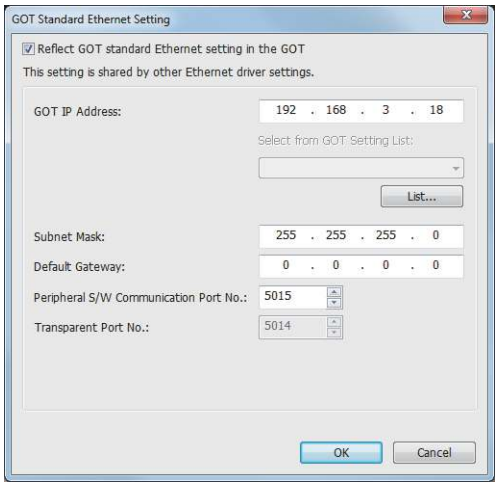
   (a) Host (PC) setting
   When communicating the GOT and the personal computer in the direct connection, set the interface of the GOT to be used in the communication with the personal computer.

   (b) Ethernet download setting
   When communicating the GOT via Ethernet, set the interface of the GOT to be used in the communication with the personal computer.



Item	Description	Range
GOT Standard Ethernet Setting *1	Set the IP address of the GOT. (Default: 192.168.3.18)	0.0.0.0 to 255.255.255.255

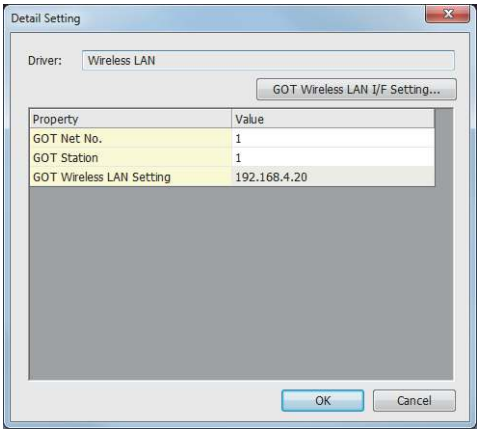
*1 Click the [GOT Standard Ethernet Setting] button and perform the setting in the [GOT Standard Ethernet Setting] screen.



Item	Description	Range
GOT IP Address	Set the IP address of the GOT. (Default: 192.168.3.18) When selecting the address from the GOT setting list , click the [List] button and select the GOT to be connected.	0.0.0.0 to 255.255.255.255
Select from GOT Setting List	Select the set GOT in the [GOT Setting List] dialog.	-
Subnet Mask	Set the subnet mask for the sub network. (Only for connection via router) If the sub network is not used, the default value is set. (Default: 255.255.255.0)	0.0.0.0 to 255.255.255.255
Default Gateway	Set the router address of the default gateway where the GOT is connected. (Only for connection via router) (Default: 0.0.0.0)	0.0.0.0 to 255.255.255.255
Peripheral S/W Communication Port No.	Set the GOT port No. for the S/W communication. (Default: 5015)	1024 to 65534 (Except for 5011 to 5014 and 49153 to 49170)
Transparent Port No.	Set the GOT port No. for the transparent function. (Default: 5014)	5014 (fixed)

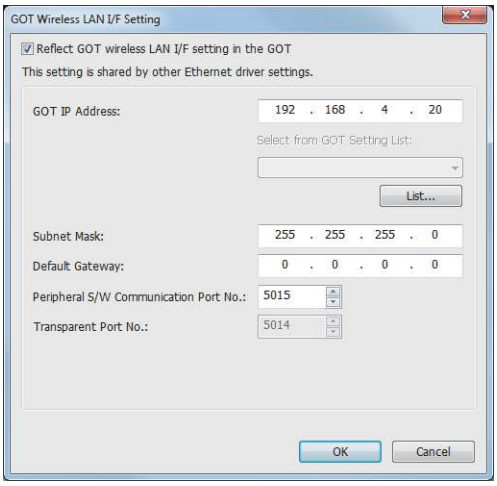
(c) Wireless LAN setting

When communicating the GOT via wireless LAN, set the interface of the GOT to be used in the communication with the personal computer.



Item	Description	Range
GOT Wireless LAN I/F Setting *1	Set the IP address of the GOT. (Default: 192.168.4.20)	0.0.0.0 to 255.255.255.255

*1 Click the [GOT Wireless LAN I/F Setting] button and perform the setting in the [GOT Wireless LAN I/F Setting] screen.



Item	Description	Range
GOT IP Address	Set the IP address of the GOT. (Default: 192.168.4.20)	0.0.0.0 to 255.255.255.255
Select from GOT Setting List	Select the set GOT in the [GOT Setting List] dialog. GT Designer3 (GOT2000) Help	-
Subnet Mask	Set the subnet mask for the sub network. (Only for connection via router) If the sub network is not used, the default value is set. (Default: 255.255.255.0)	0.0.0.0 to 255.255.255.255
Default Gateway	Set the router address of the default gateway where the GOT is connected. (Only for connection via router) (Default: 0.0.0.0)	0.0.0.0 to 255.255.255.255

Item	Description	Range
Peripheral S/W Communication Port No.	Set the GOT port No. for the S/W communication. (Default: 5015)	1024 to 65534 (Except for 5011 to 5014 and 49153 to 49170)
Transparent Port No.	Set the GOT port No. for the transparent function. (Default: 5014)	5014 (fixed)
Automatically enable wireless LAN connection	Select this item to automatically connect the wireless LAN to the wireless LAN access point after the GOT is powered on.	-
Time to Automatic Disconnect	Set the time for the wireless LAN communication to automatically disconnect. (Default: 0)	0 to 360

POINT

When connecting the GOT and the personal computer by Ethernet or wireless LAN, match the GOT IP address and the transparent port No. with those in [PLC side I/F Detailed Setting of GOT] of GX Works2.

☞ 20.6.2 Accessing by GX Works2

3. Click the [OK] button when settings are completed.

POINT

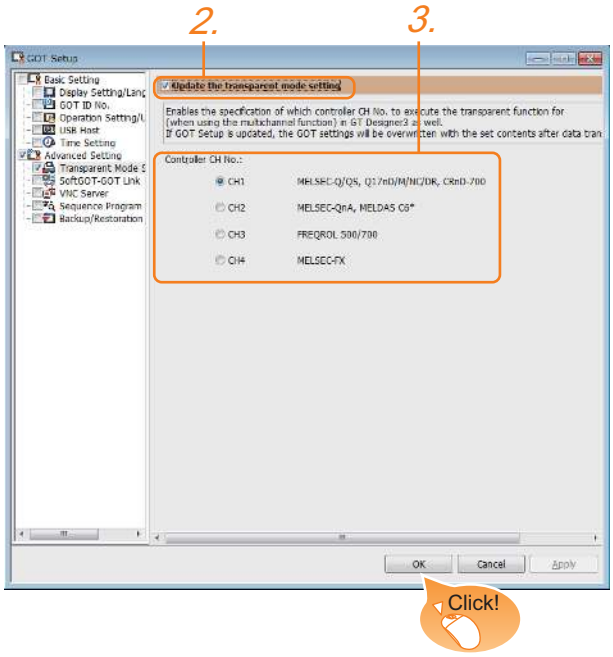
(1) Communication interface setting by Utility
The communication interface setting can be changed on the Utility's [Communication Settings] after downloading [Communication Settings] of project data.
For details on the Utility, refer to the following manual.

☞ GOT2000 Series User's Manual (Utility)

(2) Precedence in communication settings
When settings are made by GT Designer3 or the Utility, the latest setting is effective.

■ GOT Setup

When using the multi-channel function, specify the channel No. on which FA transparent function is executed.



1. Select [Common] → [GOT Environmental Setting] → [GOT Setup] from the menu.
2. Check [Enable GOT Setup].
3. As necessary, check one of [CH1] to [CH4]. (Default: CH1)

Click the [OK] button when settings are completed.

POINT

Transparent setting on the utility screen

Transparent setting can be performed by the GOT.
For details of the operating, refer to the following.

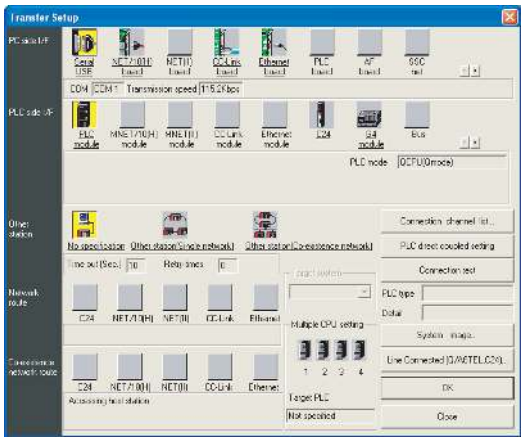
☞ GOT2000 Series User's Manual (Utility)

20.6 Personal Computer Side Setting

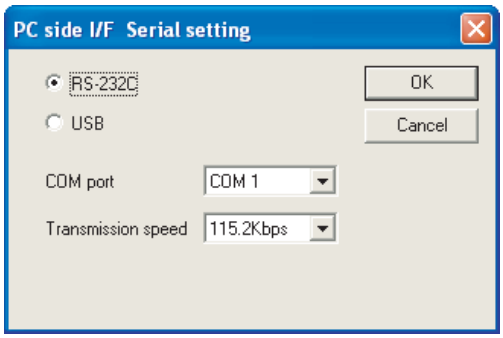
20.6.1 Accessing the PLC by the PX Developer, GX Configurator

The setting method for the FA transparent function of PX Developer is used as an example.

■ Connecting the GOT and PLC in bus connection or direct CPU connection (when connecting to QCPU (Q mode))

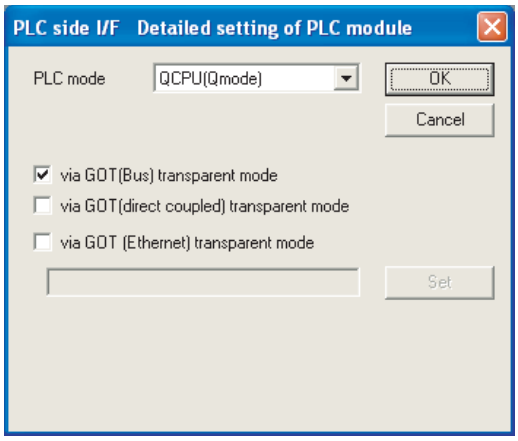


1. Click [Online] → [Transfer Setup] in PX Developer.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PC side I/F : Serial USB (COM)
   PLC side I/F : PLC module
   Other station : No specification



4. Double-click [Serial] of the PC side I/F to display [PC side I/F Serial setting].
5. Select [USB] in the [PC side I/F Serial Setting] dialog.

(For bus connection)



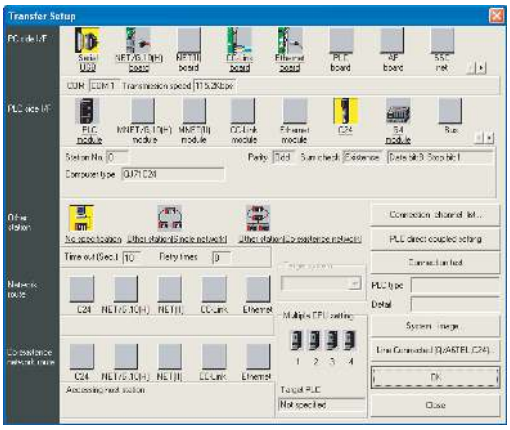
6. Double-click [PLC module] of the PLC side I/F to display [PLC side I/F Detailed setting of PLC module].
7. Check-mark either of the following in [PLC side I/F Detailed setting of PLC module].

   Bus connection
   [via GOT(Bus) transparent mode]

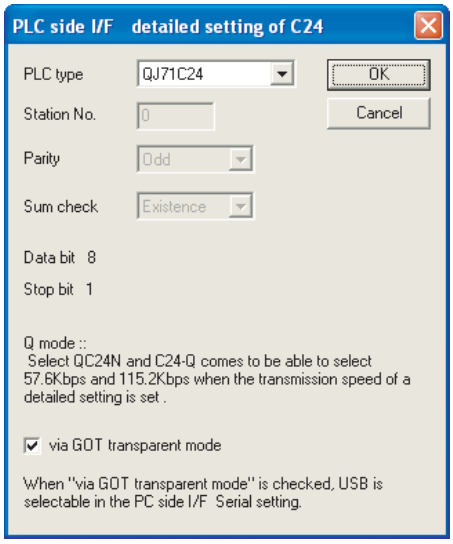
   Direct CPU connection
   [via GOT (direct coupled) transparent mode]

8. The screen returns to [Transfer Setup]. Click [Connection Test] to check if PX Developer has been connected to the QCPU (Q mode).

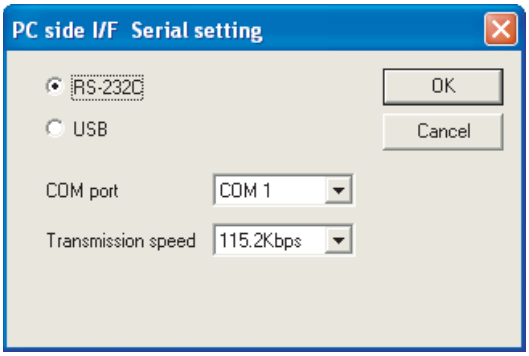
■ Connecting the GOT and PLC in computer link connection(when connected to the QJ71C24(N)) (GX Configurator is not supported.)



1. Click [Online] → [Transfer Setup] in PX Developer.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PC side I/F : Serial
   PLC side I/F : C24
   Other station : No specification



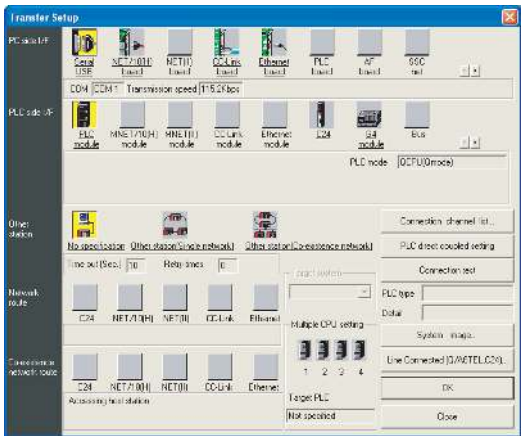
4. Return to [Transfer Setup] and double-click [C24] of the PLC side I/F to display [PLC side I/F detailed setting of C24].
5. Check [via GOT transparent mode] for [PLC side I/F detailed setting of C24].



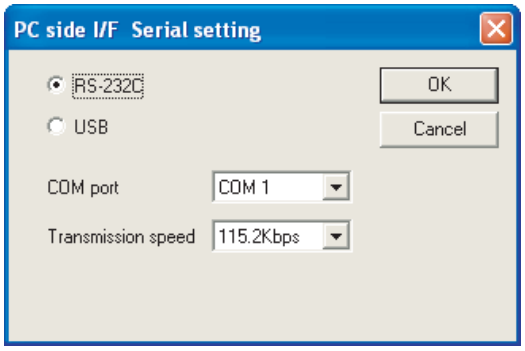
6. Double-click [Serial] of the PC side I/F to display [PC side I/F Serial setting].
7. Select [USB] in the [PC side I/F Serial Setting] dialog.

8. The screen returns to [Transfer Setup]. Click [Connection Test] to check if PX Developer has been connected to the QCPU (Q mode).

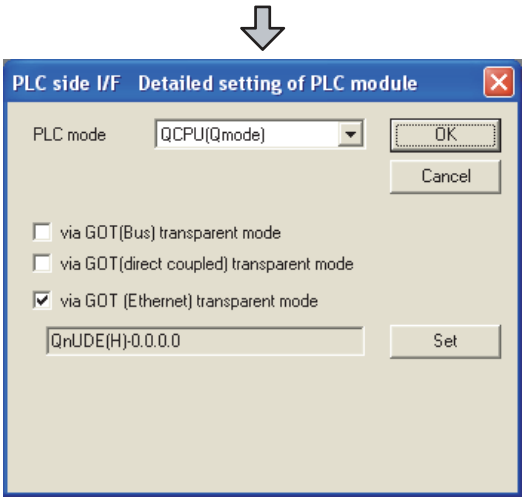
■ When connecting the GOT and PLC in Ethernet communication (when connecting to QCPU (Q mode))



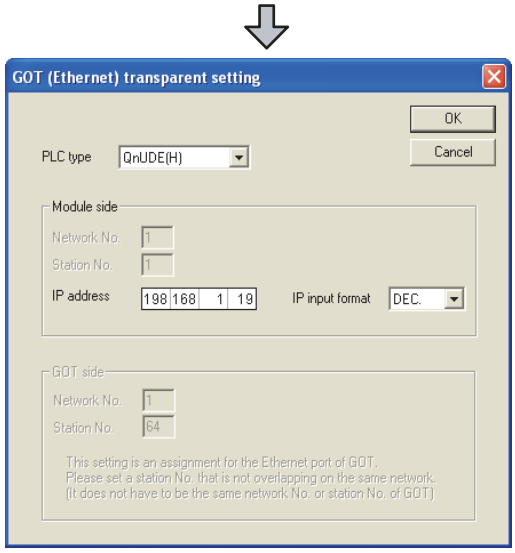
1. Click [Online] → [Transfer Setup] in PX Developer.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PC side I/F : Serial USB (COM)
   PLC side I/F : PLC module
   Other station : No specification



4. Double-click [Serial] of the PC side I/F to display [PC side I/F Serial setting].
5. Select [USB] in the [PC side I/F Serial Setting] dialog.



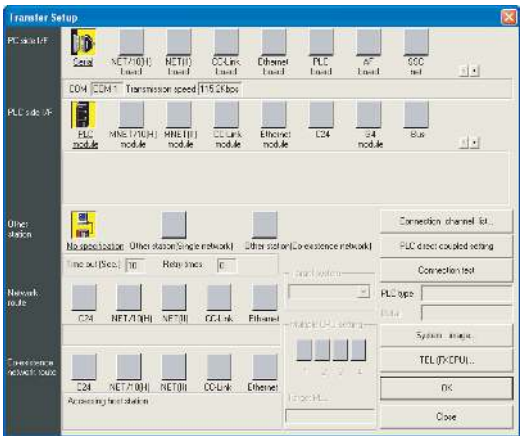
6. Double-click [PLC module] of the PLC side I/F to display [PLC side I/F Detailed setting of PLC module].
7. On the [PLC side I/F Detailed setting of PLC module], mark the [via GOT(Ethernet) transparent mode] checkbox and click [Set].



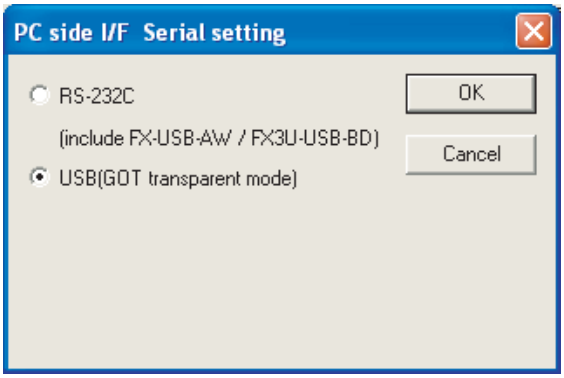
8. By clicking [Set], the [GOT (Ethernet) transparent setting] is displayed.
   Here, set the built-in Ethernet port QCPU or Ethernet module, which is firstly connected via a GOT.
9. Set [QnUDE(H)] or [QJ71E71] for [Type name].
   When connecting the Q173NCCPU, set [QJ71E71].
10. Specify the number for [Network No.] and [Station No.] same as the number assigned to the Ethernet module.
    When [QnUDE(H)] is set for [Type name], the setting is not required.
11. Specify the IP address for [IP address] same as the IP address assigned to the built-in Ethernet port QCPU or Ethernet module.

12. The screen returns to [Transfer Setup]. Click [Connection Test] to check if PX Developer has been connected to the QCPU (Q mode).

■ Connecting the GOT and PLC in direct CPU connection (when connecting to FXCPU)



1. Click [Online] → [Transfer Setup] in PX Developer.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PC side I/F : Serial
   PLC side I/F : PLC module
   Other station : No specification



4. Double-click [Serial] of the PC side I/F to display [PC side I/F Serial setting].
5. Select [USB (GOT transparent mode)] in the [PC side I/F Serial Setting] dialog.

6. The screen returns to the [Transfer Setup]. Click the [Connection Test] to check if PX Developer has been connected to the FXCPU.

POINT

How to operate PX Developer

For the PX Developer operation method, refer to the following manual.

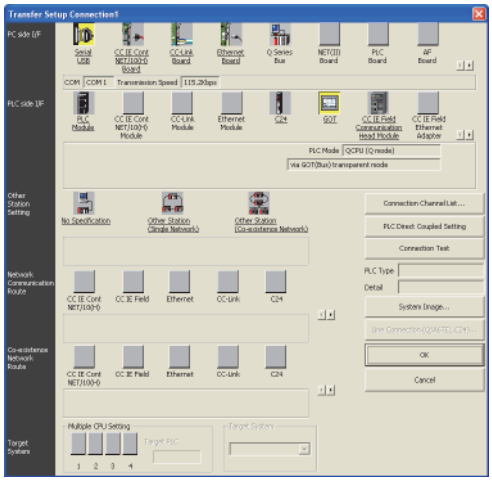
PX Developer Version 1 Operating Manual (Programming Tool)

20.6.2 Accessing by GX Works2

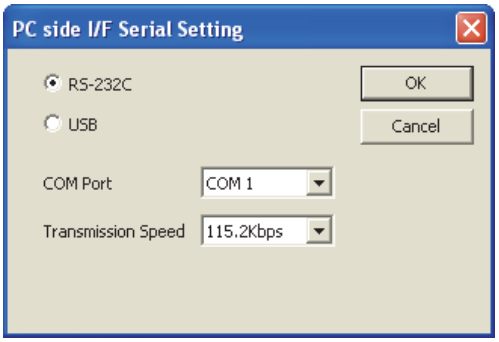
The following shows the procedure to set the FA transparent function of GX Works2.

■ When connecting the GOT and the personal computer by USB

(1) Connecting the GOT and PLC in bus connection or direct CPU connection (when connecting to QCPU (Q mode))

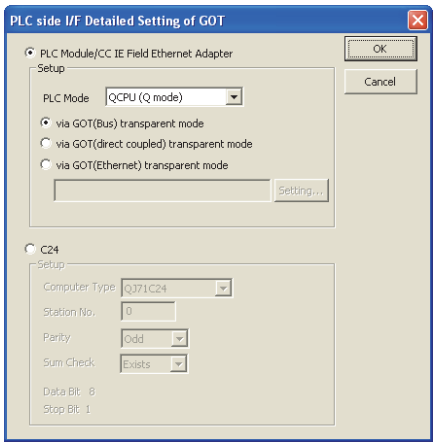


1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of GX Works2.
2. The [Transfer Setup Connection1] is displayed.
3. Set the [Transfer Setup Connection1]:
   PC side I/F : Serial USB
   PLC side I/F : GOT
   Other Station Setting : No Specification:



4. Double-click [Serial USB] of the PC side I/F to display [PC side I/F Serial Setting].
5. Select [USB] in the [PC side I/F Serial Setting] dialog.

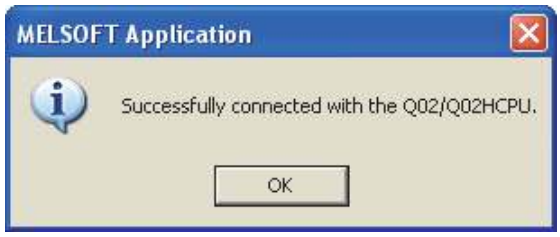
(For bus connection)



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].
7. Check-mark either of the following in [PLC side I/F Detailed Setting of GOT].

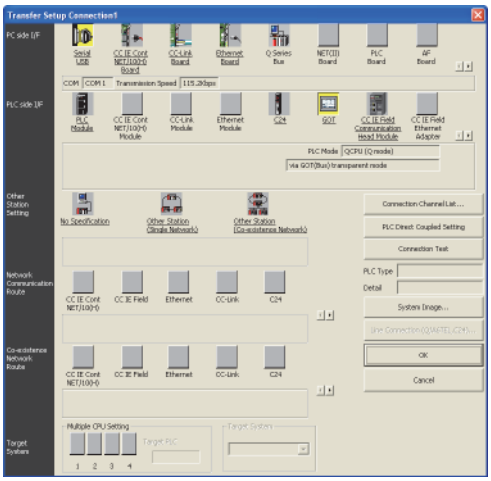
   Bus connection
   [via GOT(Bus) transparent mode]

   Direct CPU connection
   Mark the [via GOT(direct coupled) transparent mode] checkbox.

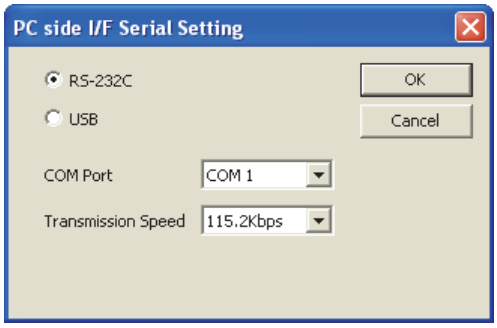


8. The screen returns to [Transfer Setup Connection1]. Click [Connection Test] to check if GX Works2 has been connected to the QCPU (Q mode).

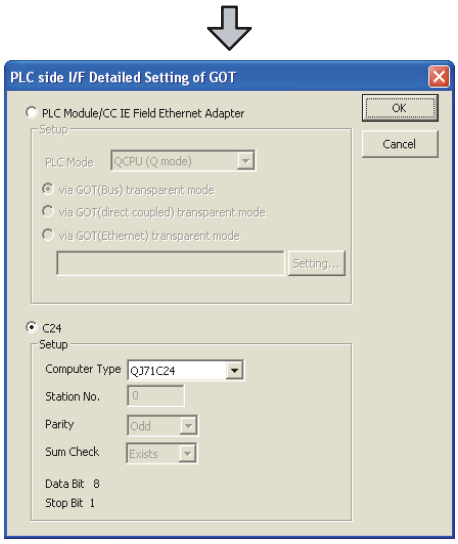
(2) Connecting the GOT and PLC in computer link connection (when connecting to QJ71C24 (N))



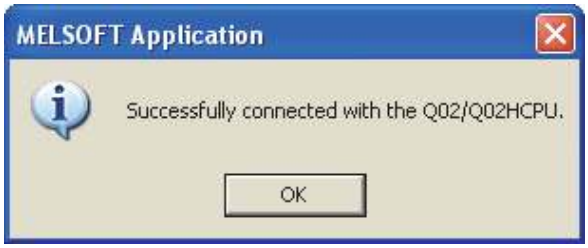
1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of GX Works2.
2. The [Transfer Setup Connection1] is displayed.
3. Set the [Transfer Setup Connection1]:
   PC side I/F : Serial USB
   PLC side I/F : GOT
   Other Station Setting : No Specification



4. Double-click [Serial USB] of the PC side I/F to display [PC side I/F Serial Setting].
5. Select [USB] in the [PC side I/F Serial Setting] dialog.



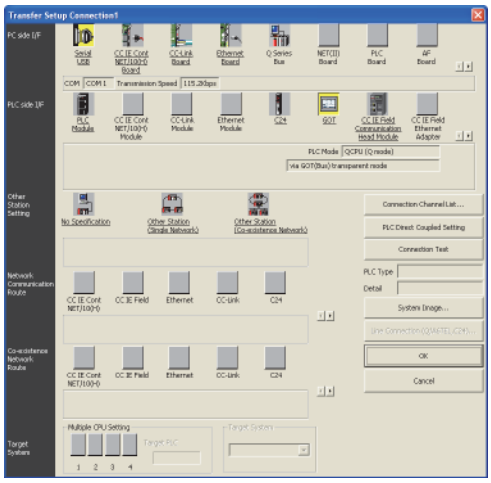
6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].
7. Check-mark [C24] in [PLC side I/F Detailed Setting of GOT].



8. The screen returns to [Transfer Setup Connection1]. Click [Connection Test] to check if GX Works2 has been connected to the QCPU (Q mode).

(3) Connecting the GOT and PLC in Ethernet connection

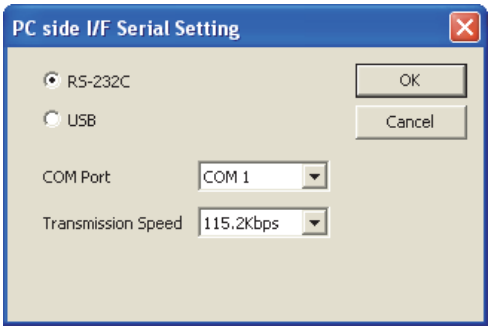
(a) Connecting to QCPU (Q mode)



1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of GX Works2.

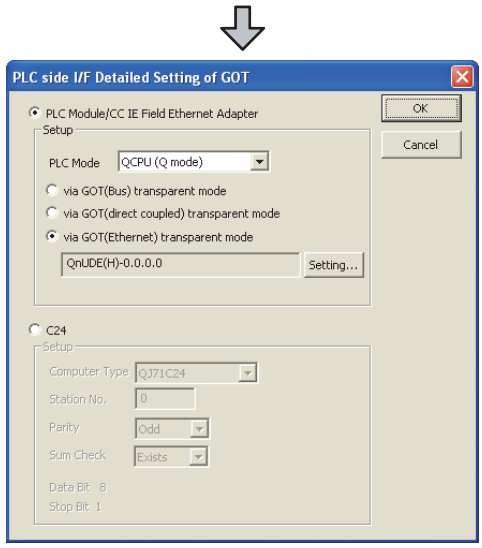
2. The [Transfer Setup Connection1] is displayed.

3. Set the [Transfer Setup Connection1]:
   PC side I/F : Serial USB
   PLC side I/F : GOT
   Other Station Setting : No Specification



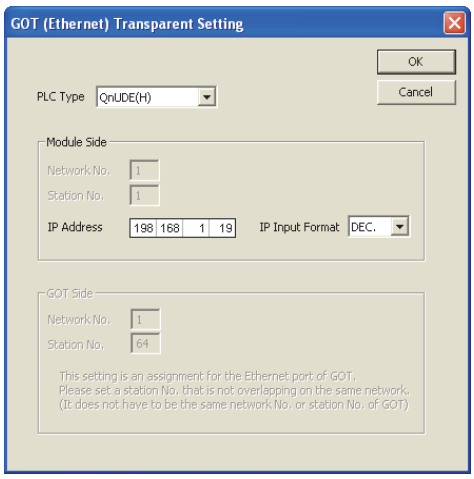
4. Double-click [Serial USB] of the PC side I/F to display [PC side I/F Serial Setting].

5. Select [USB] in the [PC side I/F Serial Setting] dialog.



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].

7. On the [PLC side I/F Detailed Setting of GOT], mark the [via GOT(Ethernet) transparent mode] checkbox and click [Setting...].

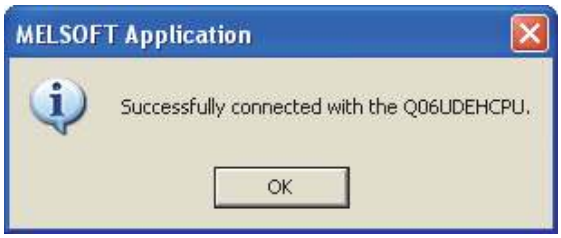


8. By clicking [Set], the [GOT (Ethernet) Transparent Setting] is displayed.
   Here, set the built-in Ethernet port QCPU or Ethernet module, which is firstly connected via a GOT.

9. Set [QnUDE(H)] or [QJ71E71] for [PLC Type].

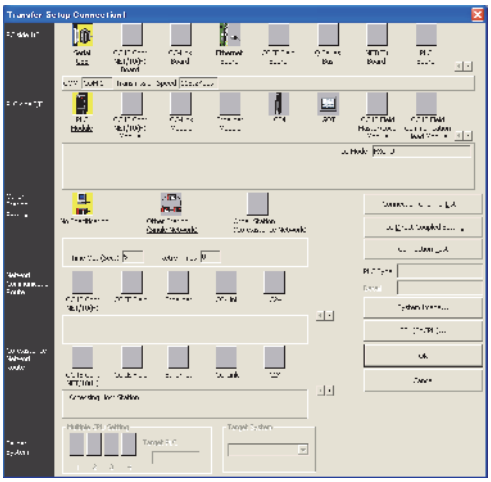
10. Specify the number for [Network No.] and [Station No.] same as the number assigned to the Ethernet module.
When [QnUDE(H)] is set for [PLC type], the setting is not required.

11. Specify the IP address for [IP Address] same as the IP address assigned to the built-in Ethernet port QCPU or Ethernet module.



12. The screen returns to [Transfer Setup Connection1]. Click [Connection Test] to check if GX Works2 has been connected to the QCPU (Q mode).

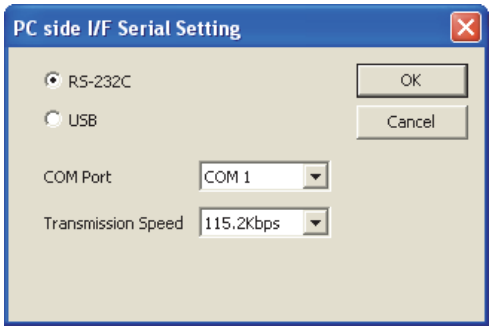
(b) Connecting to FXCPU



1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of GX Works2.

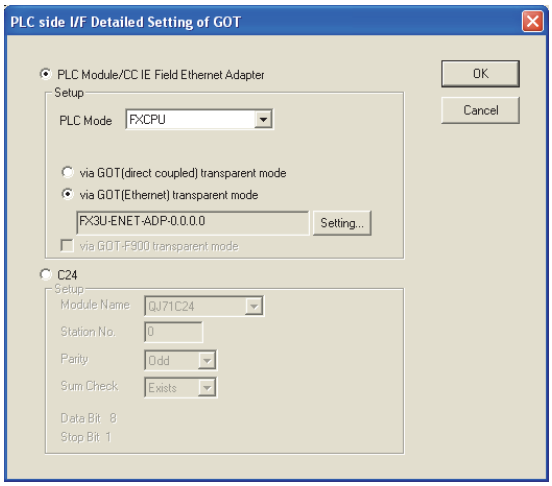
2. The [Transfer Setup Connection1] is displayed.

3. Set the [Transfer Setup Connection1]:
PC side I/F : Serial USB
PLC side I/F : GOT
Other Station Setting : No Specification



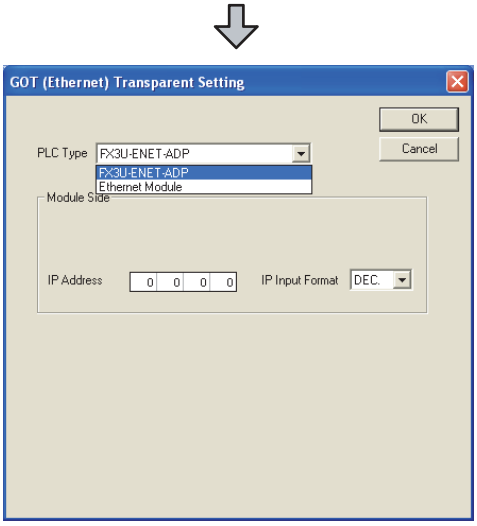
4. Double-click [Serial USB] of the PC side I/F to display [PC side I/F Serial Setting].

5. Select [USB] in the [PC side I/F Serial Setting] dialog.



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].

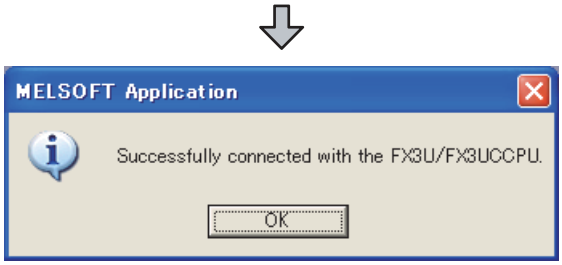
7. On the [PLC side I/F Detailed Setting of GOT], mark the [via GOT(Ethernet) transparent mode] checkbox and click [Setting...].



8. By clicking [Set], the [GOT (Ethernet) transparent setting] is displayed.
Here, set the [FX3U-ENET-ADP] or [Ethernet Module], which is connected via a GOT.

9. Set [FX3U-ENET-ADP] or [Ethernet Module] for [PLC Type].

10. Specify the IP address for [IP address] same as the IP address assigned to the [FX3U-ENET-ADP] or [Ethernet Module].



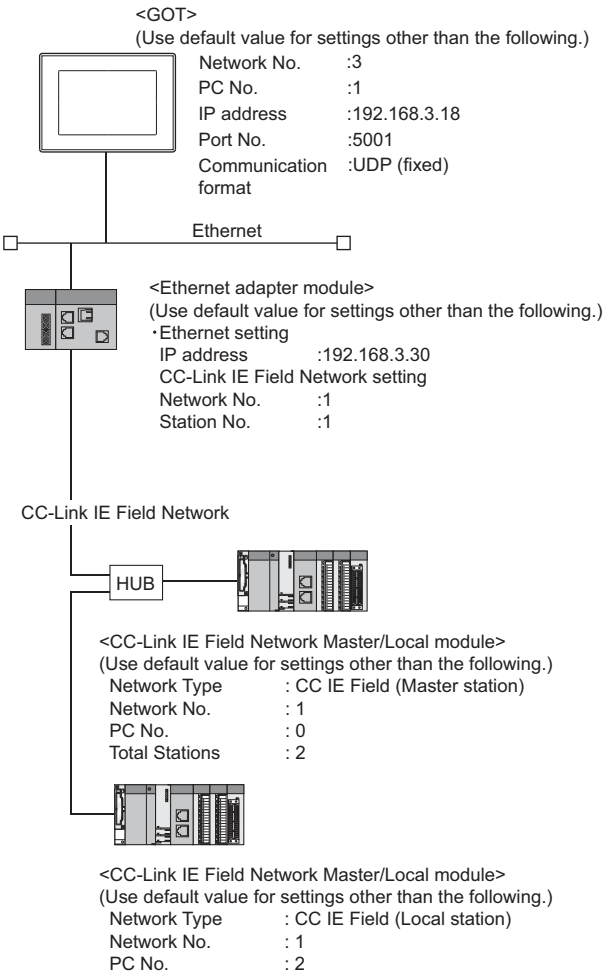
11. The screen returns to [Transfer Setup]. Click [Connection Test] to check if GX Works2 has been connected to the FXCPU.

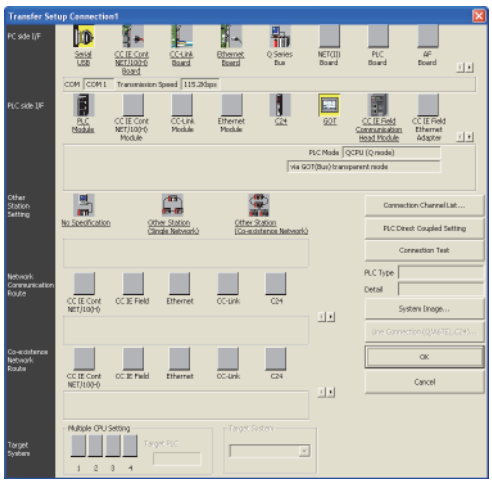
(4) Connecting the GOT and Ethernet adapter (NZ2GF-ETB) in Ethernet connection, and connecting it to a PLC in the CC-Link IE Field Network.
This section describes the settings of the GX Works2 in the following case of system configuration.

POINT

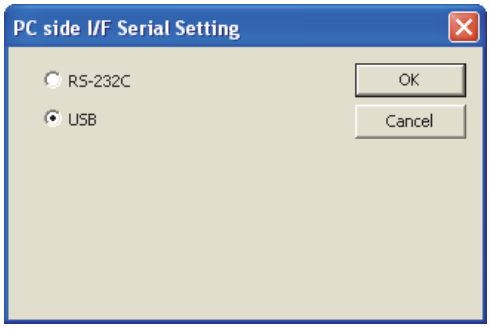
Version of GX Works2

GX Works2 Version 1.34L or later is required to execute the FA transparent function with using Ethernet adapter (NZ2GF-ETB).

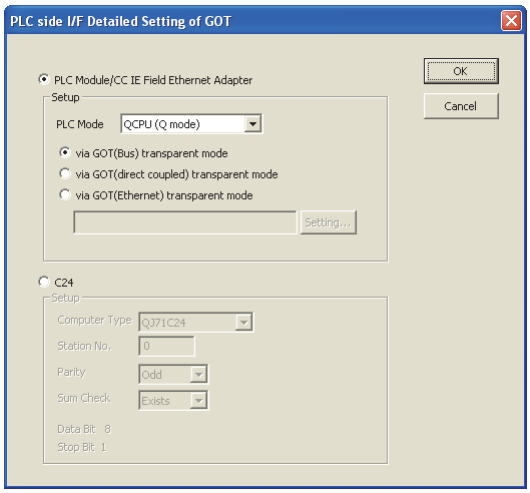




1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of GX Works2.
2. The [Transfer Setup Connection1] is displayed.
3. Set the [Transfer Setup Connection1].
   PC side I/F : Serial USB
   PLC side I/F : GOT

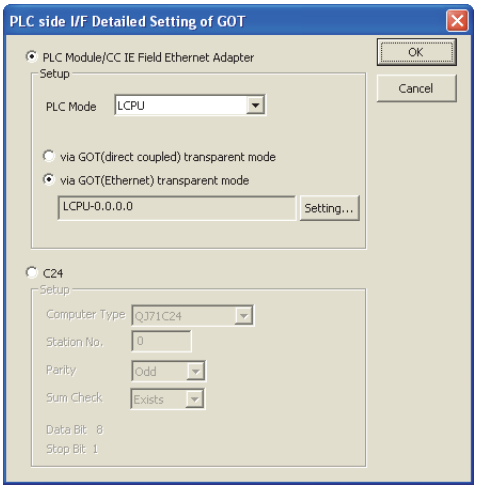


4. Double-click [Serial USB] of the PC side I/F to display [PC side I/F Serial Setting].
5. Select [USB] in the [PC side I/F Serial Setting] dialog.

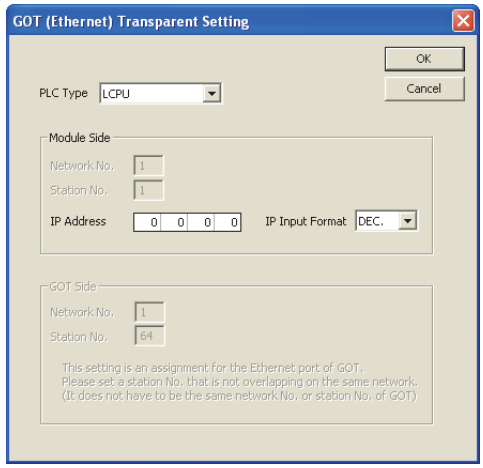


6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].

7. Set the [CPU mode] to [LCPU].

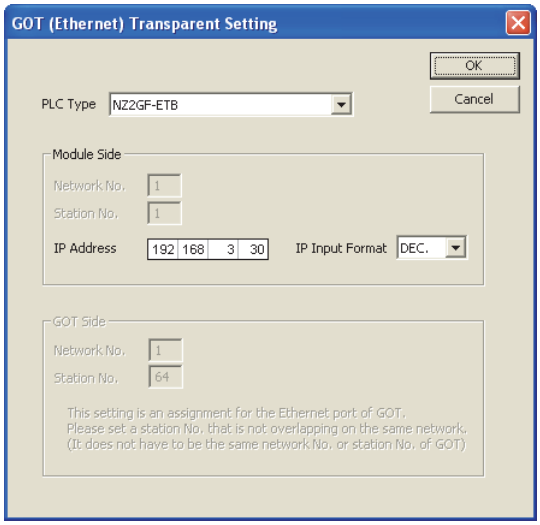


8. On the[PLC side I/F Detailed Setting of GOT], mark the [via GOT(Ethernet) transparent mode] checkbox and click [Setting...].



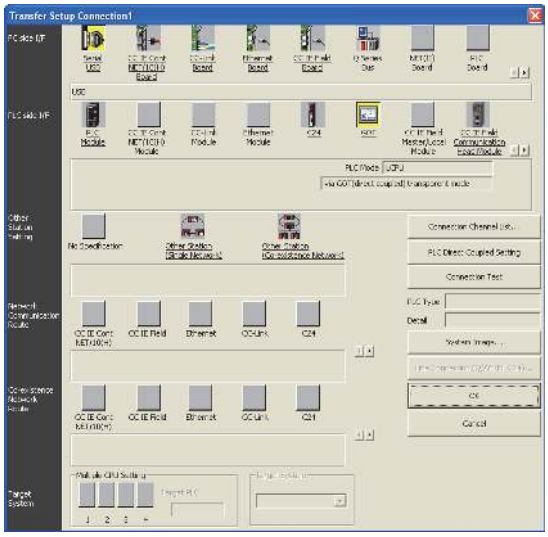
9. [GOT (Ethernet) Transparent Setting] is displayed. Here, set the Ethernet module, which is firstly connected via a GOT.

10. Set [NZ2GF-ETB] for [PLC Type].



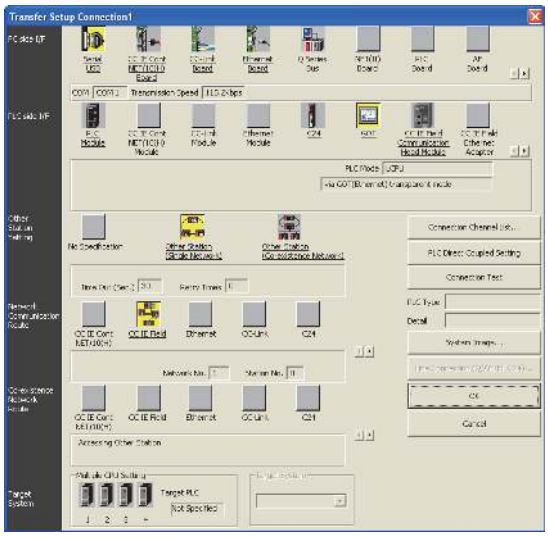
11. Set the same number to [IP address] as the number assigned to NZ2GF-ETB, and click [OK].
In the system configuration example, the setting is as follows.
[IP address]: 192 168 3 30

12. Return to [PLC side I/F Detailed Setting of GOT], and click [OK].

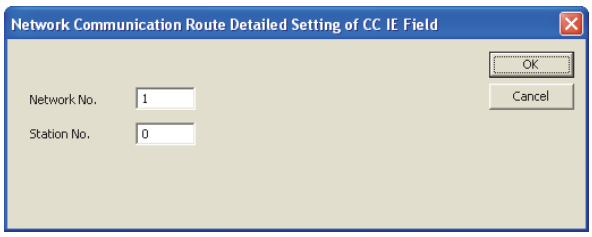


13. The [Transfer Setup Connection1] is displayed.

14. Click [Other station (Single network)].

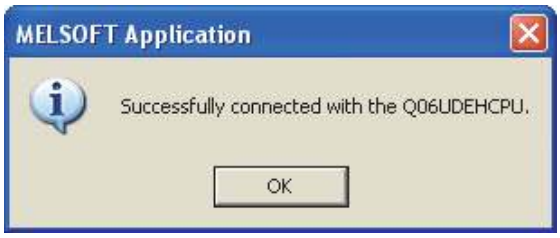


15. Double-click [CC IE Field].



16. Network Communication Route Detailed Setting of CC IE Field is displayed.

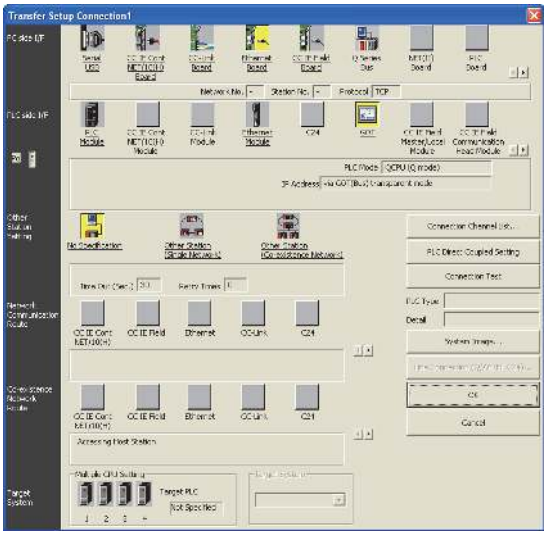
17. Set [Network No.] and [Station No.] assigned to CPU, and click [OK].
When connecting to CC-Link IE Field Network Master/Local module of the system configuration example, the setting is as follows.
[Network No.] :1
[Station No.] :0



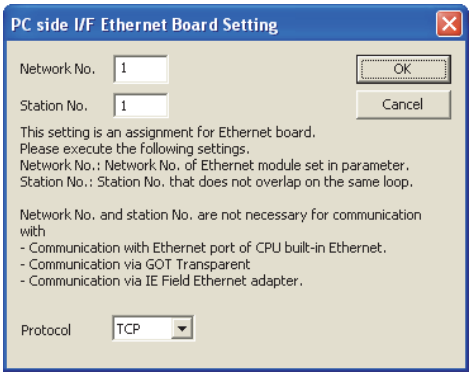
18. The screen returns to [Transfer Setup]. Click [Connection Test] to check if GX Works2 has been connected to the QCPU (Q mode).

■ When connecting the GOT and the personal computer by Ethernet

(1) Connecting the GOT and PLC in bus connection or direct CPU connection (when connecting to QCPU (Q mode))

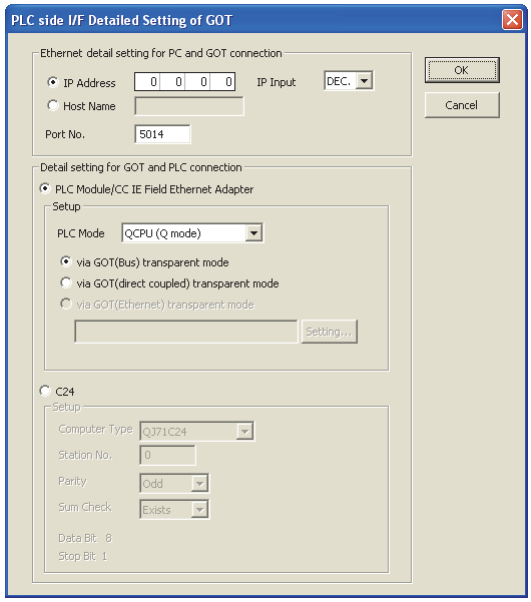


1. Click the Connection Destination view→[Connection Destination]→[(Connection target data name)] in the Navigation window of GX Works2.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PC side I/F :Ethernet Board
   PLC side I/F :GOT
   Other Station Setting : No specification



4. Double-click [Ethernet Board] of the PC side I/F to display [PC side I/F Ethernet Board Setting].
5. Set the protocol to TCP. Network No. and Station No. are not required to be changed (default) because they are not used.

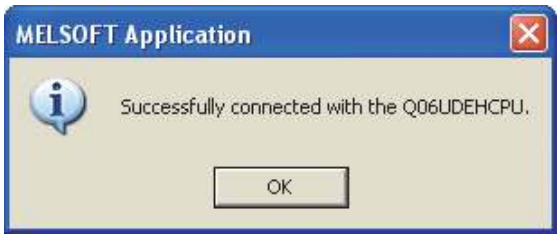
(For bus connection)



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].
7. Set the IP address and port No. in [Ethernet detail setting for PC and GOT connection].
   Set the IP address and port No. to the same as the Ethernet download setting.
   20.5.1 (b) Ethernet download setting
8. Check either of the followings in [Detail setting for GOT and PLC connection].

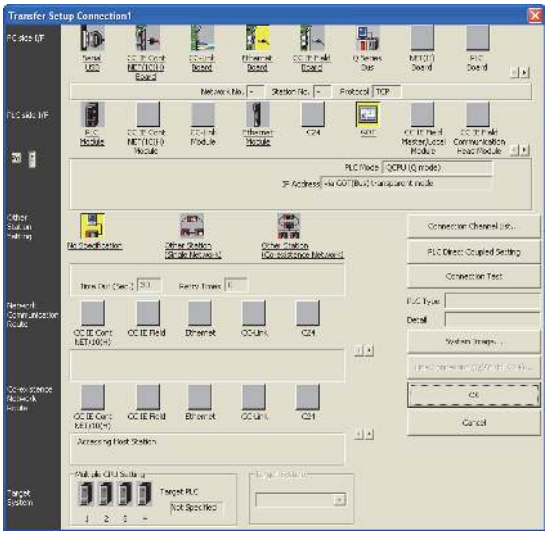
   Bus connection
   [via GOT(Bus) transparent mode]

   Direct CPU connection
   Mark the [via GOT(direct coupled) transparent mode] checkbox.



9. The screen returns to [Transfer Setup]. Click [Connection Test] to check if GX Works2 has been connected to the QCPU (Q mode).

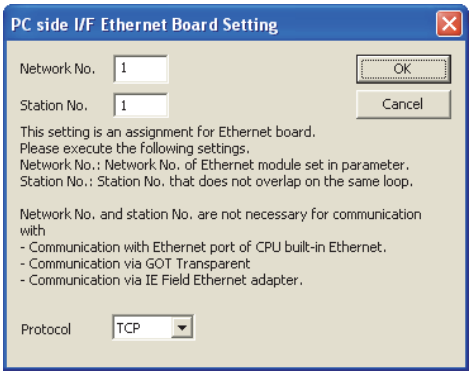
(2) Connecting the GOT and PLC in computer link connection (when connecting to QJ71C24 (N))



1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of GX Works2.

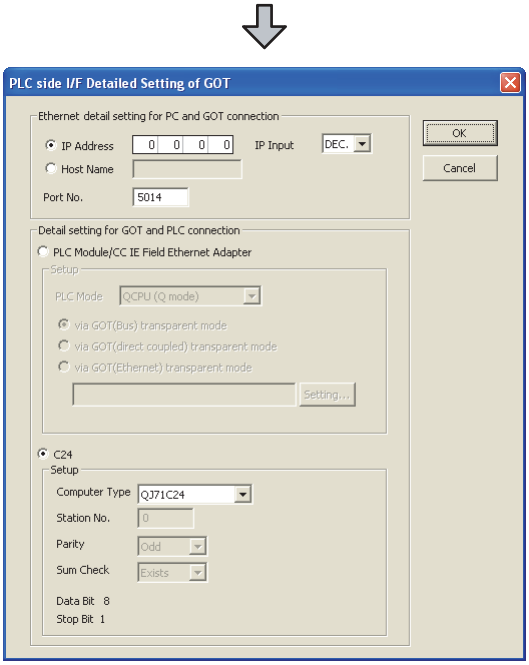
2. The [Transfer Setup] is displayed.

3. Set the [Transfer Setup]:
PC side I/F : Ethernet Board
PLC side I/F : GOT
Other Station Setting : No specification



4. Double-click [Ethernet Board] of the PC side I/F to display [PC side I/F Ethernet Board Setting].

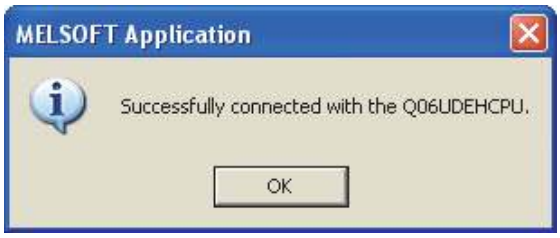
5. Set the protocol to TCP. Network No. and Station No. are not required to be changed (default) because they are not used.



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].

7. Set the IP address and port No. in [Ethernet detail setting for PC and GOT connection].
Set the IP address and port No. to the same as the Ethernet download setting.
☞ 20.5.1 (b) Ethernet download setting

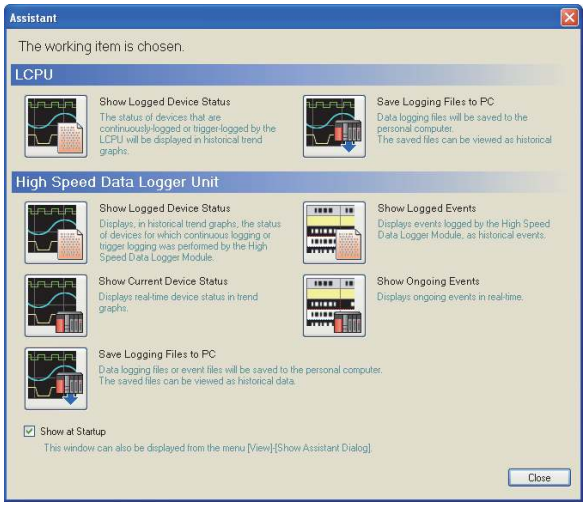
8. Check [C24] in [Detail setting for GOT and PLC connection].



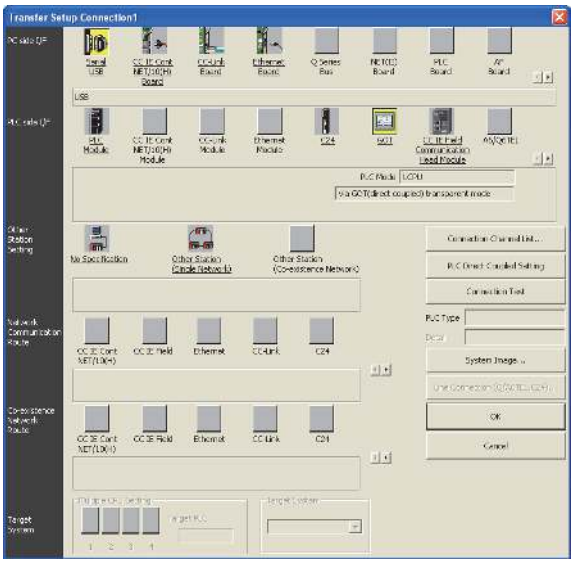
9. The screen returns to [Transfer Setup]. Click [Connection Test] to check if GX Works2 has been connected to the QCPU (Q mode).

20.6.3 Accessing by GX LogViewer

The following shows the procedure to set the FA transparent function of GX LogViewer.



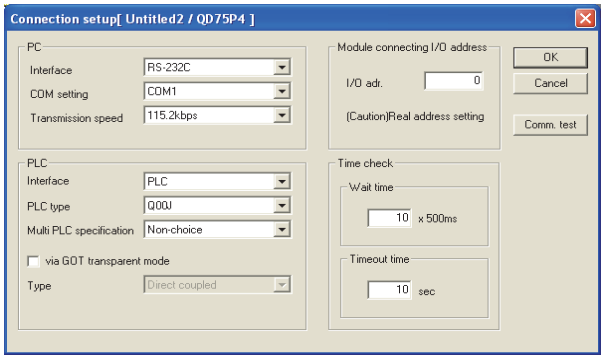
1. Click [Show Assistant Dialog] for [View] on GX LogViewer.
2. The [Assistant] dialog box is displayed.



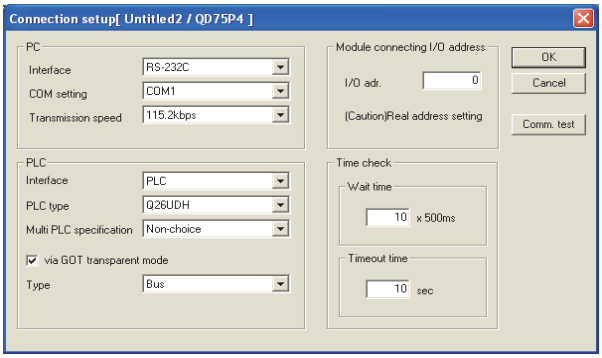
3. Click [LCPU] → [Show Logged Device Status] in the [Assistant] dialog box.
4. The [Transfer Setup Connection 1] dialog box is displayed.
5. Set the [Transfer Setup Connection 1]:
   PC side I/F : Serial USB
   PLC side I/F : GOT
   Other Station Setting : (Select from the system configuration)
6. For [PC side I/F Serial Setting] and [PLC side I/F Detailed Setting of GOT] of [Transfer Setup], refer to the following.
   ☞20.6.2 Accessing by GX Works2

20.6.4 Accessing PLC by GX Configurator-QP

The following shows the procedure to set the FA transparent function of GX Configurator-QP.



1. Click [Connection setup] for [Online] on GX Configurator-QP.
2. The [Connection setup] is displayed.
3. Set the following in [PC] of the [Connection setup] dialog.
   Interface: USB



4. Set the [PLC side] in [Connection setup].
PLC type: Q series PLC type
Multi PLC specification: None/No.1 to 4
Direct CPU connection, mark the [via GOT transparent mode] checkbox.

Bus connection

Interface: PLC
Type: Bus

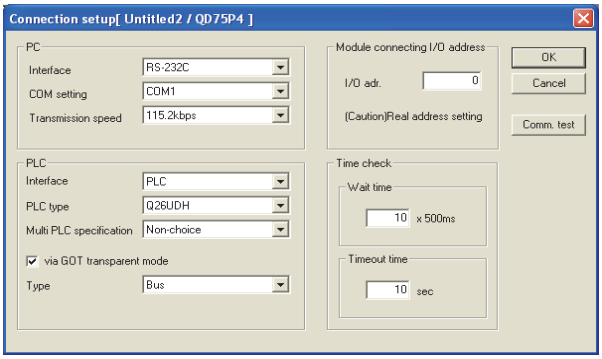
Direct CPU connection

Interface: PLC
Type: Direct coupled

Computer link connection

Interface: C24

(For bus connection only)

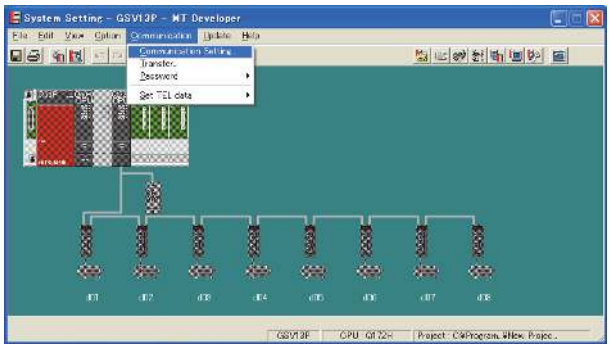


5. Set the [Module connecting I/O address] in [Connection setup].
Specify the actual IP address of the module.

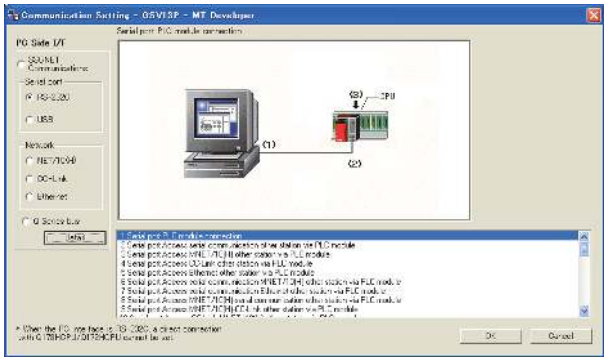
6. The screen returns to the [Connection setup]. Click the [Connection Test] to check if GX Configurator-QP has been connected to the QD75***(QnCPU).

20.6.5 Accessing by the MT Developer

This section explains the procedure to set the FA transparent function of MT Developer with an example of connecting to motion controller CPU (Q series).

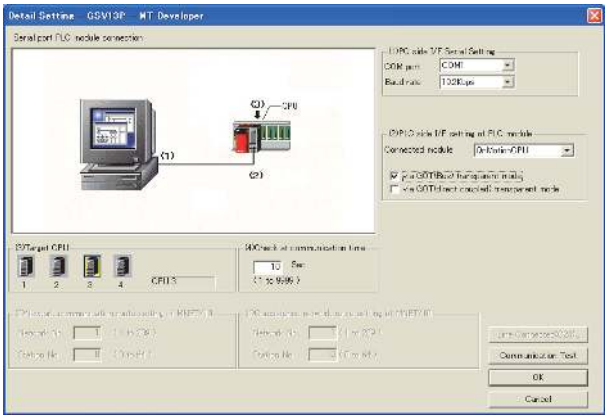


1. Click [Communication] → [Communication Setting] in MT Developer.



2. Select [USB] in [Serial port].

3. Click [Detail].



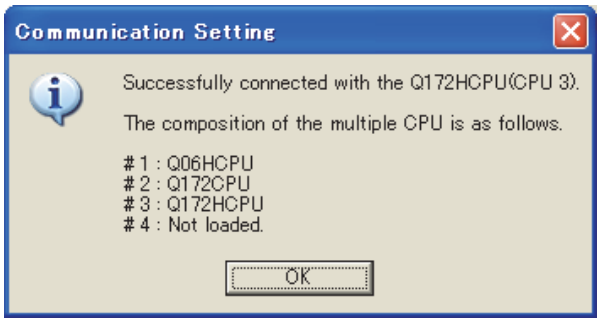
4. Check-mark either of the following in [PLC side I/F setting of PLC module].

   Bus connection
   [via GOT(Bus) transparent mode]

   Direct CPU connection
   [via GOT(direct coupled) transparent mode]

5. As necessary, select a CPU that is targeted by using the transparent function in [CPU].

6. Click [Connection Test].



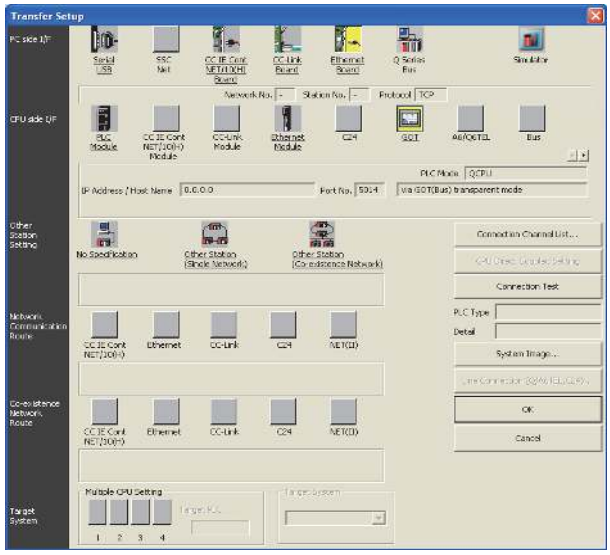
7. Confirm that the personal computer is connected to the motion controller CPU (Q series).

20.6.6 Accessing by the MT Works2

This section explains the procedure to set the FA transparent function of MT Works2 with an example of connecting to motion controller CPU (Q series).

■ When connecting the GOT and the personal computer by USB

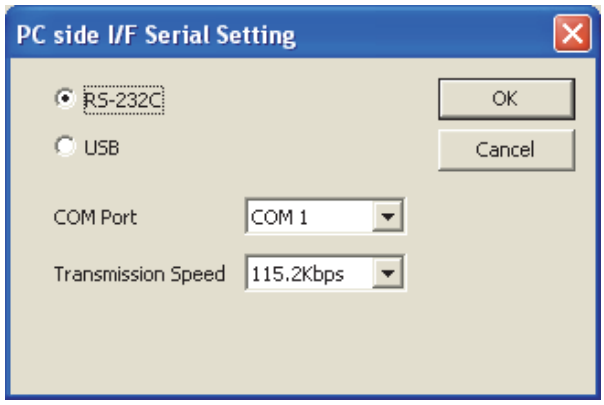
(1) Connecting the GOT and PLC in bus connection or direct CPU connection



1. Click [Transfer setup] → [Online].

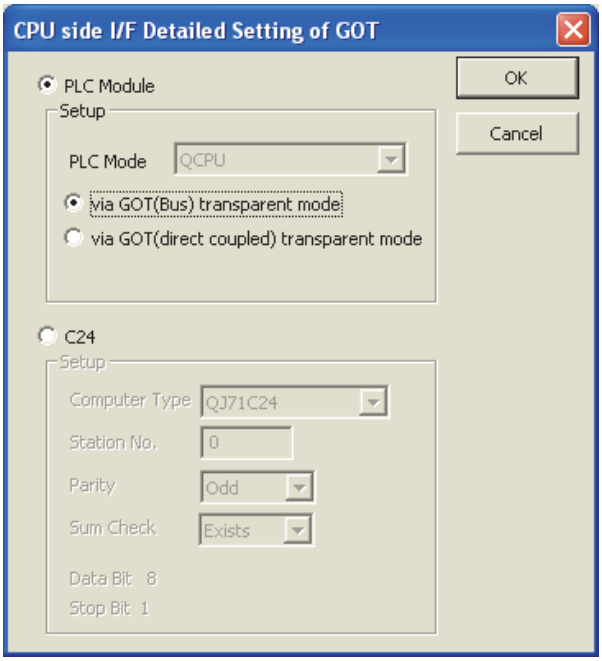
2. The [Transfer setup] is displayed.

3. Set the [Transfer setup]:
   PC side I/F : Serial USB
   CPU side I/F : GOT
   Other Station Setting : No specification



4. Double-click [Serial] of the PLC side I/F to display [PC side I/F Serial setting].

5. Select [USB] in the [PC side I/F Serial Setting] dialog.



6. Double-click [GOT] of the CPU side I/F to display [CPU side I/F Detailed Setting of GOT].

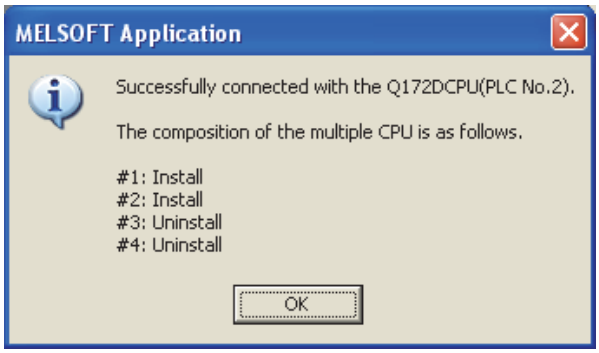
7. Check-mark either of the following in [CPU side I/F Detailed Setting of GOT].

Bus connection

Mark the [via GOT(Bus) transparent mode] checkbox.

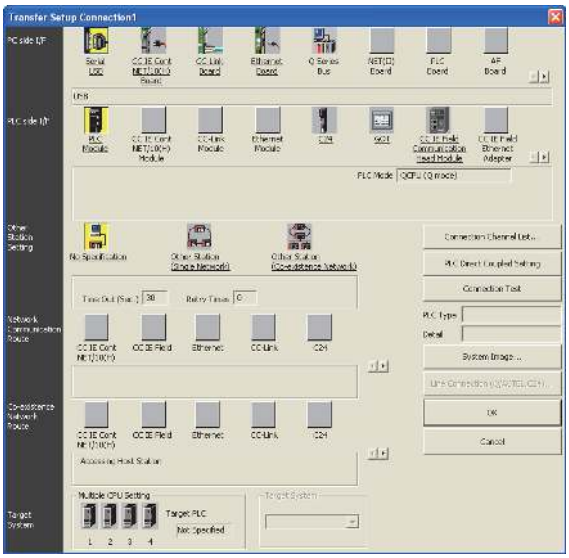
Direct CPU connection

Mark the [via GOT (direct coupled) transparent mode] checkbox.



8. The screen returns to [Transfer setup]. Click [Connection Test] to check if MT Works2 has been connected to the motion controller (Q mode).

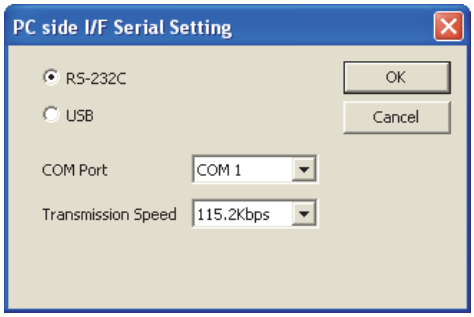
(2) When connecting the GOT and PLC in Ethernet communication



1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of MT Works2.

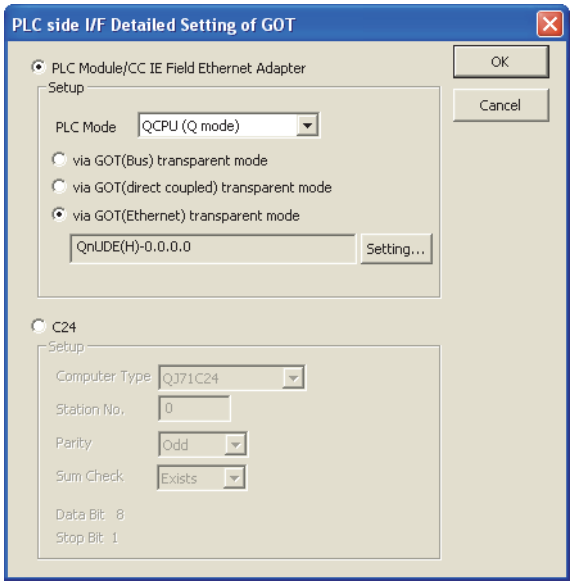
2. The [Transfer Setup] is displayed.

3. Set the [Transfer Setup]:
   PC side I/F : Serial USB
   PLC side I/F : GOT
   Other Station Setting : No Specification:



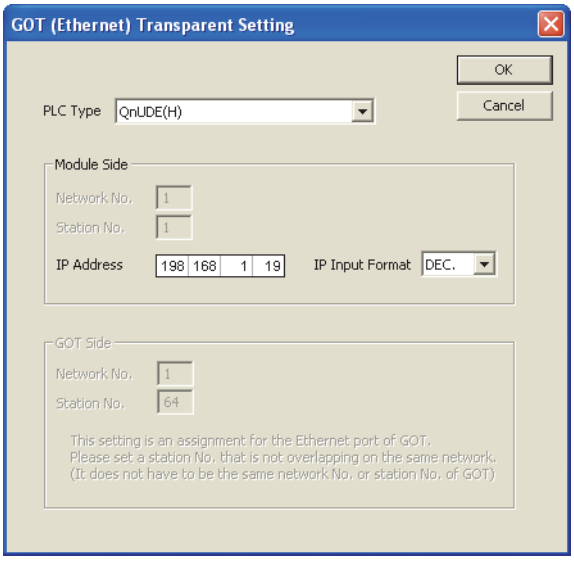
4. Double-click [Serial USB] of the PC side I/F to display [PC side I/F Serial Setting].

5. Select [USB] in the [PC side I/F Serial Setting] dialog.



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].

7. PLC side I/F Detailed Setting of GOT
Mark the [via GOT(Ethernet) transparent mode] checkbox and click [Set].

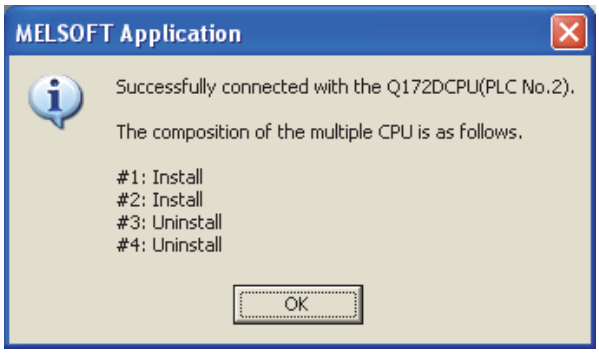


8. By clicking [Set], the [GOT (Ethernet) Transparent Setting] is displayed.
Here, set the built-in Ethernet port QCPU or Ethernet module, which is firstly connected via a GOT.

9. Set [QnUDE(H)] or [QJ71E71] for [Type name].

10. Specify the number for [Network No.] and [Station No.] same as the number assigned to the Ethernet module.
When [QnUDE(H)] is set for [Type name], the setting is not required.

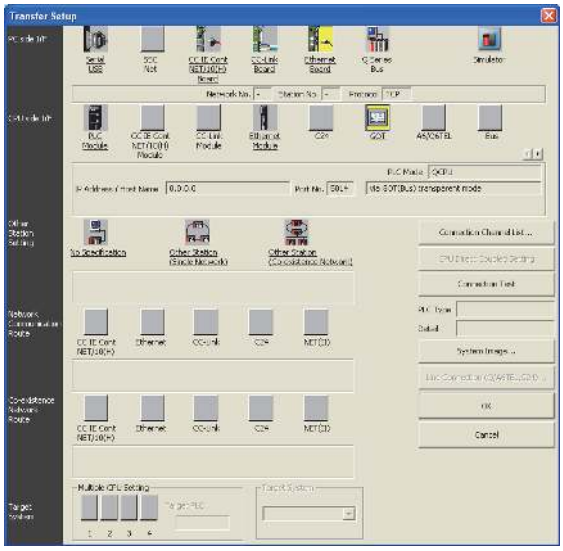
11. Specify the IP address for [IP address] same as the IP address assigned to the built-in Ethernet port QCPU or Ethernet module.



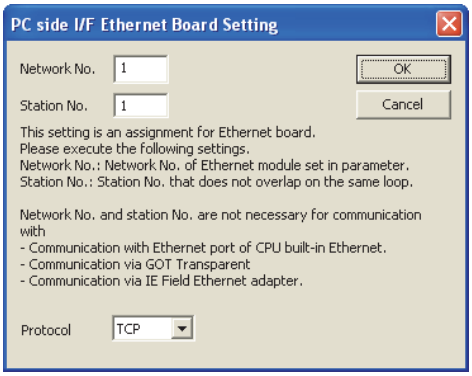
12. The screen returns to [Transfer setup]. Click [Connection Test] to check if MT Works2 has been connected to the motion controller (Q mode).

■ When connecting the GOT and the personal computer by Ethernet

(1) Connecting the GOT and PLC in bus connection or direct CPU connection

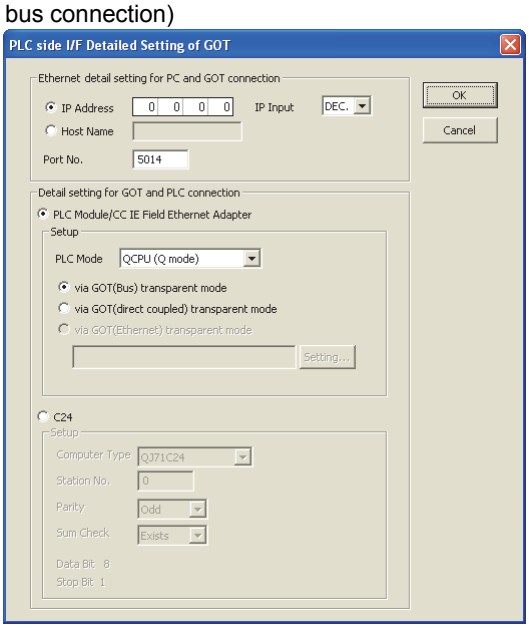


1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of MT Works2.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PC side I/F : Ethernet Board
   PLC side I/F : GOT
   Other Station Setting : No Specification:



4. Double-click [Ethernet Board] of the PC side I/F to display [PC side I/F Ethernet Board Setting].
5. Set the protocol to TCP. Network No. and Station No. are not required to be changed (default) because they are not used.

(For bus connection)



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].
7. Set the IP address and port No. in [Ethernet detail setting for PC and GOT connection].
   Set the IP address and port No. to the same as the Ethernet download setting.
   ☞ 20.5.1 (b) Ethernet download setting
8. Check either of the followings in [Detail setting for GOT and PLC connection].

   Bus connection
   [via GOT(Bus) transparent mode]

   Direct CPU connection
   Mark the [via GOT(direct coupled) transparent mode] checkbox.

9. The screen returns to [Transfer Setup]. Click [Connection Test] to check if MT Works2 has been connected to the Motion controller (Q mode).

20.6.7 Accessing the servo amplifier by the MR Configurator

Make the FA transparent settings with the of MT Developer.

For details, refer to the following:

☞ 20.6.5 Accessing by the MT Developer

20.6.8 Accessing the servo amplifier by the MR Configurator2

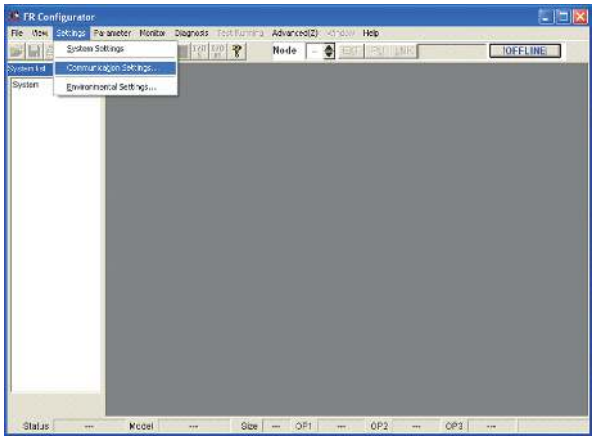
Make the FA transparent settings with the of MT Works2.

For details, refer to the following:

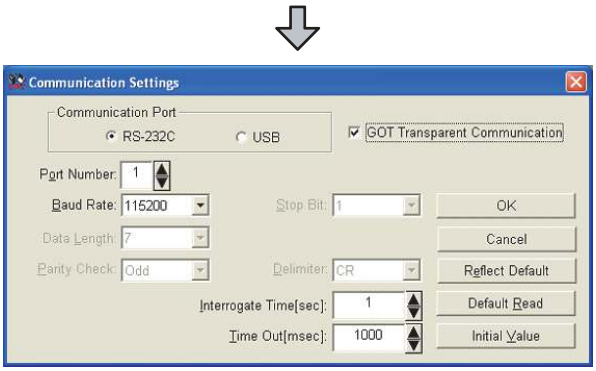
☞ 20.6.6 Accessing by the MT Works2

20.6.9 Accessing the inverter by the FR Configurator

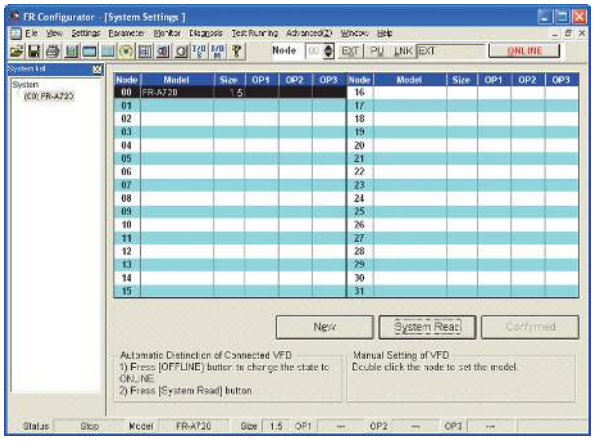
This section explains the setting method of the FA transparent function of FR Configurator with an example of connecting to FREQROL A700/F700 series.



1. Click [Settings] → [Communication Settings...] in FR Configurator.



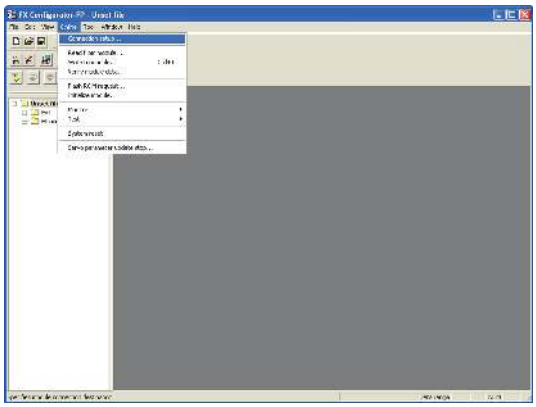
2. Select [USB] in [Communication Port].
3. Click the [GOT Transparent Communication].
4. Click the [OK].



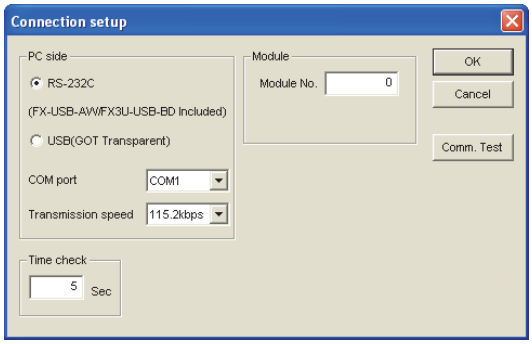
5. Click [OFFLINE] to make it [ONLINE].
6. Click the [System Read], then check if GOT has been connected to FREQROL A700/F700 series normally.

20.6.10 Accessing PLC by FX Configurator-FP

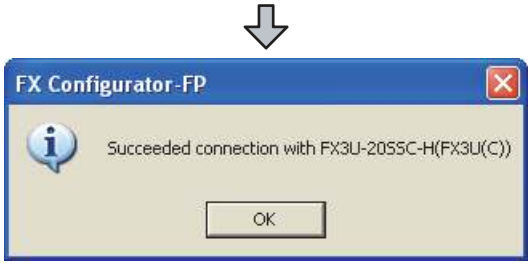
This section explains the procedure to set the FA transparent function of FX Configurator-FP with an example of connecting to FXCPU.



1. Click [Connection setup] for [Online] on FX Configurator-FP.



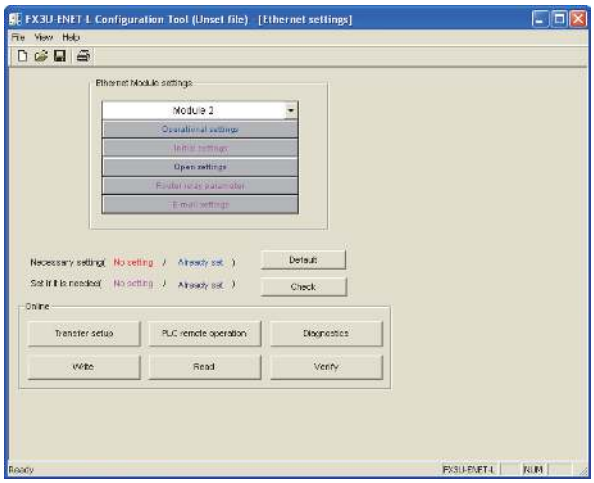
2. Select [USB (GOT Transparent)] in [PC side].
3. Click [Comm. Test].



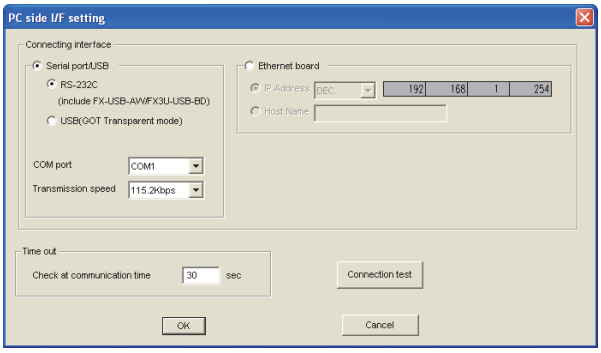
4. After the communication test is completed, check that the GOT is correctly connected to the FXCPU.

20.6.11 Accessing by FX3U-ENET-L Configuration tool

This section explains the procedure to set the FA transparent function of the FX3U-ENET-L Configuration tool.



1. Click [Transfer setup] on the FX3U-ENET-L Configuration tool.



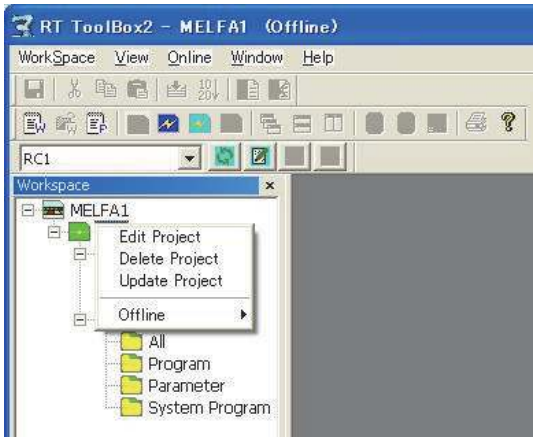
2. Select [USB (GOT Transparent mode)] in [Serial port/USB] of [Connecting interface].
3. Click [Connection test]

4. After the communication test is completed, check that the GOT is correctly connected to the FXCPU.

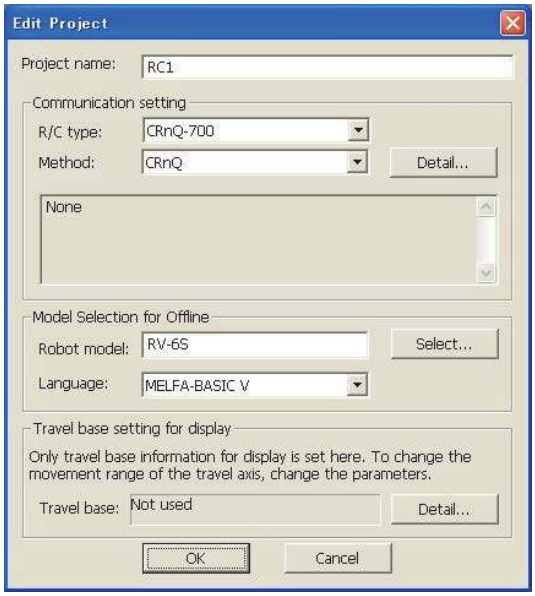
20.6.12 Accessing by RT ToolBox2

This section explains the procedure to set the FA transparent function of RT ToolBox2 with an example of connecting to CRnQ-700.

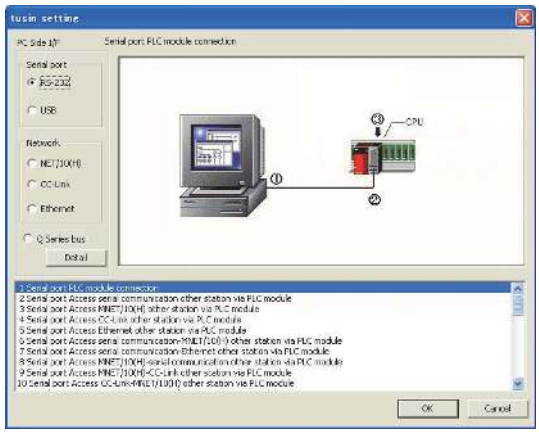
■ Connecting the GOT and Controller in bus connection or direct CPU connection (CRnQ-700)



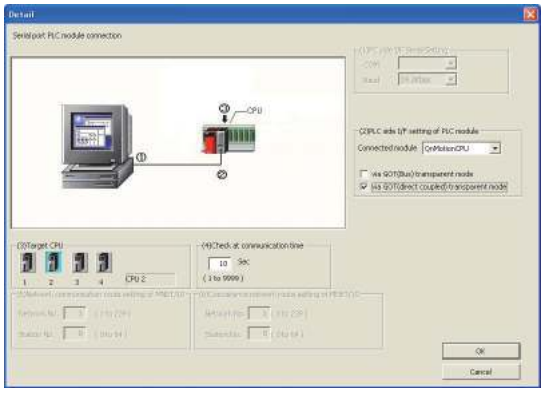
1. Right-click a project name to be a target on the project tree of RT ToolBox2.
Click [Edit Project].



2. Set [Method] to [CRnC].
3. Click [Detail].



4. Select [USB] in [Serial port].
5. Click [Detail].



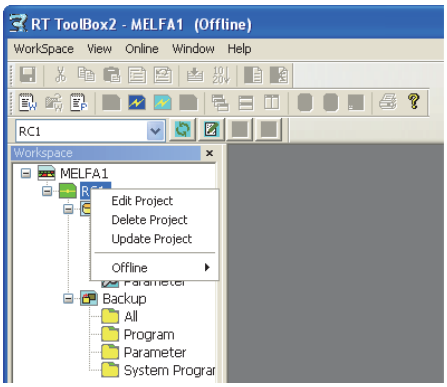
6. Check-mark either of the following in [PLC side I/F setting of PLC module].

Bus connection
[via GOT(Bus) transparent mode]

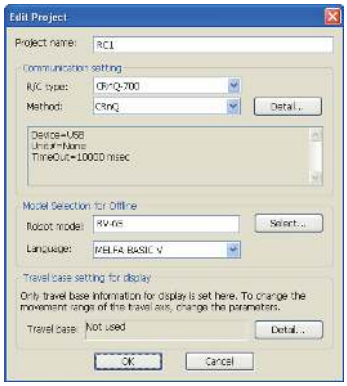
Direct CPU connection
[via GOT(direct coupled) transparent mode]

7. As necessary, select a CPU that is targeted in [CPU].

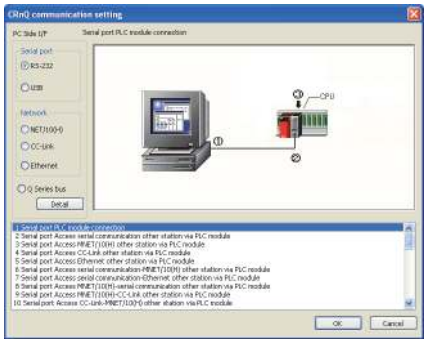
■ Connecting the GOT and Controller in Ethernet connection



1. Right-click a project name to be a target on the project tree of RT ToolBox2.
   Click [Edit Project].

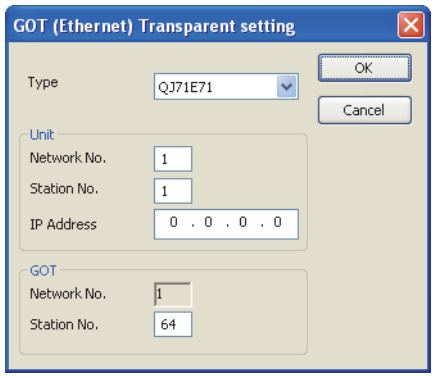


2. Set [Method] to [CRnQ].
3. Click [Detail].



4. Select [USB] in [Serial port].
5. Click [Detail].

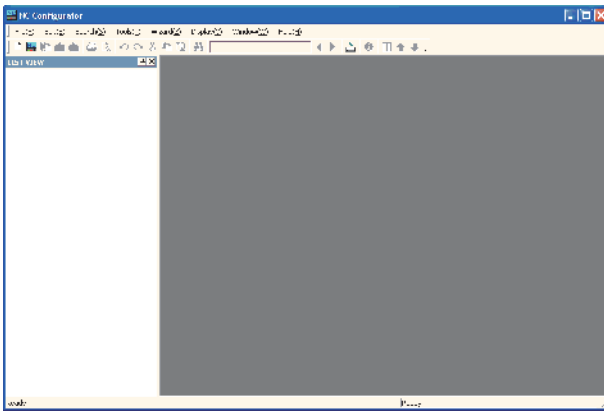
6. On the [PLC side I/F setting of PLC module], mark the [via GOT (Ethernet) transparent mode] checkbox and click [Set].



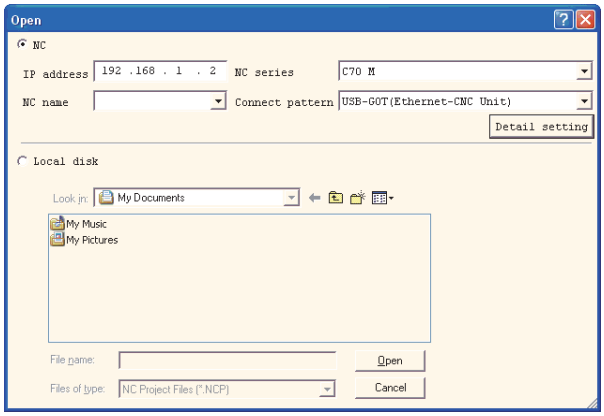
7. Set [QJ71E71] for [Type].
8. Specify the number assigned to the Ethernet module for [Network No.], [Station No.] and [IP Address] in "Module side".
9. Specify the number assigned to the GOT for [Network No.], [Station No.] and [IP Address] in "GOT side".
10. As necessary, select a CPU that is targeted in [CPU].

20.6.13 Accessing by NC Configurator

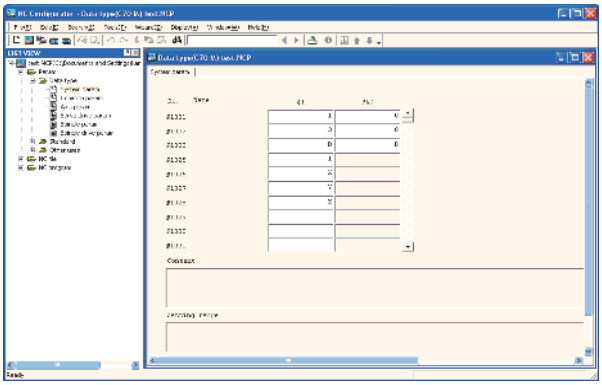
The following shows the procedure to set the FA transparent function of NC Configurator.



1. Click [File] → [Open].
2. The [Open] is displayed.

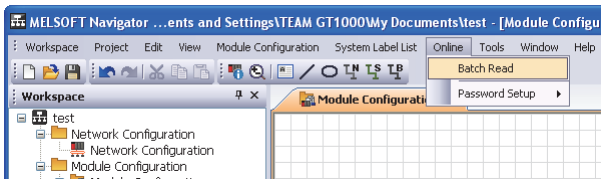


3. Select [NC] on the upper left of the screen, and set the following:
   NC series : C70 M or C70 L
   Connect pattern : Set the pattern according to the connect pattern.
   IP address : Set as necessary.
4. By clicking [Open], data is read from CNC and displayed.

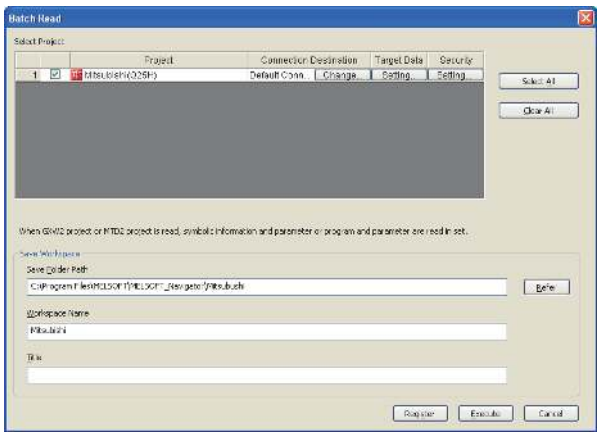


20.6.14 Accessing by MELSOFT Navigator

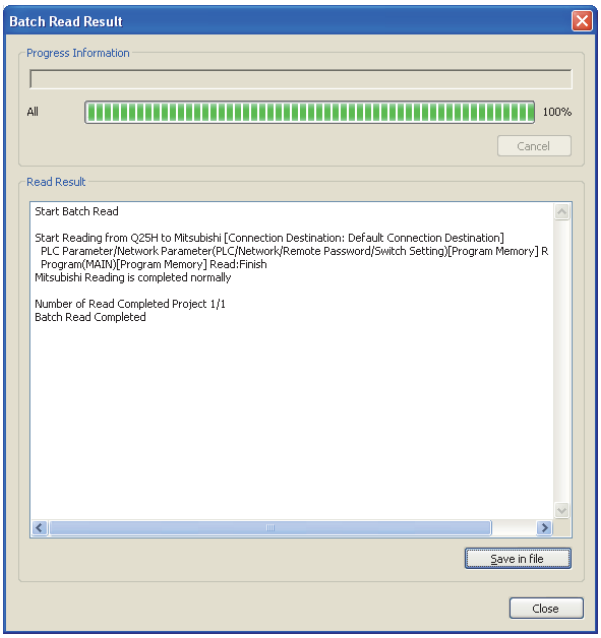
This section explains the procedure to set the FA transparent function of the MELSOFT Navigator.



1. Click [Online] → [Batch Read] in MELSOFT Navigator.
2. The [Batch Read] is displayed.

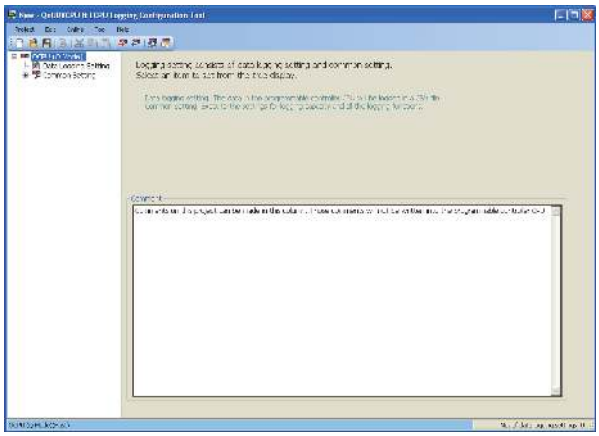


3. Select the projects to be read from [Select Project], and set the storage destination of the workspace in [Save Workspace].
4. Click [Execute] to read and display the specified project.

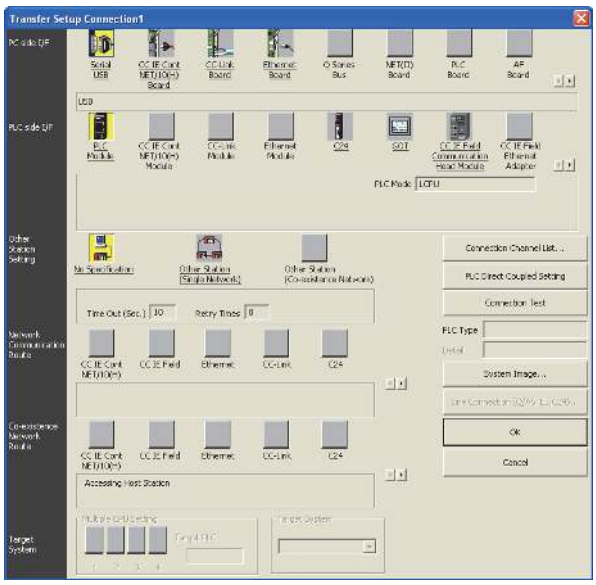


20.6.15 Accessing by QnUDVCPU•LCPU Logging Configuration Tool

The following shows the procedure to set the FA transparent function of QnUDVCPU•LCPU Logging Configuration Tool .



1. Click [Online] → [Transfer Setup...].
2. The [Transfer Setup] is displayed.



3. Set the [Transfer Setup]:
   PC side I/F : Serial USB
   PLC side I/F : GOT
   Other Station Setting : No specification
4. Set [PC side I/F Serial Setting] and [PLC side I/F Detailed Setting of GOT] in [Transfer Setup]. For details, refer to the following.

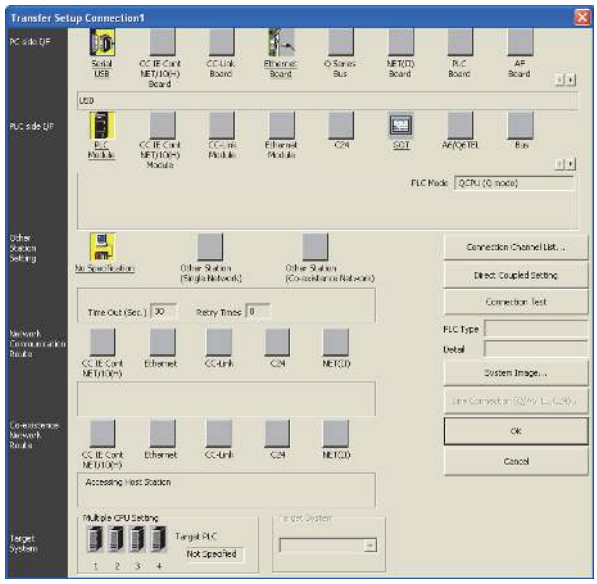
   20.6.2 Accessing by GX Works2

20.6.16 Accessing by Setting/ Monitoring tool for C Controller module

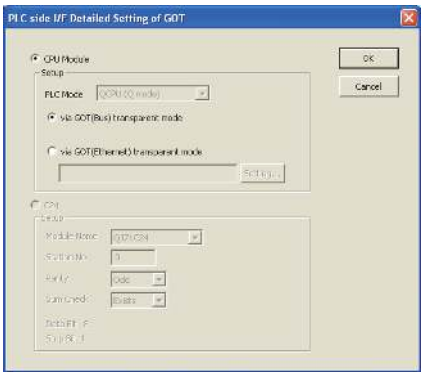
The following shows the procedure to set the FA transparent function of Setting/Monitoring tool for C Controller module with the C Controller module (Q24DHCCPU-V) connected.

■ When connecting the GOT and personal computer with USB

(1) When connecting the GOT and PLC in bus connection



1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of MT Setting/ Monitoring tool for C Controller module.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PLC side I/F : GOT
   Other station : No specification

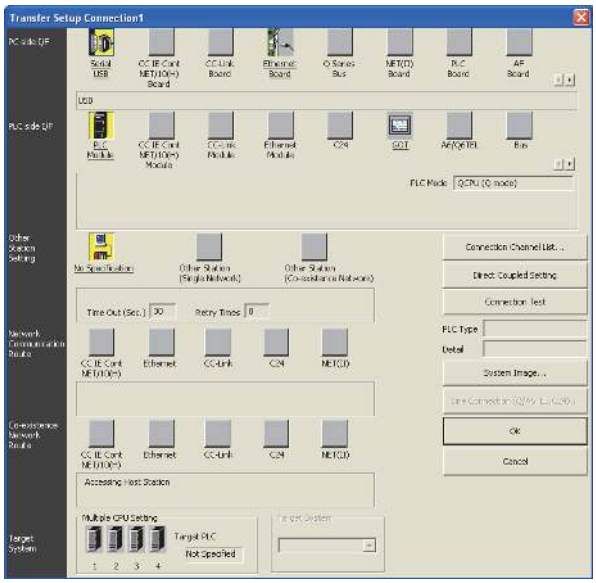


4. Double-click [GOT] of the CPU side I/F to display [CPU side I/F Detailed Setting of GOT].

5. Mark the [via GOT(Bus) transparent mode] checkbox on the [CPU side I/F Detailed Setting of GOT] screen.

6. The screen returns to [Transfer Setup]. Click [Connection Test] to check if Setting/Monitoring tool for C Controller module has been connected to the motion controller (Q mode).

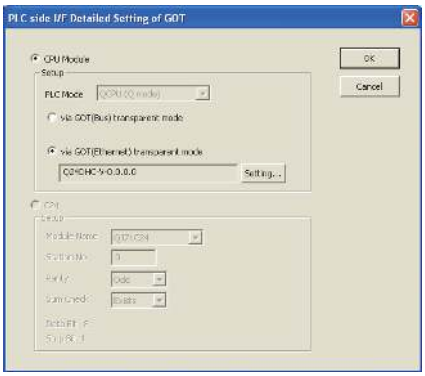
(2) When connecting the GOT and PLC in Ethernet communication



1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of MT Setting/ Monitoring tool for C Controller module.

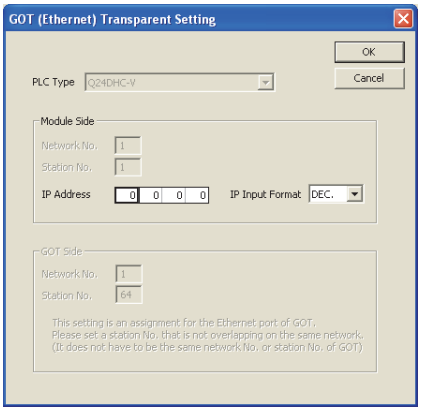
2. The [Transfer Setup] is displayed.

3. Set the [Transfer Setup]:
PLC side I/F : GOT
Other station : No specification



4. Double-click [GOT] of the CPU side I/F to display [CPU side I/F Detailed Setting of GOT].

5. Mark the [via GOT(Ethernet) transparent mode] checkbox on the [CPU side I/F Detailed Setting of GOT] screen.



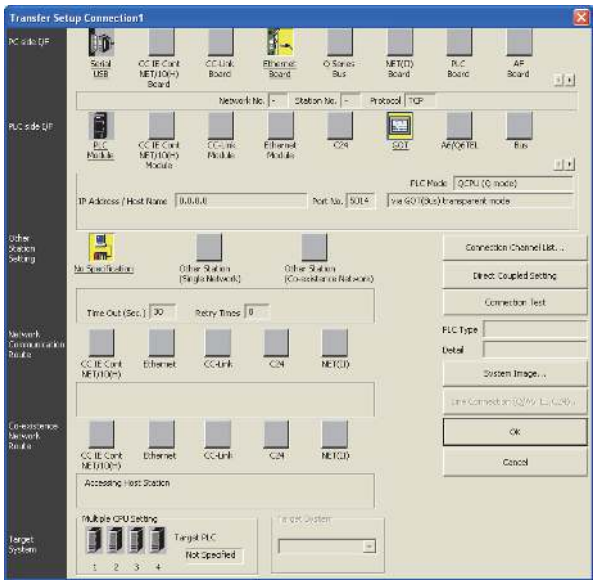
6. By clicking [Set], the [GOT (Ethernet) Transparent Setting] is displayed.
Here, set the C Controller module (Q24DHCCPU-V), which is firstly connected via a GOT.

7. Specify the IP address for [IP address] same as the IP address assigned to the C Controller module (Q24DHCCPU-V).

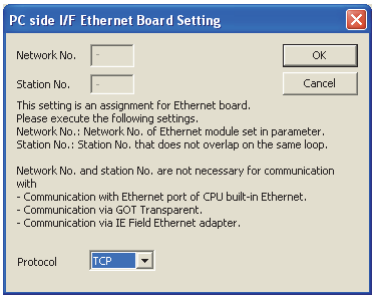
8. The screen returns to [Transfer Setup]. Click [Connection Test] to check if Setting/Monitoring tool for C Controller module has been connected to the C Controller module (Q24DHCCPU-V).

■ When connecting the GOT and personal computer in Ethernet connection

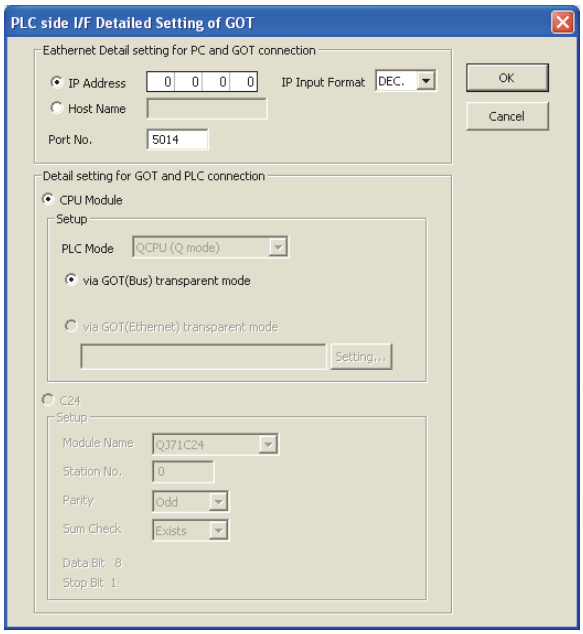
(1) When connecting the GOT and PLC in bus connection



1. Click the Connection Destination view → [Connection Destination] → [(Connection target data name)] in the Navigation window of MT Setting/ Monitoring tool for C Controller module.
2. The [Transfer Setup] is displayed.
3. Set the [Transfer Setup]:
   PC side I/F : Ethernet Board
   PLC side I/F : GOT
   Other station : No specification



4. Double-click [Ethernet Board] of the PC side I/F to display [PC side I/F Ethernet Board Setting].
5. Set the protocol to TCP. Network No. and Station No. are not required to be changed (default) because they are not used.



6. Double-click [GOT] of the PLC side I/F to display [PLC side I/F Detailed Setting of GOT].
7. Set the IP address and port No. in [Ethernet detail setting for PC and GOT connection].
   Set the IP address and port No. to the same as the Ethernet download setting.
   20.5.1 (b) Ethernet download setting

8. The screen returns to [Transfer Setup]. Click [Connection Test] to check if Setting/Monitoring tool for C Controller module has been connected to the motion controller (Q mode).

20.7 Precautions

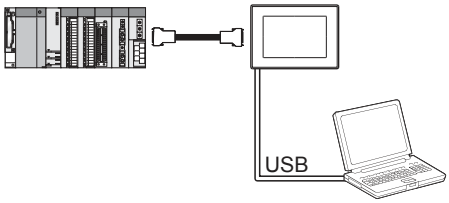
20.7.1 Precautions common to each software

■ GOT interface required to use the FA transparent function

Connect the personal computer, to which PX Developer or any other relevant software has been installed, to the USB interface of the GOT.

When performing the FA transparent function, use USB interface of the GOT.

Using both of them to perform the FA transparent function concurrently is not allowed.



■ Conditions for suspending the FA transparent function

The FA transparent function is also suspended when any of the following operations, which stop the GOT monitor, is performed.

Note that the FA transparent function will not be stopped while using the optional function such as the Utility display or ladder monitor function.

- When project data is written/read, or when the OS is written by GT Designer3[*1]
- When the GOT is set up[*1]
- When no communication request (online monitor, etc.) has been issued from PX Developer for 45 minutes

*1 A timeout error occurs in PX Developer.

■ When GOT monitoring is faulty

The FA transparent function cannot be used in case that the GOT monitoring is faulty due to PLC CPU errors or faulty communication between the PLC CPU and GOT.
When GOT monitoring is faulty, check the following.

(1) Whether the PLC CPU operates normally

☞ Refer to the User's Manual of the PLC CPU you use.

(2) Whether the PLC CPU and GOT are connected normally

☞ 6. DIRECT CONNECTION TO CPU

☞ 7. COMPUTER LINK CONNECTION

☞ 8. BUS CONNECTION

■ When monitoring the PLC CPU from a personal computer

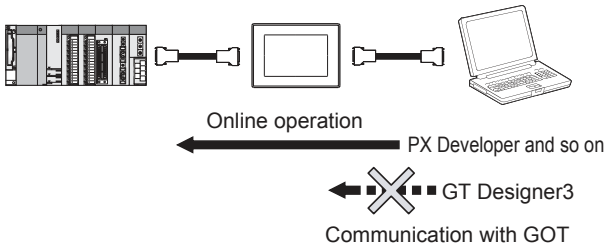
When monitoring the PLC CPU from a personal computer, the GOT and personal computer refresh the display slower.

■ Software available for the FA transparent function

When multiple kinds of software are activated on one personal computer, only one of them is available for communications using the FA transparent function.

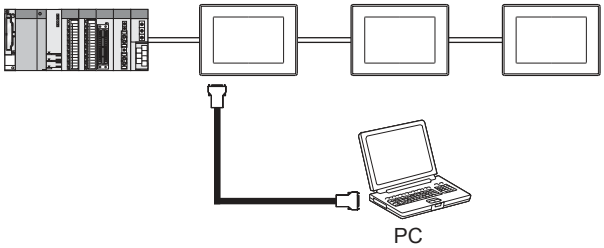
Do not concurrently perform any communications using the FA transparent function.
(Offline operation with each software is available)

Also, do not perform communications with the GOT (e.g. downloading project data) from GT Designer3 during execution of communications using the FA transparent function.



■ When the FA transparent function is used in a bus connection

(1) When multiple GOTs are bus-connected
When multiple GOTs are bus-connected, the FA transparent function can be used on each GOT. However, note that the monitoring performance of each GOT slows down as the number of monitoring GOTs and personal computers increases.



(2) When the FA transparent function is used in a bus connection

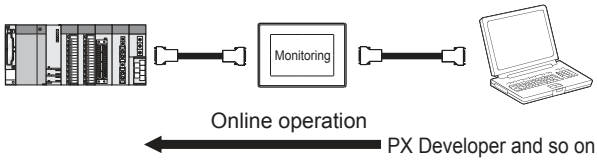
When the FA transparent function is used in a bus connection, the following GX Works2 functions cannot be executed.

The message [The executed function is not supported. Please check the manual and other documentation.] is displayed on GX Works2.

Unsupported functions	Remark
• Remote Reset • Remote system reset	—
• Remote RUN • Remote STOP • Remote PAUSE • Remote STEP-RUN • Remote latch clear • Write clock data • Clear malfunction log	Inexecutable only when specify all stations/groups has been performed.

■ When PLC power disconnection occurs with the FA transparent function being used

While the FA transparent function is being used, if the communication between the PLC and the GOT is stopped due to PLC power disconnection or a disconnection of the communication cable between the PLC and the GOT, the GOT waits for timeout against the communication request from the peripheral devices (PX Developer, etc.), and it takes a few minutes to recover the monitoring between the PLC and the GOT.



■ When the FA transparent function is used in an Ethernet connection

(1) GX Works2 function

When the FA transparent function is used in an Ethernet connection, the following GX Works2 functions cannot be executed.

The message [The executed function is not supported. Please check the manual and other documentation.] is displayed on GX Works2.

Unsupported functions	Remark
• Remote Reset • Remote system reset	—
• Remote RUN • Remote STOP • Remote PAUSE • Remote STEP-RUN • Remote latch clear • Write clock data • Clear malfunction log	Inexecutable only when specify all stations/groups has been performed.
• Remote password function • MELSECNET diagnostics • CC IE Control diagnostics • CC IE Field diagnostics • Ethernet diagnostics (PING test/loopback test with the Ethernet module (Q series))	—

(2) GOT station monitoring function

When the FA transparent function is used in an Ethernet connection, GOT station monitoring function cannot be operated.

Therefore, in the cases of [no connection target], [PLC power OFF], etc., the monitoring of the GOT delays for the timeout time.

■ When connecting the GOT multi-drop connection

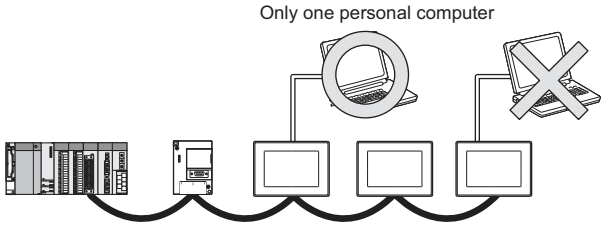
FA transparent function is available for each GOT in the GOT multi-drop connection system.

(1) Standard monitor OS installation, Communication driver writing

When using FA transparent function in GOT multi-drop connection, the writing of the standard monitor OS and communication driver to the GOT from GT Designer3 (Version 1.18U or later), as well as the writing of the standard monitor OS and communication driver to the serial multi-drop connection unit are required.

(2) Number of personal computers

Only one personal computer can be connected to the multi-drop connection system.



(3) Monitor speed of GOT
The monitoring performance slows down according to the number of monitoring GOTs. While using FA transparent function, the monitoring performance of the whole multi-drop system decreases. As a result, timeout error may occur in GOTs in the system.

■ When connecting the GOT and the personal computer by USB

When the operations shown below are executed, the operation is executed in the PLC. However, the display on the GOT may stop temporarily or the display of timeout may appear on GX Works2.

Operation*1	Remark
• Remote Reset	Applied for the following operations specifying the currently selected station.
• Remote RUN • Remote STOP • Remote PAUSE • Remote STEP-RUN • Remote Reset • Remote latch clear • Write clock data	Applied for the following operations specifying all the station.
• CC IE Control diagnostics (Link startup/stop) • CC IE Field diagnostics (Link startup/stop)	—

*1 The remote operations only of when the connection type between the GOT and CPU is the direct CPU connection or computer link connection are applied.

20.7.2 When using GX Woks2

■ When [monitor conditions] have been set on GX Works2

(1) Monitoring performance of the GOT is temporarily suspended.

(2) The GOT cannot respond to the touch switch operation and numerical/ascii inputs.

(3) Writing to PLC results in a system alarm occurrence and displays the message, "315 Device writing error. Correct device.".

(4) While setting the monitor conditions, do not perform any operation which makes the GOT restart (e.g. downloading project data, changing utility data). Doing so may display a system alarm, "402 Communication timeout. Confirm communication pathway or modules." when the GOT restarts. When the monitor conditions setting for the PLC CPU has not been cancelled, reconnect GX Works2 to cancel the setting.(An error may be output when the monitor conditions setting is cancelled.)

(5) When the time check of GX Works2 is set to 30 seconds or more in the monitor condition settings, the message "402 Communication timeout. Confirm communication pathway or modules." may appear. Set the time check time of GX Works2 to 30 seconds or less.

■ When exiting GX Works2

For 45 seconds after GX Works2 has been exited, the GOT continues monitoring at the same speed as when the FA transparent function is working.

■ When performing [Read to PLC], [Write to PLC] and other file operations on GX Works2

If any of the following GOT functions is executed during the file operation such as [Read to PLC] or [Write to PLC], an error may occur on the GOT, GX Works2. In this case, take the following corrective action:

- File reading in the ladder monitor function for MELSEC-Q

Error messages on GOT	Corrective action on GOT side	Error messages on GX Works2	Corrective action on GX Works2
The file is not found.	With no file operation being executed on GX Works2, re-execute the file reading.	File access failure. Please retry.	With no file reading being executed in the ladder monitor function for MELSEC-Q, re-execute the file operation.

- Read/write of values of the file register specified for the recipe function

Error messages on GOT	Corrective action on GOT side	Error messages on GX Works2	Corrective action on GX Works2
358 PLC file access failure. Confirm PLC drive.*1	With no file operation on GX Works2, turn ON the trigger device for the recipe function again.	File access failure. Please retry.	Execute the file access operation again with the recipe in-process signal in GOT system information OFF.
		PLC file system error. Unable to communicate with PLC.	

- Reading TC monitor set value in the system monitor function

Error messages on GOT	Corrective action on GOT side	Error messages on GX Works2	Corrective action on GX Works2
No message is displayed. (The TC set value space is blank.)	With no file operation being executed on GX Works2, re-execute the TC monitor.	File access failure. Please retry.	With no TC set value being read, re-execute the file operation.

*1 The numerical indicates the system alarm No.

- Reading the special module monitor CPU Malfunction log

Error messages on GOT	Corrective action on GOT side	Error messages on GX Works2	Corrective action on GX Works2
Communication error	With no file operation being executed on GX Works2, re-execute the CPU malfunction log reading.	File access failure. Please retry.	With no special module monitor malfunction log being read, execute the file operation.

- Backup/restore

Error messages on GOT	Corrective action on GOT side	Error messages on GX Works2	Corrective action on GX Works2
Backup	With no file operation being executed on GX Works2, re-execute the backup.	-	With no backup being executed, execute the file operation.
Restore	With no file operation being executed on GX Works2, re-execute the restore.	-	With no restore being executed, execute the file operation.

- SFC monitor file reading

Error messages on GOT	Corrective action on GOT side	Error messages on GX Works2	Corrective action on GX Works2
-	With no file operation being executed on GX Works2, re-execute the file reading.	-	With no special module monitor CPU malfunction log being read, execute the file operation.

- Reading/Writing files of ladder edit

Error messages on GOT	Corrective action on GOT side	Error messages on GX Works2	Corrective action on GX Works2
Read	With no file operation being executed on GX Works2, re-execute the file reading.	—	With no file reading being executed on ladder edit, execute the file operation.
Write	With no file operation being executed on GX Works2, re-execute the file writing.	—	With no file writing being executed on ladder edit, execute the file operation.

■ When PLC write is failed while using the FA transparent function

The execution of PLC write using the FA transparent function may be failed due to some reason such as cable disconnection.

When this occurs, re-execute the PLC write from the same personal computer, or reset the PLC CPU.

■ Restrictions on GX Works2 during backup/ restore execution

(1) When reading/writing data from/to a PLC, monitoring a PLC, and others are executed with GX Works2 with the FA transparent function during the backup/restore execution with the GOT, the backup/restore is stopped. Check that reading/writing data from/to the PLC, monitoring the PLC, and others are not executed with GX Works2 with the FA transparent function. Execute the backup/restore with the GOT again.

(2) When the backup/restore is executed with the GOT while reading/writing data from/to a PLC, monitoring a PLC, and others are executed with GX Works2 with the FA transparent function, errors occur on GX Works2. The backup/restore with the GOT is correctly executed.

20.7.3 When using MT Developer, MT Works2

■ When exiting MT Developer, MT Works2

For 45 seconds after MT Developer, MT Works2 has been exited, the GOT continues monitoring at the same speed as when the FA transparent function is working.

■ When PLC write is failed while using the FA transparent function

The execution of PLC write using the FA transparent function may be failed due to some reasons such as cable disconnection.

When this occurs, re-execute the PLC write from the same personal computer, or reset the motion controller CPU.

■ When a cable disconnection has occurred

When the cable between the GOT and the motion CPU is disconnected, it takes time until a timeout error occurs in MT Developer.

20.7.4 When using MR Configurator, MR Configurator2

■ Unavailable functions and restrictions

For the use via the motion controller, there are unavailable functions and restrictions.

For details on the restrictions, refer to the help screen of MR Configurator.

■ Monitor speed of GOT

Since the FA transparent function is used via the motion CPU, the monitor speed of GOT is slow.

20.7.5 When using FR Configurator

■ GOT monitoring when using FA transparent function

When FA transparent function is used, GOT suspends monitoring on channels supporting FA transparent function.

POINT

Cancelling the suspended GOT monitoring immediately

To cancel the suspended (45 seconds) GOT monitoring immediately after FA transparent is executed, input "1" to device GS457.Then GOT resumes monitoring.
If FA transparent is resumed even if "1" is already input to device GS457, an error will occur on FR Configurator.
For the details of the device, refer to the following manual.

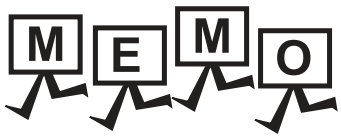
☞ GT Designer3 Version□ Screen Design Manual

■ When using the oscilloscope function specified sampling

Since the monitoring of the inverter data may be not performed at the specified sampling intervals depending on the settings of oscilloscope function, adjust the communication setting, a sampling interval, etc.

■ PU mode operation command source selection

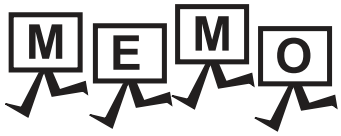
On the setting of PU mode operation command source selection (Pr:551) of the inverter, specify the terminal (1:RS-485 terminals, 2:PU connected) connected to GOT.


MEMO

REVISIONS

* The manual number is given on the bottom left of the back cover.

Print Date	* Manual Number	Revision
Sep., 2013	SH(NA)-081197ENG-A	Compatible with GT Works3 Version1.100E
Nov., 2013	SH(NA)-081197ENG-B	Compatible with GT Works3 Version1.104J • Changing the icons of the supported models
Jan., 2014	SH(NA)-081197ENG-C	Compatible with GT Works3 Version1.108N • FX3GE is supported. • FREQROL-A800, F800, and E700EX are supported. • MELSERVO-JE is supported.


MEMO

WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company. However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for thirty-six (36) months after the date of purchase or delivery to a designated place.
Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be forty-two (42) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

(1) The customer shall be responsible for the primary failure diagnosis unless otherwise specified.
If requested by the customer, Mitsubishi Electric Corporation or its representative firm may carry out the primary failure diagnosis at the customer's expence.
The primary failure diagnosis will, however, be free of charge should the cause of failure be attributable to Mitsubishi Electric Corporation.

(2) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.

(3) Even within the gratis warranty term, repairs shall be charged for in the following cases.
1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
2. Failure caused by unapproved modifications, etc., to the product by the user.
3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
4. Failure that could have been avoided if consumable parts designated in the instruction manual had been correctly serviced or replaced.
5. Replacing consumable parts such as the battery, backlight and fuses.
6. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
7. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
8. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued.
Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.

(2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

6. Product application

(1) In using the Mitsubishi graphic operation terminal, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the graphic operation terminal device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.

(2) The Mitsubishi graphic operation terminal has been designed and manufactured for applications in general industries, etc.
Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or Public service purposes shall be excluded from the graphic operation terminal applications.
In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation equipment for recreation and amusement, and safety devices, shall also be excluded from the graphic operation terminal range of applications.
However, in certain cases, some applications may be possible, providing the user consults the local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at our discretion.
In some of three cases, however, Mitsubishi Electric Corporation may consider the possibility of an application, provided that the customer notifies Mitsubishi Electric Corporation of the intention, the application is clearly defined and any special quality is not required.

SH(NA)-081197ENG-C

GOT2000 Series Connection Manual (Mitsubishi Product)

For GT Works3 Version1

MODEL	GOT2000-CON1-SW1-E
MODEL CODE	1D7MJ8
SH(NA)-081197ENG-C(1401)MEE	

When exported from Japan, this manual does not require application to the Ministry of Economy, Trade and Industry for service transaction permission.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS : 1-14 , YADA-MINAMI 5-CHOME , HIGASHI-KU, NAGOYA , JAPAN

Specifications subject to change without notice. Printed in Japan, January 2014.