MITSUBISHI ELECTRIC

GRAPHIC OPERATION TERMINAL

GOT2000

GOT2000 Series
Connection Manual (α2 Connection)
For GT Works3 Version1

-GT27 model
-GT25 model
-GT25 open frame model
-GT25 wide model
-GT25 rugged model
-GT23 model
-GT21 model
-GT21 wide model

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 minor or moderate injury or property damage.**

Note that failure to observe ⚠ CAUTION may lead to a serious accident depending on the circumstances.

Make sure to observe both warnings and cautions to ensure 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.
- When the GOT backlight has a failure, the GOT status will be as follows. Failure to observe this instruction may result in an accident due to incorrect output or malfunction.
  [GT27, GT25, GT23, GS25]
  The POWER LED blinks (orange/blue), the display section dims, and inputs by a touch switch are disabled.
  [GT2105-Q]
  The POWER LED blinks (orange/blue), and the display section dims. However, inputs by a touch switch are still available.
  [GT2107-W, GT2104-R, GT2104-P, GT2103-P, GS21]
  The display section dims. However, inputs by a touch switch are still available.
  Even if the display section dims, inputs by a touch switch may still be available. This may cause an unintended operation of the touch switch.
  For example, if an operator assumes that the display section has dimmed because of the screen save function and touches the display section to cancel the screen save, a touch switch may be activated.
  The GOT backlight failure can be checked with a system signal of the GOT. (This system signal is not available on GT2107-W, GT2104-R, GT2104-P, GT2103-P, and GS21.)

[DESIGN PRECAUTIONS]

⚠ WARNING

- The display section of the GOT is an analog-resistive type touch panel.
  When multiple points of the display section are touched simultaneously, an accident may occur due to incorrect output or malfunction.
  [GT27]
  Do not touch three points or more simultaneously on the display section. Doing so may cause an accident due to an incorrect output or malfunction.
  [GT25, GT23, GT21, GS25, GS21]
  Do not touch two points or more simultaneously on the display section. Doing so may cause a touch switch near the touched points to operate unexpectedly, or may cause an accident due to an 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.
- 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.
  (1) For bus connection (GT27 and GT25 only): The GOT becomes inoperative. Power on the PLC CPU again to reestablish communication.
  (2) 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.
- To maintain the security (confidentiality, integrity, and availability) of the GOT and the system against unauthorized access, DoS[*1] attacks, computer viruses, and other cyberattacks from unreliable networks and devices via network, take appropriate measures such as firewalls, virtual private networks (VPNs), and antivirus solutions.
  Mitsubishi Electric shall have no responsibility or liability for any problems involving GOT trouble and system trouble by unauthorized access, DoS attacks, computer viruses, and other cyberattacks.
  *1 DoS: A denial-of-service (DoS) attack disrupts services by overloading systems or exploiting vulnerabilities, resulting in a denial-of-service (DoS) state.

[DESIGN PRECAUTIONS]

⚠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 connects to an Ethernet network, the IP address setting is restricted according to the system configuration.
  [GT27, GT25, GT23, GS25]
  When a GOT2000 series model and a GOT1000 series model are on an Ethernet network, do not set the IP address 192.168.0.18 for the GOTs and the controllers on this network.
  Doing so can cause IP address duplication at the GOT startup, adversely affecting the communication of the device with the IP address 192.168.0.18.
  The operation at the IP address duplication depends on the devices and the system.
  [GT21, GS21]
  Setting the IP address (192.168.3.18) in the following system configurations can cause IP address duplication at GOT startup, adversely affecting communications of the device whose IP address is 192.168.3.18.
  The operation at IP address duplication depends on the devices and the system.
  When multiple GOTs connect to the Ethernet network:
  Do not set the IP address (192.168.3.18) for the GOTs and the controllers in the network.
  When one GOT connects to the Ethernet network:
  Do not set the IP address (192.168.3.18) for the controllers other than the GOT in the network.
- When using the Ethernet interfaces, set an IP address for each interface to access a different network.
- 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, GT25 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 with a Phillips-head screwdriver No. 2.
  [GT27, GT25-W, GT2512-S, GT2510-V, GT2508-V, GT23, GT2107-W, GS25]
  Specified torque range (0.36 N•m to 0.48 N•m)
  [GT2505-V, GT2105-Q]
  Specified torque range (0.30 N•m to 0.50 N•m)
  [GT2104-R, GT2104-P, GT2103-P]
  Specified torque range (0.20 N•m to 0.25 N•m)
  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 mounting a unit on the GOT, tighten the mounting screws in the following specified torque range.
  [GT27, GT25 (except GT25-W)]
  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. 1.
  When the GOT is installed vertically, its side interface is positioned on the bottom.
  To prevent the falling of the wireless LAN communication unit from the side interface, install or remove the unit while holding it with hands.
  [GT25-W, GS25]
  When mounting the wireless LAN communication unit on the GOT, fit it to the wireless LAN communication unit interface 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.1.
  [GT2103-P]
  When mounting the SD card unit on the GOT, fit it to the side of the GOT and tighten the tapping screws in the specified torque range (0.3 N•m to 0.6 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.
- When closing the USB environmental protection cover, note the following points to ensure the IP rating.
  [GT27, GT25 (except GT25-W and GT2505-V)]
  Push the [PUSH] mark on the latch firmly to fix the cover to the GOT.
  [GT2512-WX, GT2510-WX, GT2507-W, GT2505-V, GT2107-W, GS25]
  Push the USB mark on the latch firmly to fix the cover to the GOT.
  [GT2105-Q]
  Tighten the lower fixing screws of the cover in the specified torque range (0.36 N•m to 0.48 N•m) to fix the cover to the GOT.

[MOUNTING PRECAUTIONS]

⚠CAUTION

- 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.
- For GT2512F-S, GT2510F-V, and GT2508F-V, attach an environmental protection sheet dedicated to the open frame model (sold separately) to the display section.
  Or, attach a user-prepared environmental protection sheet.
  Not doing so may damage or soil the GOT or cause foreign matter to enter the GOT, resulting in a failure or malfunction.
- When installing the supplied fittings on GT2512F-S, GT2510F-V, or GT2508F-V, tighten screws in the specified torque range (0.8 N•m to 1.0 N•m).
  Meld studs on the control panel to fasten the fittings.
  The studs must have strength adequate to withstand a tightening torque of 0.9 N•m or more.
  Make sure that no foreign matter such as welding waste is at and around the bases of the studs.
  Tighten nuts on the studs in the specified torque range (0.8 N•m to 0.9 N•m) with a wrench for M4 nuts.
  Undertightening a screw or nut may cause the GOT to drop, short-circuit, or malfunction.
  Overtightening a screw or nut may damage it or the GOT, causing the GOT to drop, short-circuit, or malfunction.
- Do not operate or store the GOT in the environment exposed to direct sunlight, rain, high temperature, dust, humidity, or vibrations.
- Although GT2507T-W is ruggedized for environments such as UV rays, temperatures and vibrations, its operation is not guaranteed in all conditions and environments.
  Make sure to use or store the GOT in an appropriate environment.
- 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.
- Do not operate the GOT with its display section frozen.
  The water droplets on the display section may freeze at a low temperature.
  Touch switches and other input objects may malfunction if the display section is frozen.

[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.

[WIRING PRECAUTIONS]

⚠CAUTION

- When grounding the FG terminal and LG terminal of the GOT power supply section, note the following points.
  Not doing so may cause an electric shock or malfunction.
  [GT27, GT25, GT23, GT2107-W, GT2105-Q, GS25, GS21]
  Make sure to ground the FG terminal and LG terminal of the GOT power supply section solely for the GOT (ground resistance: 100 Ω or less, cross-sectional area of the ground cable: 2.0 mm^2 or more). (GT2705-V, GT25-W, GT2505-V, GT2107-W, GT2105-Q, GS25, and GS21 do not have the LG terminal.)
  [GT2104-R, GT2104-P, GT2103-P]
  Make sure to ground the FG terminal of the GOT power supply section with a ground resistance of 100 Ω or less. (For GT2104-PMBLS and GT2103-PMBLS, grounding is unnecessary.)
- When tightening the terminal screws, use the following screwdrivers.
  [GT27, GT25, GT23, GT2107-W, GT2105-Q, GS25, GS21]
  Use a Phillips-head screwdriver No. 2.
  [GT2104-R, GT2104-P, GT2103-P]
  For the usable screwdrivers, refer to the following.
  ☞ GOT2000 Series User's Manual (Hardware)
- Tighten the terminal screws of the GOT power supply section in the following specified torque range.
  [GT27, GT25, GT23, GS25]
  Specified torque range (0.5 N•m to 0.8 N•m)
- For a terminal processing of a wire to the GOT power supply section, use the following terminal.
  [GT27, GT25, GT23, GT2107-W, GT2105-Q, GS25, GS21]
  Use applicable solderless terminals for terminal processing of a wire and tighten them with the specified torque.
  Not doing so can cause a fire, failure or malfunction.
  [GT2104-R, GT2104-P, GT2103-P]
  Connect a stranded wire or a solid wire directly, or use a rod terminal with an insulation sleeve.
- 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 following specified torque range.
  [GT27, GT25, GT23, GT2107-W, GT2105-Q, GS25]
  Specified torque range (0.5 N•m to 0.8 N•m)
  [GT2104-R, GT2104-P, GT2103-P]
  Specified torque range (0.22 N•m to 0.25 N•m)
  [GS21]
  Specified torque range (0.5 N•m to 0.6 N•m)
- 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.
- Some models have an ingress prevention label on their top to prevent foreign matter, such as wire offcuts, from entering the GOT during wiring.
  Do not peel this label during wiring.
  Before starting system operation, be sure to peel this label because of heat dissipation.

[WIRING PRECAUTIONS]

⚠CAUTION

- 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.

[TEST OPERATION PRECAUTIONS]

⚠WARNING

- Before testing the operation of a user-created screen (such as turning on or off a bit device, changing the current value of a word device, changing the set value or current value of a timer or counter, and changing the current value of a buffer memory), thoroughly read the manual to fully understand the operating procedure.
  During the test operation, never change the data of the devices which are used to perform significant operation for the system.
  Doing so may cause an accident due to an incorrect output or malfunction.

[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.

[STARTUP/MAINTENANCE PRECAUTIONS]

⚠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.
- Before cleaning the GOT, be sure to turn off the power.
  Before cleaning, check the following items.
  • Ensure that there are no problems with the installation condition of the GOT to the control panel.
  • Ensure that there are no damages on the environmental protection sheet (not replaceable).
  If the environmental protection sheet peels or the cleaning solution enters between the sheet and the display section during cleaning, stop the cleaning immediately.
  In such a case, do not use the GOT.

[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 FOR USING A DATA STORAGE]

⚠WARNING

- Do not remove the SD card from drive A while the SD card is being accessed by the GOT, or the GOT may stop processing for about 20 seconds.
  During this stop, you cannot operate the GOT, and the functions running in the background, including the screen refresh, alarm, logging, and script, also stop.
  This stop may affect the system operation, causing an accident.
  Before removing the SD card, check the following items.
  [GT27, GT25 (except GT2505-V and GT25HS-V), GT23, GS25]
  Before removing the SD card, check that the SD card access LED is off.
  [GT2505-V, GT25HS-V]
  Make sure to turn off the SD card access switch before removing the SD card.Not doing so may damage the SD card and files.
  [GT21, GS21]
  Disable the SD card access in the GOT utility, and then check that the SD card access LED is off before removing the SD card.
- Do not remove the data storage from the file server (drive N) that is being accessed by the GOT, or the system operation may be affected.
  Before removing the data storage, check the relevant system signal to make sure that the data storage is not being accessed.

[PRECAUTIONS FOR USING A DATA STORAGE]

⚠CAUTION

- Do not remove the data storage from the GOT while the data storage is being accessed by the GOT, or the data storage and files may be damaged.
  Before removing the data storage, check the SD card access LED, relevant system signal, or others to make sure that the data storage is not being accessed.
- Turning off the GOT while it accesses the SD card results in damage to the SD card and files.
- When using the GOT with an SD card inserted, check the following items.
  [GT27, GT25 (except GT2505-V and GT25HS-V), GT23, GS25]
  After inserting an SD card into the GOT, make sure to close the SD card cover.
  Otherwise, data cannot be read or written.
  [GT2505-V, GT25HS-V]
  After inserting an SD card into the GOT, make sure to turn on the SD card access switch.
  Otherwise, data cannot be read or written.
  [GT21, GS21]
  After inserting an SD card into the SD card unit, make sure to enable the SD card access in the GOT utility.
  Otherwise, data cannot be read or written.

[PRECAUTIONS FOR USING A DATA STORAGE]

⚠CAUTION

- When removing the SD card from the GOT, make sure to support the SD card by hand as it may pop out.
  Not doing 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.
  Not doing so may cause a malfunction due to poor contact. (GT27, GT25, GT2107-W, GS25)
- Before removing the data storage from the GOT, follow the procedure for removal on the utility screen of the GOT. After the successful completion dialog is displayed, remove the data storage by hand carefully.
  Not doing so may cause the data storage to drop from the GOT, resulting in a failure or break.

[PRECAUTIONS FOR USE]

⚠CAUTION

- Do not touch the edges of the touch panel (display section) repeatedly.
  Doing so may result in a failure.
- Do not turn off the GOT while data is being written to the storage memory (ROM) or SD card.
  Doing so may corrupt the data, rendering the GOT inoperative.
- The GOT rugged model uses the environmental protection sheet (not replaceable) with UV protection function on the front surface.
  Therefore, it is possible to suppress deterioration of the touch panel or the liquid crystal display panel that may be caused by ultraviolet rays.
  Note that if the rugged model is exposed to ultraviolet rays for an extended period of time, the front surface may turn yellow.
  If the rugged model is likely to be exposed to ultraviolet rays for an extended period of time, it is recommended to use a UV protective sheet (option).

[PRECAUTIONS FOR REMOTE CONTROL]

⚠WARNING

- Remote control is available through a network by using GOT functions, including theSoftGOT-GOT link function, the remote personal computer operation function, the VNC server function, and the GOT Mobile function.
  If you remotely operate control equipment using such functions, the field operator may not notice the remote operation, leading to an accident.
  In addition, a communication delay or interruption may occur depending on the network environment, and remote control of control equipment cannot be performed normally in some cases.
  Before using the above functions to perform remote control, fully grasp the circumstances of the field site and ensure safety.
- When operating the server (GOT) of the GOT Mobile function to disconnect a client, notify the operator of the client about the disconnection beforehand.
  Not doing so may cause an accident.

[PRECAUTIONS FOR EXCLUSIVE AUTHORIZATION CONTROL]

⚠WARNING

- Before using the GOT network interaction function to prevent simultaneous operations from multiple pieces of equipment, make sure you understand the function.
  You can enable or disable the exclusive authorization control of the GOT network interaction function for each screen. (For all screens, the exclusive authorization control is disabled by default.)
  Properly determine the screens for which the exclusive authorization control is required, and set the control by screen.
  A screen for which the exclusive authorization control is disabled is operable simultaneously from multiple pieces of equipment. Make sure to determine the operation period for each operator, fully grasp the circumstances of the field site, and ensure safety to perform operations.

[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.

CONTENTS

INTRODUCTION

Thank you for choosing Mitsubishi Electric Graphic Operation Terminal (GOT).
Before using the product, read this manual carefully and make sure you understand the functions and performance of the GOT for correct use.
☞ Manuals for GT Works3
☞ Abbreviations, Generic Terms, and Model Icons

Manuals for GT Works3

The electronic manuals related to this product are installed together with the screen design software.
If you need the printed manuals, consult your local sales office.

Manuals for GT Designer3 (GOT2000)

Point

e-Manual refers to the Mitsubishi Electric FA electronic book manuals that can be browsed using a dedicated tool.
e-Manual has the following features:

- Required information can be cross-searched in multiple manuals.
- Other manuals can be accessed from the links in the manual.
- Hardware specifications of each part can be found from the product figures.
- Pages that users often browse can be bookmarked.
- Sample programs can be copied to the engineering tool.

■Screen design software-related manuals

Manual name	Manual number (Model code)	Format
GT Works3 Installation Instructions	-	PDF
GT Designer3 (GOT2000) Screen Design Manual	SH-081220ENG (1D7ML9)	PDF e-Manual
GT Converter2 Version3 Operating Manual for GT Works3	SH-080862ENG	PDF e-Manual
GOT2000 Series MES Interface Function Manual for GT Works3 Version1	SH-081228ENG	PDF e-Manual

■Connection manuals

Manual name	Manual number (Model code)	Format
GOT2000 Series Connection Manual (Mitsubishi Electric Products) For GT Works3 Version1	SH-081197ENG (1D7MJ8)	PDF e-Manual
GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 1) For GT Works3 Version1	SH-081198ENG	PDF e-Manual
GOT2000 Series Connection Manual (Non-Mitsubishi Electric Products 2) For GT Works3 Version1	SH-081199ENG	PDF e-Manual
GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1	SH-081200ENG	PDF e-Manual
GOT2000 Series Handy GOT Connection Manual For GT Works3 Version1	SH-081867ENG (1D7MS9)	PDF e-Manual
GOT2000 Series Connection Manual (α2 Connection) for GT Works3 Version1	JY997D52301	PDF e-Manual

■GT SoftGOT2000 manuals

Manual name	Manual number (Model code)	Format
GT SoftGOT2000 Version1 Operating Manual	SH-081201ENG	PDF e-Manual
MELSOFT GT OPC UA Client Operating Manual	SH-082174ENG	PDF

■GOT2000 series user's manuals

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

■GOT SIMPLE series user's manuals

Manual name	Manual number	Format
GOT SIMPLE Series User's Manual	JY997D52901	PDF e-Manual

■Manuals related to GT Works3 add-on projects

Manual name	Manual number (Model code)	Format
GT Works3 Add-on License for GOT2000 Enhanced Drive Control (Servo) Project Data Manual (Fundamentals)	SH-082072ENG (1D7MV1)	PDF e-Manual
GT Works3 Add-on License for GOT2000 Enhanced Drive Control (Servo) Project Data Manual (Screen Details)	SH-082074ENG (1D7MV3)	PDF e-Manual

Manuals for GT Designer3 (GOT1000)

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

Abbreviations, Generic Terms, and Model Icons

The following shows the abbreviations, generic terms, and model icons used in this manual.

GOT

■GOT2000 series

Abbreviations and generic terms			Description	Meaning of icon	
				Available	Unavailable
GT27	GT27-X	GT2715-X	GT2715-XTBA GT2715-XTBD	GT 27	-
	GT27-S	GT2712-S	GT2712-STBA GT2712-STWA GT2712-STBD GT2712-STWD		
		GT2710-S	GT2710-STBA GT2710-STBD		
		GT2708-S	GT2708-STBA GT2708-STBD		
	GT27-V	GT2710-V	GT2710-VTBA GT2710-VTWA GT2710-VTBD GT2710-VTWD		
		GT2708-V	GT2708-VTBA GT2708-VTBD		
		GT2705-V	GT2705-VTBD		
GT25			All GT25 models	GT 25	-
	GT25-W	GT2512-WX	GT2512-WXTBD GT2512-WXTSD	GT 25	-
		GT2510-WX	GT2510-WXTBD GT2510-WXTSD		
		GT2507-W	GT2507-WTBD GT2507-WTSD		
		GT2507T-W	GT2507T-WTSD		
	GT25-S	GT2512-S	GT2512-STBA GT2512-STBD		
		GT2512F-S	GT2512F-STNA GT2512F-STND		
	GT25-V	GT2510-V	GT2510-VTBA, GT2510-VTWA GT2510-VTBD GT2510-VTWD		
		GT2510F-V	GT2510F-VTNA GT2510F-VTND		
		GT2508-V	GT2508-VTBA GT2508-VTWA GT2508-VTBD GT2508-VTWD		
		GT2508F-V	GT2508F-VTNA GT2508F-VTND		
		GT2505-V	GT2505-VTBD		
	GT25HS-V Handy GOT	GT2506HS-V	GT2506HS-VTBD	GT 2506 HS	-
		GT2505HS-V	GT2505HS-VTBD	GT 2505 HS	-
GT23	GT23-V	GT2310-V	GT2310-VTBA GT2310-VTBD	GT 23	-
		GT2308-V	GT2308-VTBA GT2308-VTBD		

Abbreviations and generic terms			Description	Meaning of icon	
				Available	Unavailable
GT21			All GT21 models		-
	GT21-W	GT2107-W	GT2107-WTBD GT2107-WTSD		-
	GT21-Q	GT2105-Q	GT2105-QTBDS GT2105-QMBDS		-
	GT21-R	GT2104-R	GT2104-RTBD		-
	GT21-P	GT2104-P	GT2104-PMBD		-
			GT2104-PMBDS		-
			GT2104-PMBDS2		-
			GT2104-PMBLS		-
		GT2103-P	GT2103-PMBD		-
			GT2103-PMBDS		-
			GT2103-PMBDS2		-
			GT2103-PMBLS		-
GT SoftGOT2000			GT SoftGOT2000 Version1		-

■GOT SIMPLE series

Abbreviations and generic terms		Description	Meaning of icon	
			Available	Unavailable
GS25		GS2512-WXTBD		-
GS21	GS21-W-N	GS2110-WTBD-N GS2107-WTBD-N		-
	GS21-W	GS2110-WTBD GS2107-WTBD		

■GOT1000 series, GOT900 series, and GOT800 series

Abbreviations and generic terms	Description	Meaning of icon	
		Available	Unavailable
GOT1000 Series	GOT1000 Series	-	
GOT900 Series	GOT-A900 Series GOT-F900 Series	-	
GOT800 Series	GOT-800 Series	-	

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 TSN communication unit	GT25-J71GN13-T2
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
Field network adapter unit	GT25-FNADP
Ethernet communication unit	GT25-J71E71-100
RS-232/485 signal conversion adapter	GT14-RS2T4-9P

Option unit

Abbreviations and generic terms	Description
Printer unit	GT15-PRN
Video input unit	GT27-V4-Z (A set of GT16M-V4-Z and GT27-IF1000)
RGB input unit	GT27-R2 GT27-R2-Z (A set of GT16M-R2-Z and GT27-IF1000)
Video/RGB input unit	GT27-V4R1-Z (A set of GT16M-V4R1-Z and GT27-IF1000)
RGB output unit	GT27-ROUT GT27-ROUT-Z (A set of GT16M-ROUT-Z and GT27-IF1000)
Digital video output unit	GT27-VHOUT
Multimedia unit	GT27-MMR-Z (A set of GT16M-MMR-Z and GT27-IF1000)
Video signal conversion unit	GT27-IF1000
External I/O unit	GT15-DIO GT15-DIOR
Sound output unit	GT15-SOUT
SD card unit	GT21-03SDCD

Option

Abbreviations and generic terms	Description
SD card	NZ1MEM-2GBSD NZ1MEM-4GBSD NZ1MEM-8GBSD NZ1MEM-16GBSD L1MEM-2GBSD L1MEM-4GBSD
Battery	GT11-50BAT GT15-BAT
Protective sheet	GT27-15PSGC GT25-12WPSGC GT25-12PSGC GT25-10WPSGC GT25-10PSGC GT25-08PSGC GT21-07WPSGC GT25T-07WPSVC GT25-05PSGC GT25-05PSGC-2 GT21-05PSGC GT21-04RPSGC-UC GT21-03PSGC-UC GT21-04PSGC-UC GT27-15PSCC GT25-12WPSCC GT25-12PSCC GT25-10WPSCC GT25-10PSCC GT25-08PSCC GT25-05PSCC GT25-05PSCC-2 GT25-12PSCC-UC GT25-10PSCC-UC GT25-08PSCC-UC GT21-07WPSCC GT21-05PSCC GT21-04RPSCC-UC GT21-04PSCC-UC GT21-03PSCC-UC GT16H-60PSC GT14H-50PSC
Antibacterial/antiviral protective sheet	GT25-12PSAC GT25-10PSAC GT25-08PSAC
Environmental protection sheet	GT25F-12ESGS GT25F-10ESGS GT25F-08ESGS
Protective cover for oil	GT20-15PCO GT20-12PCO GT20-10PCO GT20-08PCO GT21-12WPCO GT21-10WPCO GT21-07WPCO GT25T-07WPCO GT25-05PCO GT25-05PCO-2 GT05-50PCO GT21-04RPCO GT10-30PCO GT10-20PCO
USB environmental protection cover	GT25-UCOV GT25-05UCOV GT21-WUCOV

Abbreviations and generic terms	Description
Stand	GT15-90STAND GT15-80STAND GT15-70STAND GT05-50STAND GT25-10WSTAND GT21-07WSTAND GT25T-07WSTAND
Attachment	GT15-70ATT-98 GT15-70ATT-87 GT15-60ATT-97 GT15-60ATT-96 GT15-60ATT-87 GT15-60ATT-77 GT21-04RATT-40
Panel-mounted USB port extension	GT14-C10EXUSB-4S GT10-C10EXUSB-5S
Connector conversion box	GT16H-CNB-42S GT16H-CNB-37S GT11H-CNB-37S
Emergency stop switch guard cover	GT16H-60ESCOV GT14H-50ESCOV
Wall-mounting attachment	GT14H-50ATT

Software

■Software related to GOT

Abbreviations and generic terms	Description
GT Works3	SW1DND-GTWK3-J, SW1DND-GTWK3-E, SW1DND-GTWK3-C
GT Designer3 Version1	Screen design software GT Designer3 for GOT2000 and GOT1000 series
GT Designer3	Screen design software for GOT2000 series included in GT Works3
GT Designer3 (GOT2000)	
GT Designer3 (GOT1000)	Screen design software for GOT1000 series included in GT Works3
Speech synthesis license	GT Works Text to Speech License (SW1DND-GTVO-M)
Add-on license	GT Works3 add-on license for GOT2000 enhanced drive control (servo) project data (SW1DND-GTSV-MZ)
GENESIS64 Advanced	GENESIS64 server application (GEN64-APP)
GENESIS64 Basic SCADA	GENESIS64 server application (GEN64-BASIC)
GENESIS64	Generic term of GENESIS64 Advanced and GENESIS64 Basic SCADA
GOT Mobile function license for GT SoftGOT2000	License required to use the GOT Mobile function with GT SoftGOT2000 (SGT2K-WEBSKEY-□)
GT Simulator3	Screen simulator GT Simulator3 for GOT2000, GOT1000, and GOT900 series
GT SoftGOT2000	GOT2000 compatible HMI software GT SoftGOT2000
GT OPC UA Client	MELSOFT GT OPC UA Client (SW1DNN-GTOUC-MD)
GT Converter2	Data conversion software GT Converter2 for GOT1000 and GOT900 series
GT Designer2 Classic	Screen design software GT Designer2 Classic for GOT900 series
GT Designer2	Screen design software GT Designer2 for GOT1000 and GOT900 series
DU/WIN	Screen design software FX-PCS-DU/WIN for GOT-F900 series

■Software related to iQ Works

Abbreviations and generic terms	Description
iQ Works	iQ Platform compatible engineering environment MELSOFT iQ Works
MELSOFT Navigator	Integrated development environment software included in SW □ DND-IQWK (iQ Platform compatible engineering environment MELSOFT iQ Works) (□ represents a version.)
MELSOFT iQ AppPortal	SW□DND-IQAPL-M type integrated application management software (□ represents a version.)

■Other software

Abbreviations and generic terms		Description
GX Works3		SW □ DND-GXW3-E (-EA, -EAZ) type programmable controller engineering software (□ represents a version.)
GX Works2		SW □ DNC-GXW2-E (-EA, -EAZ) type programmable controller engineering software (□ represents a version.)
Controller simulator	GX Simulator3	Simulation function of GX Works3
	GX Simulator2	Simulation function of GX Works2
	GX Simulator	SW □ D5C-LLT-E (-EV) type ladder logic test tool function software package (SW5D5C-LLT (-V) or later versions) (□ represents a version.)
GX Developer		SW □ D5C-GPPW-E (-EV)/SW □ D5F-GPPW (-V) type software package (□ represents a version.)
GX LogViewer		SW □ DNN-VIEWER-E type software package (□ represents a version.)
MI Configurator		Configuration and monitor tool for Mitsubishi Electric industrial computers (SW□DNNMICONF-M) (□ represents a version.)
PX Developer		SW □ D5C-FBDQ-E type FBD software package for process control (□ represents a version.)
MT Works2		Motion controller engineering environment MELSOFT MT Works2 (SW □ DNDMTW2-E) (□ represents a version.)
MT Developer		SW□RNC-GSV type integrated start-up support software for motion controller Q series (□ represents a version.)
CW Configurator		Setting/monitoring tools for the C Controller module and MELSECWinCPU (□ represents a version.)
MR Configurator2		SW □ DNC-MRC2-E type servo configuration software (□ represents a version.)
MR Configurator		MRZJW□-SETUP type servo configuration software (□ represents a version.)
FR Configurator2		Inverter setup software (SW □ DND-FRC2-E) (□ represents a version.)
FR Configurator		Inverter setup software (FR-SW □ -SETUP-WE) (□ represents a version.)
NC Configurator2		CNC parameter setting support tool (FCSB1221)
NC Configurator		CNC parameter setting support tool
FX Configurator-FP		Parameter setting, monitoring, and testing software package for FX3U-20SSCH (SW □ D5CFXSSCE) (□ represents a version.)
FX Configurator-EN-L		FX3U-ENET-L type Ethernet module setting software (SW1D5-FXENETL-E)
FX Configurator-EN		FX3U-ENET type Ethernet module setting software (SW1D5C-FXENET-E)
RT ToolBox2		Robot program creation software (3D-11C-WINE)
RT ToolBox3		Robot program creation software (3F-14C-WINE)
MX Component		MX Component Version □ (SW □ D5C-ACT-E, SW □ D5C-ACT-EA) (□ represents a version.)
MX Sheet		MX Sheet Version □ (SW □ D5C-SHEET-E, SW □ D5C-SHEET-EA) (□ represents a version.)
CPU Module Logging Configuration Tool		CPU module logging configuration tool (SW1DNN-LLUTL-E)

License key (for GT SoftGOT2000)

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

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 Corporation
SHINKO	Shinko Technos Co., Ltd.
CHINO	CHINO CORPORATION
TOSHIBA	TOSHIBA CORPORATION
SHIBAURA MACHINE	SHIBAURA 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.
HIRATA	Hirata Corporation
FUJI	FUJI ELECTRIC CO., LTD.
MURATEC	Muratec products manufactured by Murata Machinery, Ltd.
YASKAWA	YASKAWA Electric Corporation
YOKOGAWA	Yokogawa Electric Corporation
RKC	RKC INSTRUMENT INC.
ALLEN-BRADLEY	Allen-Bradley products manufactured by Rockwell Automation, Inc.
CLPA	CC-Link Partner Association
GE	GE Intelligent Platforms, Inc.
HMS	HMS Industrial Networks
LS IS	LS Industrial Systems Co., Ltd.
MITSUBISHI INDIA	Mitsubishi Electric India Pvt. Ltd.
ODVA	Open DeviceNet Vendor Association, Inc.
SCHNEIDER	Schneider Electric SA
SICK	SICK AG
SIEMENS	Siemens AG
SCHNEIDER EJH	Schneider Electric Japan Holdings Ltd.
PLC	Programmable controller manufactured by its respective company
Control equipment	Control equipment manufactured by its respective company
Temperature controller	Temperature controller manufactured by its respective company
Indicating controller	Indicating controller manufactured by its respective company
Controller	Controller manufactured by its respective company
Industrial switch (for CC-Link IE TSN Class B)	CC-Link IE TSN Class B (Synchronized Realtime Communication) hub certified by CC-Link Partner Association
Industrial switch (for CC-Link IE TSN Class A)	CC-Link IE TSN Class A (Realtime Communication) hub certified by CC-Link Partner Association
CC-Link IE TSN-equipped module	Generic term for the following CC-Link IE TSN master/local modules and CC-Link IE TSN Plus master/local module • RJ71GN11-T2 • RJ71GN11-EIP • FX5-CCLGN-MS

1 PREPARATORY PROCEDURES FOR MONITORING

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

1. Setting the communication interface

Determine the connection type and channel No. to be used, and perform the communication setting.

☞ Page 24 Setting the Communication Interface

☞ Each chapter GOT Side Settings

2. Writing the package data

Write the project data, system application onto the GOT.

☞ Page 35 Writing the Package Data onto the GOT

3. Verifying the package data

Verify the project data, system application are properly written onto the GOT.

☞ Page 36 Checking the package data writing on GOT

4. Attaching the communication unit and connecting the cable

Mount the optional equipment and prepare/connect the connection cable according to the connection type.

☞ Page 37 Option Devices for the Respective Connection

☞ Page 42 Connection Cables for the Respective Connection

☞ Each chapter System Configuration

☞ Each chapter Connection Diagram

5. Verifying GOT recognizes connected equipment

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

☞ Page 52 Verifying GOT Recognizes Connected Equipment

6. Verifying the GOT is monitoring normally

Verify the GOT is monitoring normally using Utility, Developer, etc.

☞ Page 54 Checking for Normal Monitoring

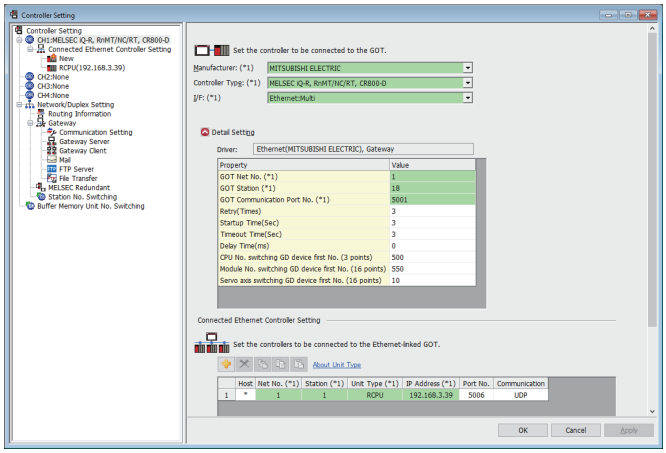
1.1 Setting the Communication Interface

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.

Point

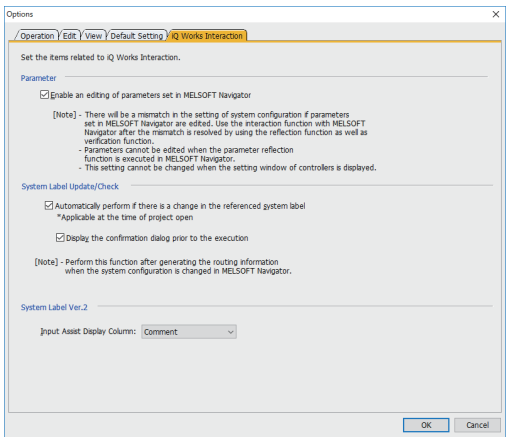
When using the parameter reflection function of MELSOFT Navigator
The system configuration of MELSOFT Navigator can be reflected to the project of GT Designer3 using the parameter function of MELSOFT Navigator.
For details of the parameter functions of MELSOFT Navigator, refer to the following.
Help of MELSOFT Navigator

- 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. When changing in GT Designer3, refer to the following (3).



- When setting the communication interface for the connection with the iQ Works untargeted equipment, set [Set by GT Designer3] to the channel connected at [Configuration detailed information input] in MELSOFT Navigator and make the settings at [Controller Setting] in GT Designer3.
- To make the items reflected from MELSOFT Navigator editable on GT Designer3, select the [Option] menu and put a check mark at [Enable an editing of parameters set in MELSOFT Navigator] in the [iQ Works Interaction] tab.

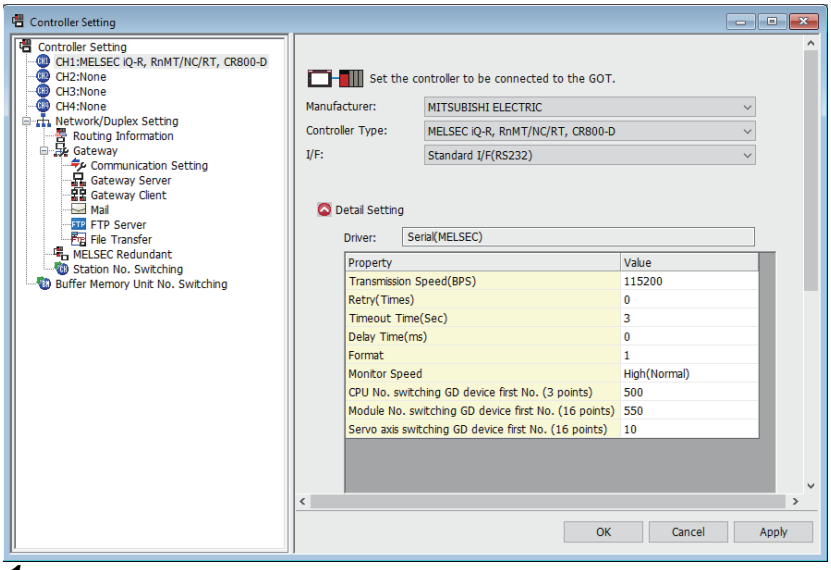
However, when the items set in MELSOFT Navigator are edited in GT Designer3, the interaction function with MELSOFT Navigator is unavailable due to a mismatch with the system configuration of MELSOFT Navigator. Eliminate mismatches using the parameter verification function etc. before using the interaction function of MELSOFT Navigator.



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.

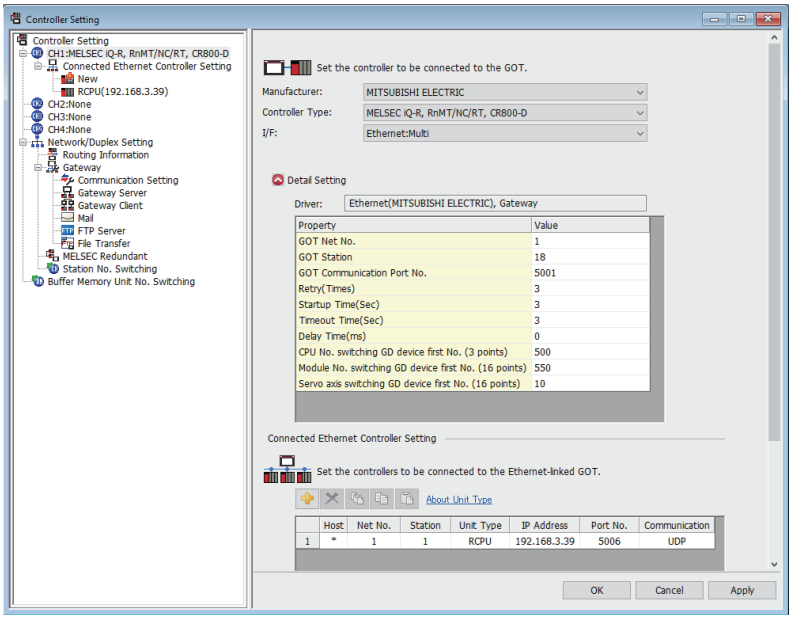
For details of the Multi-channel function, refer to the following.

GOT2000 Series Connection Manual (Mitsubishi Electric Products) For GT Works3 Version1

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. ☞ Page 26 Setting [Controller Type]
I/F	Select the interface of the GOT to which the equipment is connected. For the settings, refer to the following. ☞ Page 27 Setting [I/F]
Driver	Select the communication driver to be written to the GOT. For the settings, refer to the following. ☞ Page 26 Setting [Driver] When multiple communication drivers can be selected, this item is displayed. When only one communication driver can be selected, the driver name is displayed under [Detail Setting].
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.

■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

■Setting [Controller Type]

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

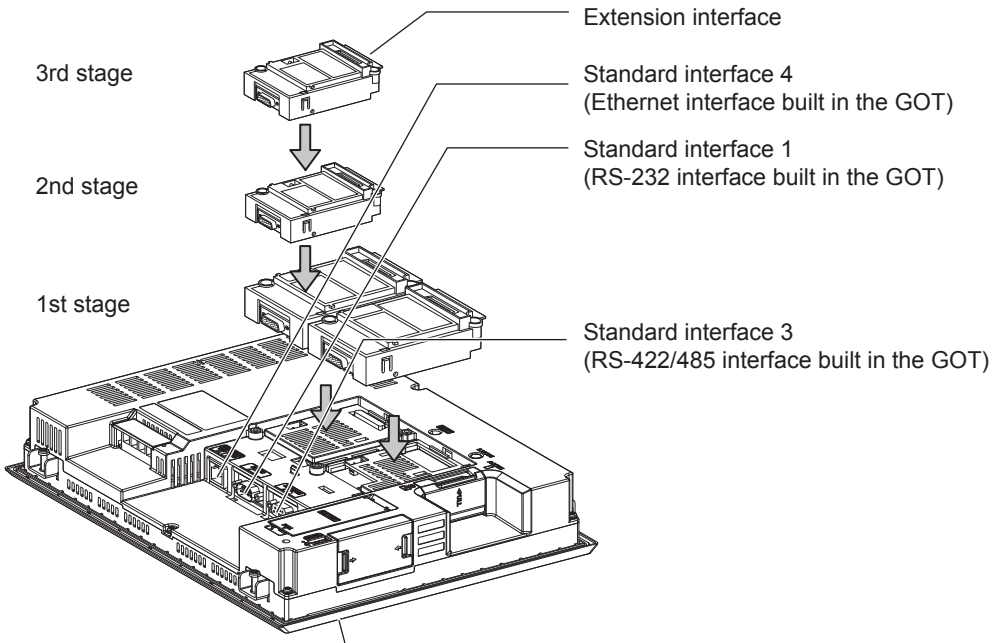
For the settings, refer to the following.

Type	Model name
[ALPHA2]	AL2-14MR
	AL2-24MR

■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)

GOT Ethernet Setting

The GOT can be connected to a different network by using the following network.

1) GOT IP Address Setting

Set the following communication port setting.

Standard port (When using GT25-W or GS25: Port 1)

Set [GOT IP Address] and [Subnet Mask] in the standard port with a built-in GOT, or port 1.

Extended port (When using GT25-W or GS25: Port 2)

Set [GOT IP Address] and [Subnet Mask] in the extended port (the Ethernet interface for the Ethernet communication module), or port 2 with a built-in GOT.

When using any GOTs other than GT25-W and GS25, install BootOS version Z or later to use the extended port.

For details on writing the BootOS, refer to the following manual.

GT Designer3 (GOT2000) Screen Design Manual

Wireless LAN

Set [GOT IP Address], [Subnet Mask], [Peripheral S/W Communication Port No.], and [Transparent Port No.] for the wireless LAN interface.

2) GOT Ethernet Common Setting

Set the following setting which is common to the standard port and the extended port, or port 1 and port 2.

- [Default Gateway]
- [Peripheral S/W Communication Port No.]
- [Transparent Port No.]

3) IP Filter Setting

By configuring the IP filter setting, the access from the specific IP address can be permitted or shut off.

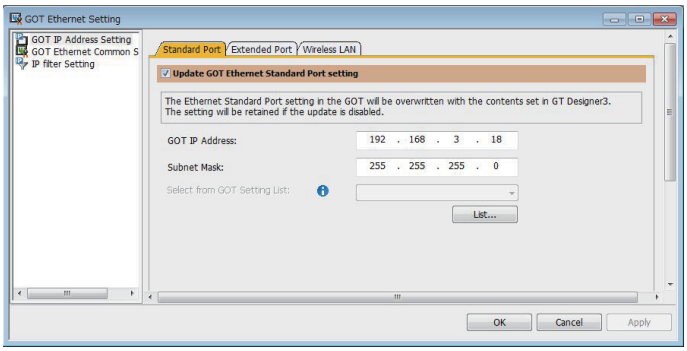
GOT IP Address Setting

Set the GOT IP address.

■[Standard Port] or [Port 1]

The following shows an example for [Standard Port].

1. Select [Common] → [GOT Ethernet Setting] → [GOT IP Address Setting] from the menu to display the [GOT Ethernet Setting] window.



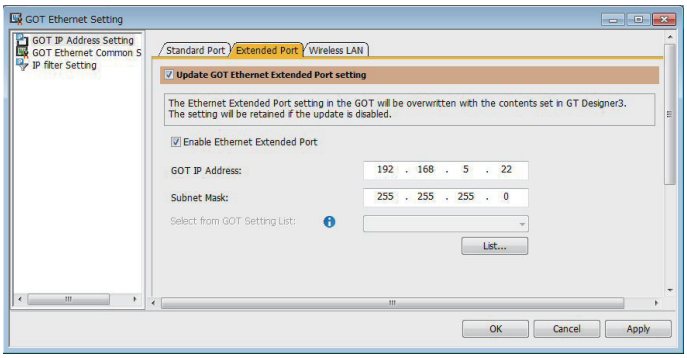
2. On the [Standard Port] tab, configure the following settings.

Item	Description	Range
Update GOT Ethernet standard port setting	The GOT Ethernet standard port settings are applied on GOT.	-
GOT IP Address	Set the IP address of the GOT IP Address. (Default:192.168.3.18)	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
Select from GOT Setting List	Select the GOT set in [GOT Setting List] dialog. GT Designer3 (GOT2000) Screen Design Manual	-

■[Extended Port], or [Port 2]

The following shows an example for [Extended Port].

1. Select [Common] → [GOT Ethernet Setting] → [GOT IP Address Setting] from the menu to display the [GOT Ethernet Setting] window.

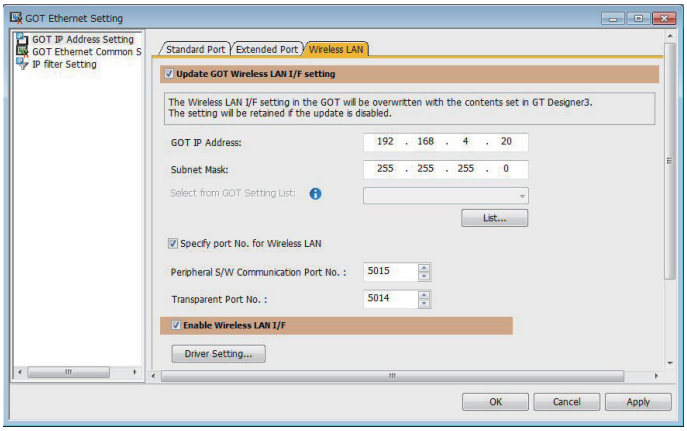


2. On the [Extended Port] tab, configure the following settings.

Item	Description	Range
Update GOT Ethernet extended port setting	The GOT Ethernet extended port settings are applied on GOT.	-
Enable Ethernet extended port	Enable the ethernet extended port.	-
GOT IP Address	Set the IP address of the GOT IP Address. (Default:192.168.5.22)	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
Select from GOT Setting List	Select the GOT set in [GOT Setting List] dialog. GT Designer3 (GOT2000) Screen Design Manual	-

■[Wireless LAN]

1. Select [Common] → [GOT Ethernet Setting] → [GOT IP Address Setting] from the menu to display the [GOT Ethernet Setting] window.



2. On the [Wireless LAN] tab, configure the following settings.

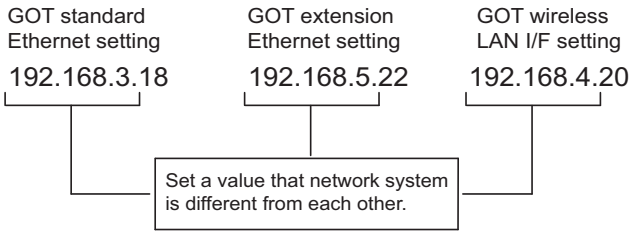
Item	Description	Range
Update GOT Wireless LAN I/F setting	The wireless LAN interface settings are applied on GOT.	-
Enable Wireless LAN I/F	Enable the wireless LAN.	-
GOT IP Address	Set the IP address of the wireless LAN I/F. (Default:192.168.4.20)	0.0.0.0 to 255.255.255.255
Subnet Mask	Set the subnet 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
Select from GOT Setting List	Select the GOT set in [GOT Setting List] dialog. GT Designer3 (GOT2000) Screen Design Manual	-
Specify port No. for Wireless LAN	Enable the port number setting for the wireless LAN separately from GOT Ethernet common setting.	-
Peripheral S/W Communication Port No.	Set the GOT port No. for the communication with the peripheral S/W. (Default: 5015)	1024 to 65534 (Except for 5011 to 5013, 49153 to 49170)
Transparent Port No.	Set the GOT port No. for the transparent function. (Default: 5014)	1024 to 65534 (Except for 5011 to 5013, 49153 to 49170)
Driver setting	Display [Detail Settings] dialog, GT Designer3 (GOT2000) Screen Design Manual	-

Point

GOT IP address

For GOT IP address of each Ethernet setting, set a value that network system is different from each other.

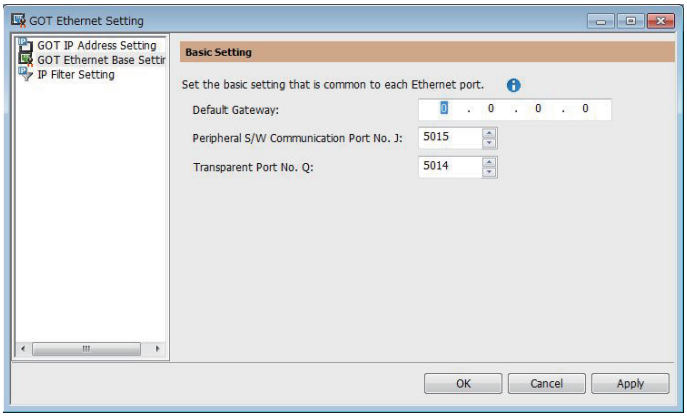
(When the subnet mask is [255.255.255.0])



GOT Ethernet Common Setting

Set the following setting which is common to the standard port and the extended port, or port 1 and port 2.

1. Select [Common] → [GOT Ethernet Setting] → [GOT Ethernet Common Setting] from the menu to display the [GOT Ethernet Setting] window.

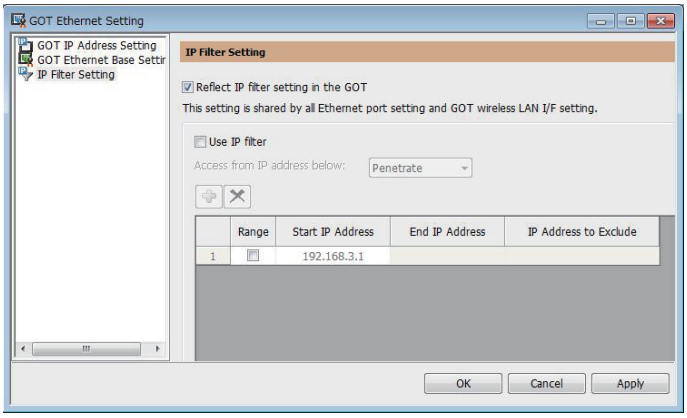


2. Configure the following settings.

Item	Description	Range
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 communication with the peripheral S/W. (Default: 5015)	1024 to 65534 (Except for 5011 to 5013, 49153 to 49170)
Transparent Port No.	Set the GOT port No. for the transparent function. (Default: 5014)	1024 to 65534 (Except for 5011 to 5013, 49153 to 49170)

IP Filter Setting

1. Select [Common] → [GOT Ethernet Setting] → [IP Filter Setting] from the menu to display the [GOT Ethernet Setting] window.



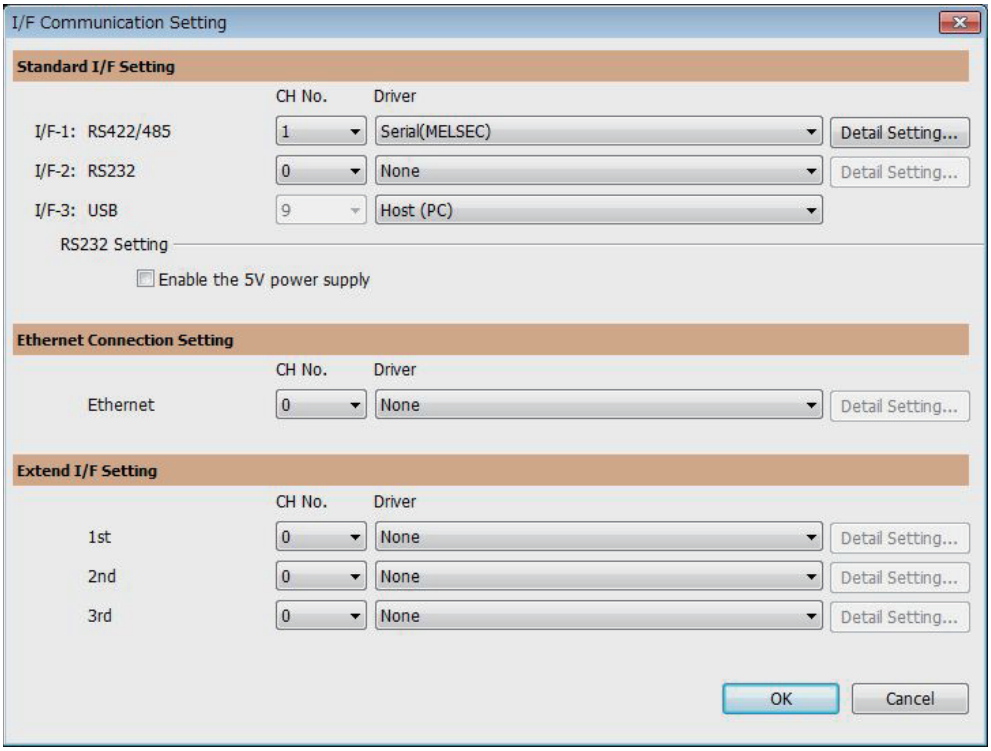
2. For the detailed settings, refer to the following manual.

GT Designer3 (GOT2000) Screen Design Manual

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.

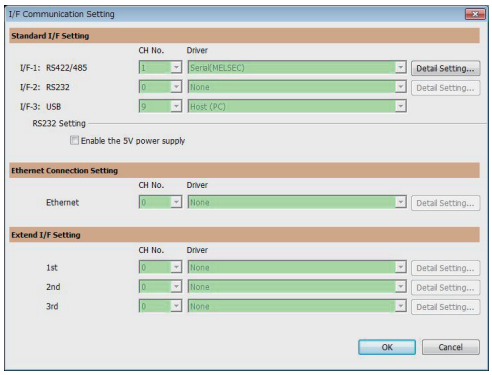
Setting



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

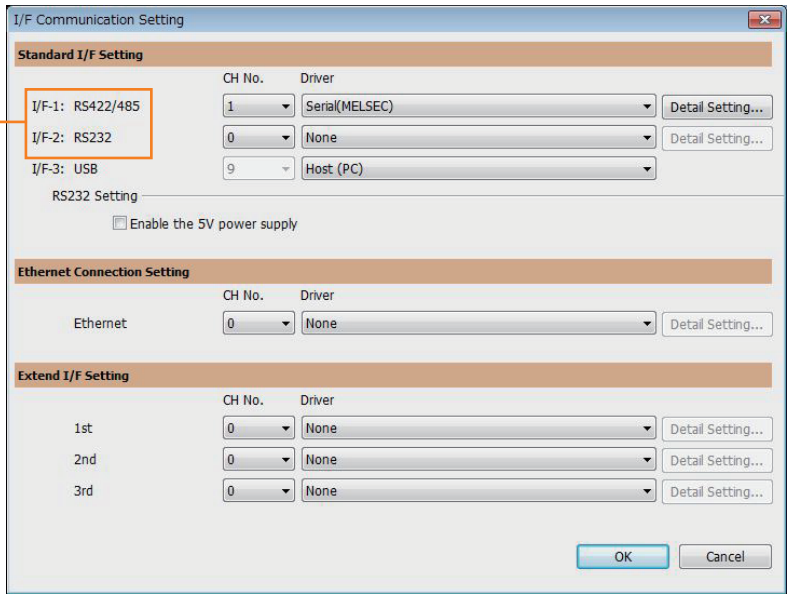
The following describes the setting items for the standard I/F setting and extension I/F setting.

For the detailed explanations, refer to the following manual.

GT Designer3 (GOT2000) Screen Design Manual

When GT2104-P or GT2103-P is selected in the GOT type setting

I/F-1: RS422/485/232(Side)
I/F-2: RS232(Back)



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 function (serial) A: Used for the report function (with a serial printer), hard copy function (with a serial printer).
	Driver	Set the driver for the device to be connected. • Each communication driver suitable to the channel numbers • Each communication driver for connected devices
	Detail Setting	Set the detailed settings for the communication driver. ☞ Refer to each chapter of the equipment to be connected to the GOT.
	I/F-1,I/F-2,I/F-3	The communication type of the GOT standard interface is displayed.
	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]. Not applicable to GT21 and GS21.
Ethernet Connection Setting	Set the channel number and the communication driver to the Ethernet interface with a built-in GOT.	
	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) 9: Used for connecting Host (PC) or Ethernet download A: Used for the remote personal computer operation function (Ethernet), VNC server function, gateway function, and MES interface function. Multi: Used for multi-channel Ethernet connection
	Driver	Set the driver for the device to be connected. • Each communication driver suitable to the channel numbers • Each communication driver for connected devices
	Detail Setting	Set the detailed settings for the communication driver. ☞ Refer to each chapter of the equipment to be connected to the GOT.

Item	Description	
Extend I/F Setting	Set the communication unit attached to the extension interface of the GOT. Not applicable to GT21 and GS21.	
	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 the controllers of channel numbers 1 to 4 set in controller setting (channel setting). 5 to 8: Used for the barcode function, the RFID function, and the remote personal computer operation function (Serial). A: Used for the video/RGB display function, multimedia function, external I/O function, operation panel function, video output function, report function, hard copy function (with a printer), and sound output function.
	Driver	Set the driver for the device to be connected. • Each communication driver suitable to the channel numbers • Each communication driver for connected devices
	Detail Setting	Set the detailed settings for the communication driver. ☞ Refer to each chapter of the equipment to be connected to the GOT.

Point

Channel No., drivers, [RS232 Setting]

• 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.

📖GOT2000 Series Connection Manual (Mitsubishi Electric Products) For GT Works3 Version1

• 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

Precautions

When using the multiple CPU system

When using the GOT to monitor the multiple CPU system of other stations, select [MELSEC-Q/QS, Q17nD/M/NC/DR/DSR, CRnD-700] for the type, regardless of the host PLC CPU type (QCPU, QnACPU, or ACPU).

When other models are selected, the setting of the CPU No. becomes unavailable.

Precautions for changing model

■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.

■When the changed Manufacturer or Controller Type does not correspond to the network.

The network will be set to the host station.

■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].

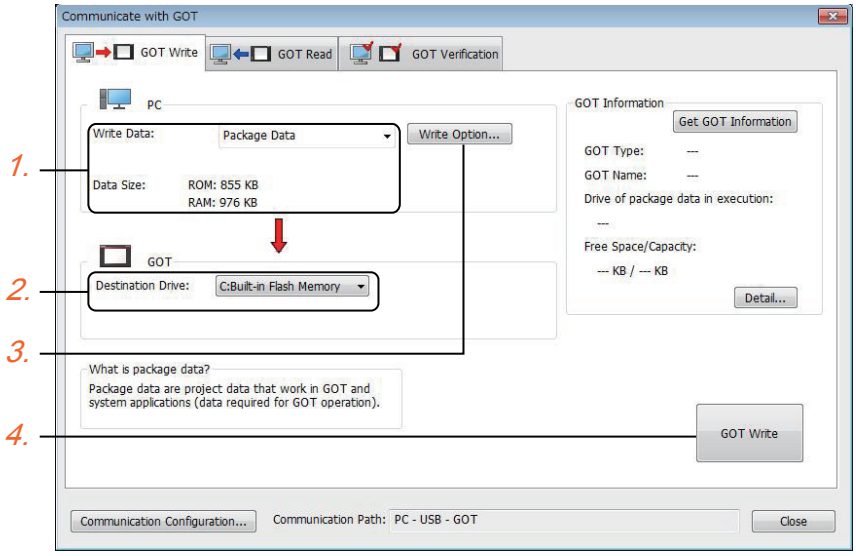
1.2 Writing the Package Data onto the GOT

Write the package data onto the GOT.

For details on writing to GOT, refer to the following help.

GT Designer3 (GOT2000) Screen Design Manual

Writing the Package Data onto the GOT



1. Select [Package Data] for [Write Data].

The capacity of the transfer data is displayed in [Data Size]. Check that the destination drive has the sufficient available space.

2. Select [Destination Drive].

3. When the system application or the special data is required to be added to the package data or deleted, click the [Write Option] button and configure the setting in the [Write Option] dialog.

4. Click the [GOT Write] button.

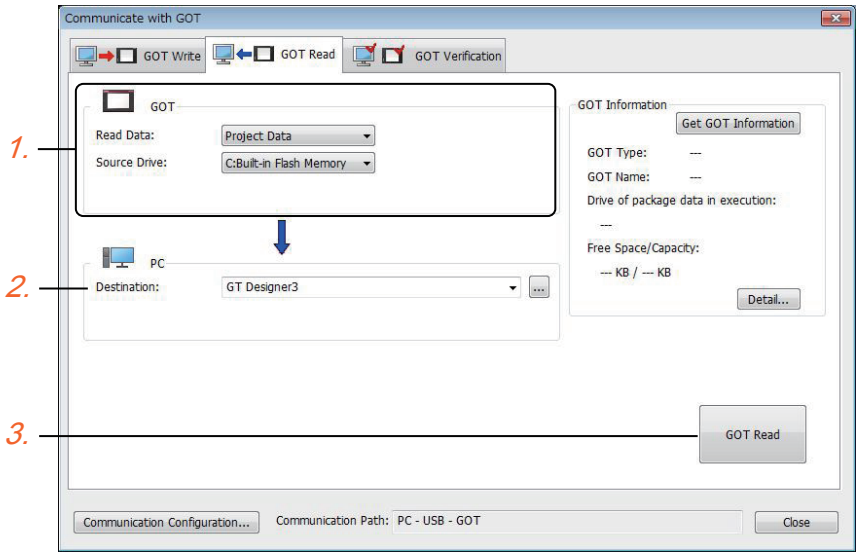
5. The package data is written to the GOT.

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) Screen Design Manual



1. Set [GOT Side] as follows.

- Select [Project Data] or [Package Data] for [Read Data].
- Select the drive where the project data or the package data is stored for [Source Drive].

2. Set [PC Side].

Set the reading destination of the project for [Destination].

To read the project data to GT Designer3, select [GT Designer3].

(When [Read Data] is [Package Data], the project data cannot be read to GT Designer3.)

To read the project data as a file, click the [...] button to set the saving format and the saving destination of the file.

3. Click the [GOT Read] button.

4. The project is read.

5. Confirm that the project data is 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.

Communication module

Product name	Model	Specifications
Bus connection unit	GT15-QBUS	For QCPU (Q mode), motion CPU (Q series) Bus connection (1ch) unit standard model
	GT15-QBUS2	For QCPU (Q mode), motion CPU (Q series) Bus connection (2ch) unit standard model
	GT15-ABUS	For A/QnACPU, motion CPU (A series) Bus connection (1ch) unit standard model
	GT15-ABUS2	For A/QnACPU, motion CPU (A series) Bus connection (2ch) unit standard model
	GT15-75QBUSL	For QCPU (Q mode), motion CPU (Q series) Bus connection (1ch) unit slim model
	GT15-75QBUS2L	For QCPU (Q mode), motion CPU (Q series) Bus connection (2ch) unit slim model
	GT15-75ABUSL	For A/QnACPU, motion CPU (A series) Bus connection (1ch) unit slim model
	GT15-75ABUS2L	For A/QnACPU, motion 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 TSN communication unit	GT25-J71GN13-T2	Local station (device station)
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	GT25-J71E71-100	Ethernet (100Base-TX) unit
Wireless LAN communication unit[*1][*2]	GT25-WLAN	• Used for the connection to the IEEE802.11b/g/n compliant, built-in antenna, access point (master unit), station (slave unit), personal computers, tablets, and smartphones. • Compliance with Japan Radio Law[*3], FCC[*4], RE[*6] (R&TTE[*4]), SRRC[*5], KC[*5], Radio Equipment Regulations (UKCA)[*7]

*1 Data transfer in wireless LAN communication may not be as stable as that in cable communication.
A packet loss may occur depending on the surrounding environment and the installation location.
Be sure to perform a confirmation of operation before using this product.

*2 When [Operation Mode] is set to [Access Point] in [Wireless LAN Setting] of GT Designer3, up to five stations are connectable to the wireless LAN access point (base station).

*3 The product with hardware version A or later (manufactured in December 2013) complies with the regulation.
The product with hardware version A can be used only in Japan.
For information on how to check the hardware version, refer to the following.
GOT2000 Series User's Manual (Hardware)

*4 The product with hardware version B or later (manufactured from October 2014) complies with the regulation.
The product with hardware version B or later can be used in Japan, the United States, the EU member states, Switzerland, Norway, Iceland, and Liechtenstein.
For information on how to check the hardware version, refer to the following.
GOT2000 Series User's Manual (Hardware)

*5 The product with hardware version D or later (manufactured from May 2016) complies with the regulation.
The product with hardware version D or later can be used in Japan, the United States, the EU member states, Switzerland, Norway, Iceland, Liechtenstein, China (excluding Hong Kong, Macao, and Taiwan), and South Korea.
For information on how to check the hardware version, refer to the following.
GOT2000 Series User's Manual (Hardware)

*6 The product complies with the RE Directive from March 31, 2017.

*7 The product with hardware version G or later (manufactured from October 2021) complies with the regulation.
The product with hardware version G or later can be used in Japan, the United States, the EU member states, the UK, Switzerland, Norway, Iceland, Liechtenstein, China (excluding Hong Kong, Macao, and Taiwan), and South Korea.

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 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 GT27-ROUT-Z	For analog RGB output signal 1 ch
Digital video output unit	GT27-VHOUT	For digital video output, 1 channel
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)

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	

Serial multi-drop connection unit

Product name	Model	Specifications
Serial multi-drop connection unit	GT01-RS4-M	GOT multi-drop connection module GOT2000 Series Connection Manual (Mitsubishi Electric Products) For GT Works3 Version1

Field network adapter unit

Product name	Model	Specifications
Field network adapter unit	GT25-FNADP	The field network adapter unit can be used with the following field networks by using the Anybus CompactCom M40 network communication module manufactured by HMS (hereinafter referred to as the communication module). Field networks: PROFIBUS DP-V1 DeviceNet How to incorporate the communication module to the field network adapter unit, and the details of the product name of the communication module, refer to the following manual. GOT2000 Series Field Network Adapter Unit User's Manual

RS-232/485 signal conversion adapter

Product name	Model	Specifications
RS-232/485 signal conversion adapter	GT14-RS2T4-9P	RS-232 signal (D-Sub 9-pin connector) → RS-485 signal (Terminal block)

Precautions when installing units on top of one another

When units are installed on top of one another, the installation positions are determined by the combination of units.

Point

• How to install a communication unit and option unit

For how to install a communication unit and option unit, refer to the following.

GOT2000 Series User's Manual (Hardware)

• When the multi-channel function is used

When the multi-channel function is used, the connection type combinations are determined.

For the connection type combinations, refer to the following.

GOT2000 Series Connection Manual (Mitsubishi Electric Products) For GT Works3 Version1

Product		Model	Number of occupied slots	Installation position
Group A *1	Video input unit	GT27-V4-Z *2	2	1st stage
	RGB input unit	GT27-R2		
		GT27-R2-Z *2		
	Video/RGB input unit	GT27-V4R1-Z *2		
	RGB output unit	GT27-ROUT		
		GT27-ROUT-Z *2		
	Multimedia unit	GT27-MMR-Z *2		
	Digital video output unit	GT27-VHOUT		
Group B *1	Bus connection unit (2 channels) *3	GT15-QBUS2	2	• When a group A unit is installed: Upper stage of the unit • When no group A unit is installed: 1st stage • When a group C unit is installed: Lower stage of the unit
		GT15-ABUS2		
	MELSECNET/H communication unit	GT15-J71LP23-25		
		GT15-J71BR13		
	CC-Link IE TSN communication unit	GT25-J71GN13-T2		
	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		
Group C	Bus connection unit (1 channel) *3*4	GT15-QBUS	1	• When a group A unit is installed: Upper stage of the unit • When a group B unit is installed: Upper stage of the unit
		GT15-ABUS		
	Ethernet communication unit	GT25-J71E71-100		
	Serial communication unit	GT15-RS2-9P		
		GT15-RS4-9S		
		GT15-RS4-TE		
	Sound output unit	GT15-SOUT		
	External I/O unit	GT15-DIOR		
		GT15-DIO		
	Printer unit	GT15-PRN		
Field network adapter unit		GT25-FNADP	1	Uppermost stage

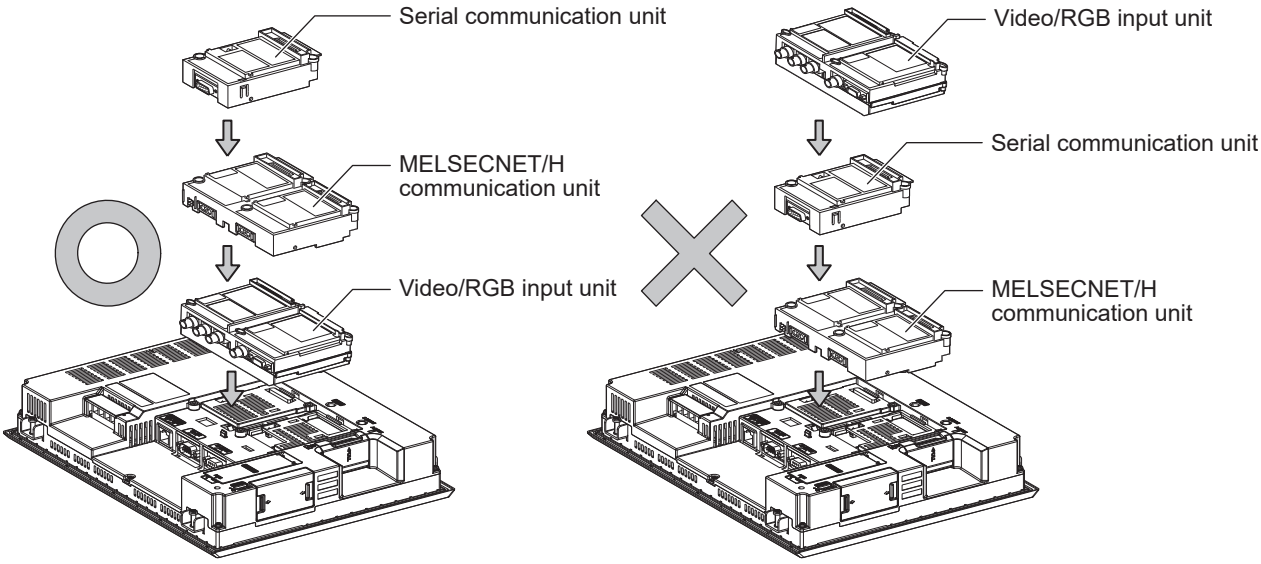
*1 Only one of the units can be installed on the GOT.

*2 The unit requires two stages.

*3 A slim model bus connection unit (GT15-75QBUSL, GT15-75QBUS2L, GT15-75ABUSL, or GT15-75ABUS2L) cannot be installed on another unit.

*4 The unit cannot be installed on a group B unit.

Example) When installing a video/RGB input unit, MELSECNET/H communication unit, and serial 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.

For the dimensions of connection cables and connector shapes, refer to the following.

GOT2000 Series User's Manual (Hardware)

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

The following connector or equivalent connector is used for the RS-232 interface of the GOT and the RS-232 communication unit.

For the GOT side of the connection cable, use a connector and connector cover applicable to the GOT connector.

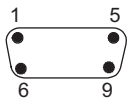
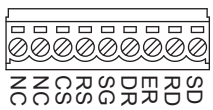
■Connector specifications

GOT	Connector type	Connector model	Manufacturer
GT27, GT25, GT23, GT2107-W, GT2105-QTBDS, GT2105-QMBDS, GS25, GS21	9-pin D-sub (male) #4-40UNC inch screw thread	17LE-23090-27(D3CH)-FA	DDK Ltd.
GT15-RS2-9P	9-pin D-sub (male) #4-40UNC inch screw thread	17LE-23090-27(D3CH)-FA	DDK Ltd.
GT01-RS4-M		JES-9P-2A3A	J.S.T.MFG.CO.,LTD. (JST)
GT2104-RTBD GT2104-PMBDS2 GT2103-PMBDS2	9-pin terminal block *1*2	MC1.5/9-G-3.5BK	PHOENIX CONTACT Inc

*1 The terminal block (MC1.5/9-ST-3.5 or corresponding product) of the cable side is packed together with the GT2104-RTBD, GT2103-PMBDS2.

*2 The applicable solderless terminal of the terminal block is AI 0.25-6BU (AWG24) (PHOENIX CONTACT Inc.). When creating a connection cable, use CRIMPFOX 6 (PHOENIX CONTACT Inc.) for swaging tool.

■Connector pin arrangement

GT27, GT25, GT23, GT2107-W, GT2105-QTBDS, GT2105-QMBDS, GS25, GS21, GT15-RS2-9P, GT01-RS4-M	GT2104-RTBD, GT2104-PMBDS2, GT2103-PMBDS2
GOT main part connector see from the front  9-pin D-sub (male)	See from the back of a GOT main part  9-pin terminal block

RS-422/485 interface

The following connector or equivalent connector is used for the RS-422/485 interface of the GOT and the RS-422/485 communication unit.

For the GOT side of the connection cable, use a connector and connector cover applicable to the GOT connector.

■Connector model

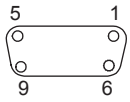
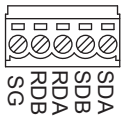
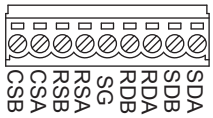
GOT	Connector type	Connector model	Manufacturer
GT27, GT25, GT23, GT2107-W, GT2105-QTBDS, GT2105-QMBDS, GS25, GS21	9-pin D-Sub (female) M2.6 metric screw thread	17LE-13090-27(D3AH)-FA	DDK Ltd.
GT2104-PMBD GT2103-PMBD	5-pin terminal block *1*3	MC1.5/5-G-3.5BK	PHOENIX CONTACT Inc.
GT2104-RTBD GT2104-PMBDS GT2103-PMBDS GT2103-PMBLS	9-pin terminal block *2*3	MC1.5/9-G-3.5BK	PHOENIX CONTACT Inc.
GT15-RS4-9S	9-pin D-Sub (female) M2.6 metric screw thread	17LE-13090-27(D3AH)-FA	DDK Ltd.
GT01-RS4-M		JES-9S-2A3B14	J.S.T.MFG.CO.,LTD. (JST)
GT15-RS4-TE	-	SL-SMT3.5/10/90F BOX	Weidmüller Interface GmbH & Co. KG

*1 The terminal block (MC1.5/5-ST-3.5 or corresponding product) of the cable side is packed together with the GT2103-PMBD.

*2 The terminal block (MC1.5/9-ST-3.5 or corresponding product) of the cable side is packed together with the GT2104-RTBD, GT2103-PMBDS, GT2103-PMBLS.

*3 The applicable solderless terminal of the terminal block is AI 0.25-6BU (AWG24) (PHOENIX CONTACT Inc.). When creating a connection cable, use CRIMPFOX 6 (PHOENIX CONTACT Inc.) for swaging tool.

■Connector pin arrangement

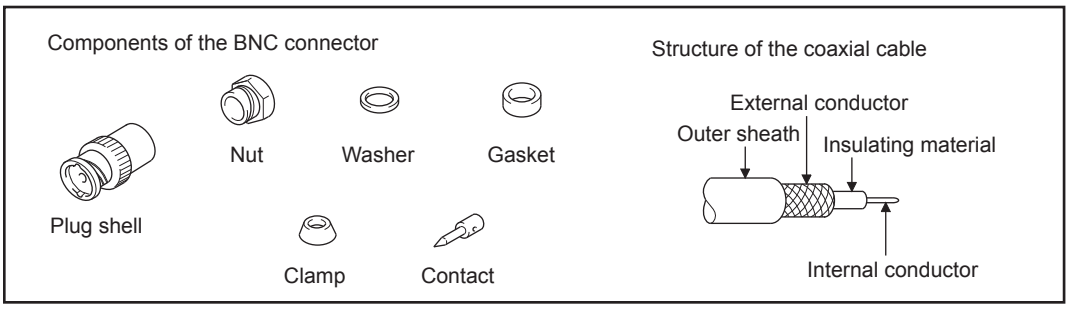
GT27, GT25, GT23, GT2107-W, GT2105-QTBDS, GT2105-QMBDS, GS25, GS21, GT15-RS2-9P, GT01-RS4-M	GT2104-PMBD, GT2103-PMBD	GT2104-RTBD, GT2104-PMBDS, GT2103-PMBDS, GT2103-PMBLS
GOT main part connector see from the front  9-pin D-sub (female)	GOT main unit see from the back  5-pin terminal block	GOT main unit see from the back  9-pin terminal block

Coaxial cable connector connection method

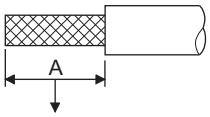
The following describes the method for connecting the BNC connector (connector plug for coaxial cable) and the cable.

⚠CAUTION

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



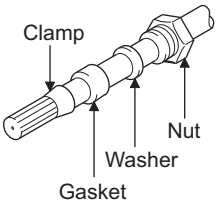
1. Remove the external sheath of the coaxial cable with dimensions as shown below.



Cut this portion of the outer sheath

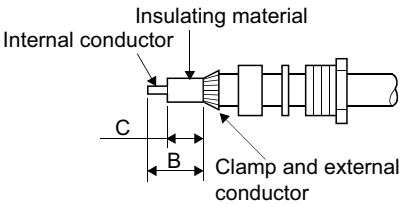
Cable in use	A
3C-2V	15 mm
5C-2V, 5C-2V-CCY	10 mm

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



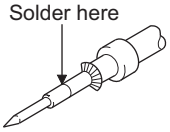
3. Cut the external conductor, insulting material, and internal conductor with the dimensions as shown below.

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.

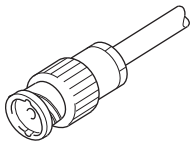


Cable in use	B	C
3C-2V	6 mm	3 mm
5C-2V, 5C-2V-CCY	7 mm	5 mm

4. Solder the contact to the internal conductor.



5. Insert the contact assembly shown in step 4 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.

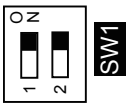
Terminating resistors of GOT

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

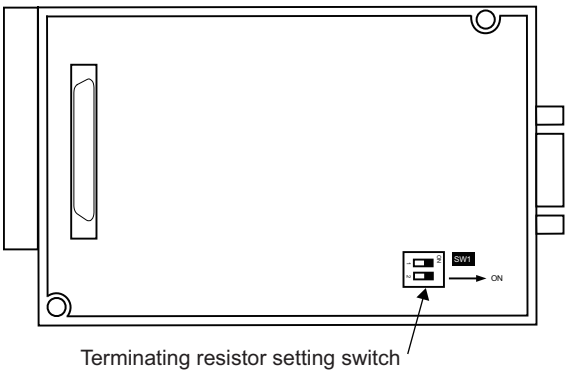
Set the terminating resistor using the terminating resistor setting switch.



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

*1 The default setting is "Disable".

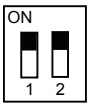
- For RS422/485 communication unit



Rear view of RS-422/485 communication unit.

GT27

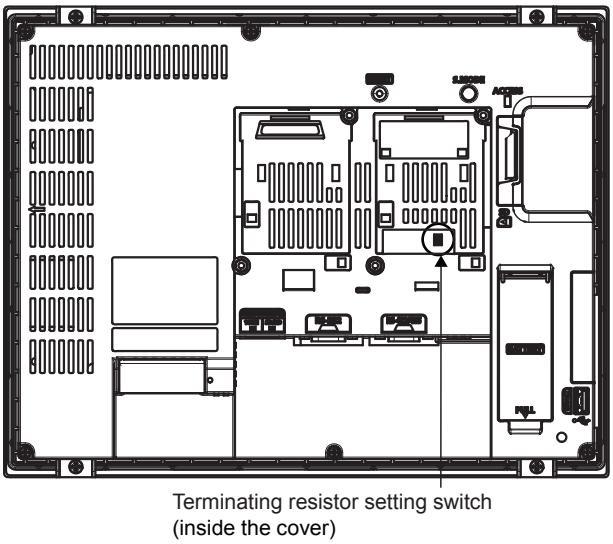
Set the terminating resistor using the terminating resistor setting switch.



Terminating resistor*1	Switch No.	
	1	2
Enable	ON	ON
Disable	OFF	OFF

*1 The default setting is "Disable".

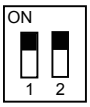
• For GT2710-V



Terminating resistor setting switch
(inside the cover)

GT25 (except GT25-W and GT2505-V)

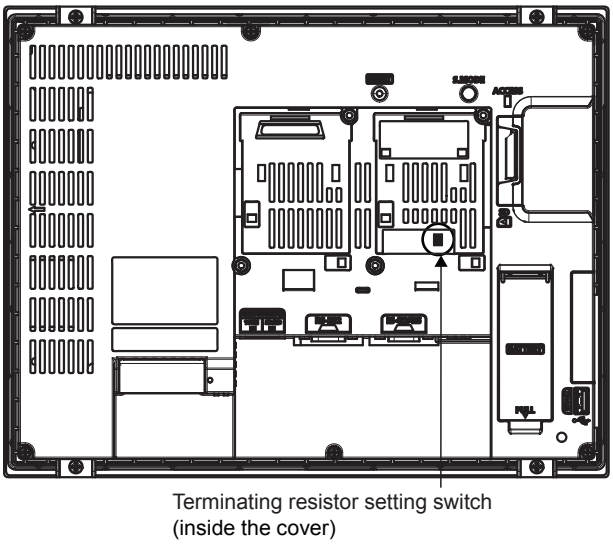
Set the terminating resistor using the terminating resistor setting switch.



Terminating resistor*1	Switch No.	
	1	2
Enable	ON	ON
Disable	OFF	OFF

*1 The default setting is "Disable".

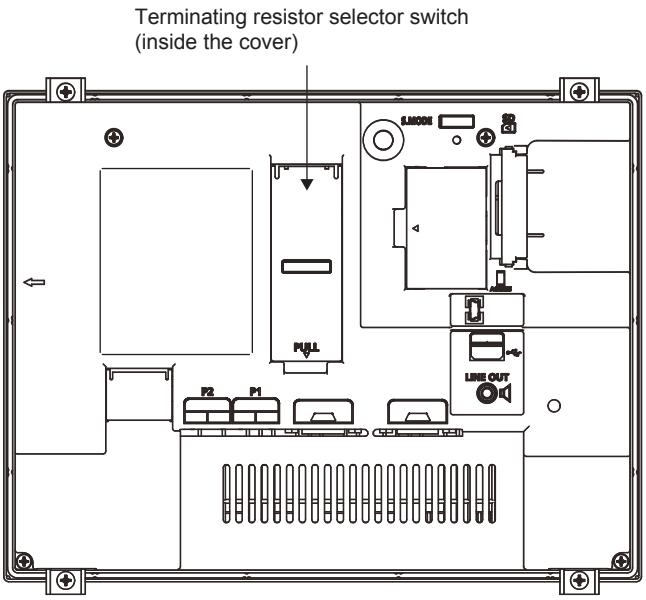
- For GT2510-V



GT25-W and GS25

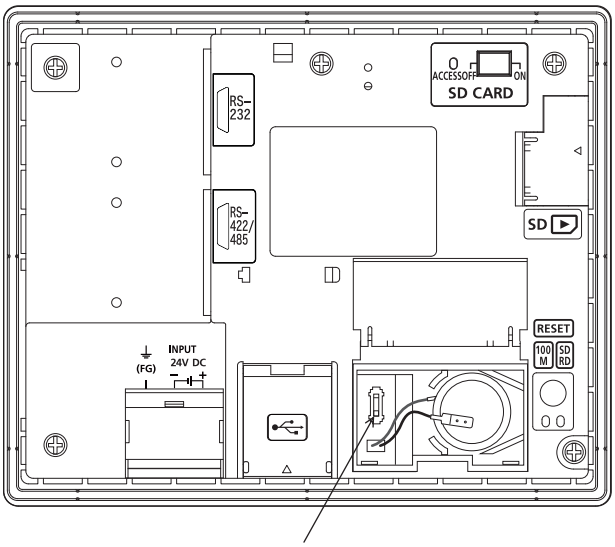
Set the terminating resistor using the terminating resistor selector.

- For GT2510-WX



GT2505-V

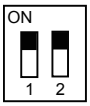
Set the terminating resistor using the terminating resistor selector.



Terminating resistor selector switch

GT23

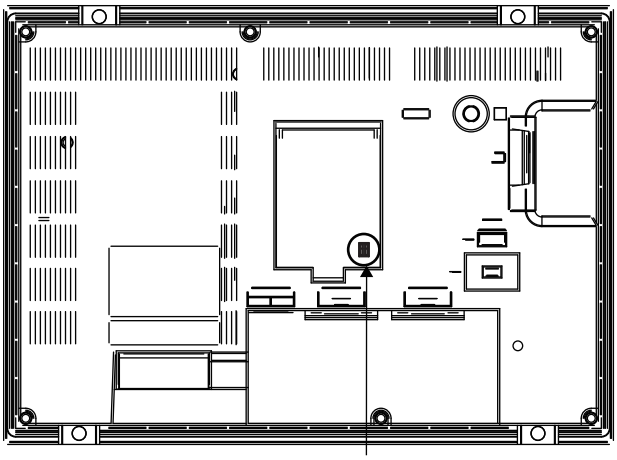
Set the terminating resistor using the terminating resistor setting switch.



Terminating resistor*1	Switch No.	
	1	2
Enable	ON	ON
Disable	OFF	OFF

*1 The default setting is "Disable".

- For GT2310-V

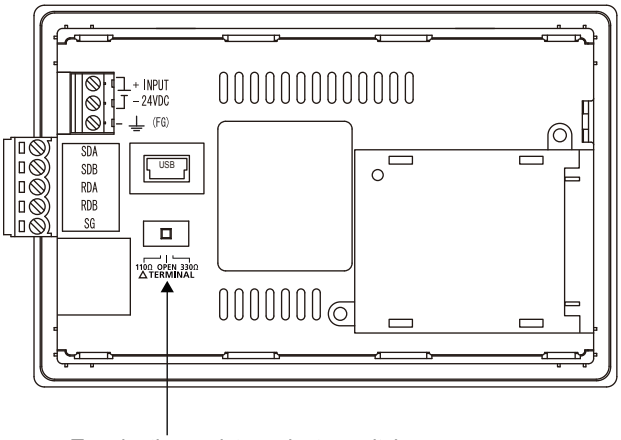


Terminating resistor setting switch
(inside the cover)

GT21

Set the terminating resistor using the terminating resistor selector.

• For GT2103-PMBD

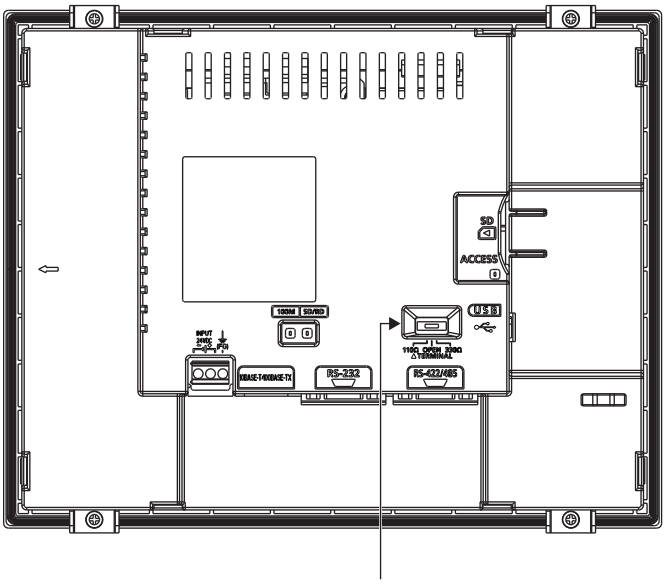


Terminating resistor selector switch

GS21-W-N

Set the terminating resistor using the terminating resistor selector.

• For GS2110-WTBD-N



Terminating resistor selector switch

Point

• Position of the terminating resistor selector switch

The position of the terminating resistor selector switch depends on the GOT type.

For the details, refer to the following.

GOT2000 Series User's Manual (Hardware)

• Terminating resistor of GS21-W

The terminating resistor of GS21-W is fixed to 330 Ω.

For the details, refer to the following.

GOT SIMPLE Series User's Manual

Setting the RS-232/485 signal conversion adaptor

Set the 2-wire/4-wire terminating resistor setting switch according to the connection type.

Point

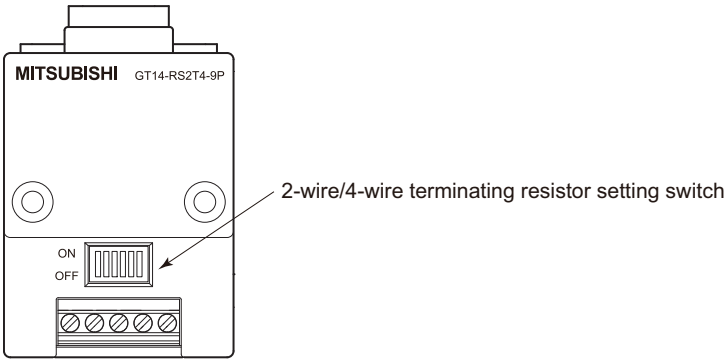
Enable the 5V power supply

Make sure to validate "Enable the 5V power supply" in the [RS232 Setting] to operate the RS-232/485 signal conversion adaptor.

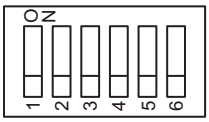
☞ Page 32 I/F communication setting

When validating the function using the utility function of the GOT main unit, refer to the following manual.

GOT2000 Series User's Manual (Utility)



Setting the 2-wire/4-wire terminating resistor setting switch



Setting item	Set value	Switch No.					
		1	2	3	4	5	6
2-wire/4-wire	2-wire (1Pair)	ON	ON	-	-	-	OFF
	4-wire (2Pair)	OFF	OFF	-	-	-	OFF
Terminating resistor	110Ω	-	-	ON	OFF	OFF	OFF
	OPEN	-	-	OFF	OFF	OFF	OFF
	330Ω	-	-	OFF	ON	ON	OFF

Point

RS-232/485 signal conversion adapter

For details on the RS-232/485 signal conversion adapter, refer to the following manual.

GT14-RS2T4-9P RS-232/485 Signal Conversion Adapter User's Manual

1.5 Verifying GOT Recognizes Connected Equipment

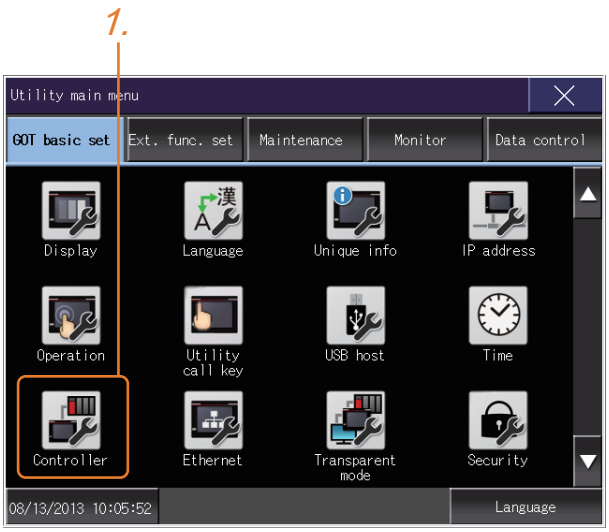
Verify the GOT recognizes controllers on [Communication Settings] of the Utility.

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

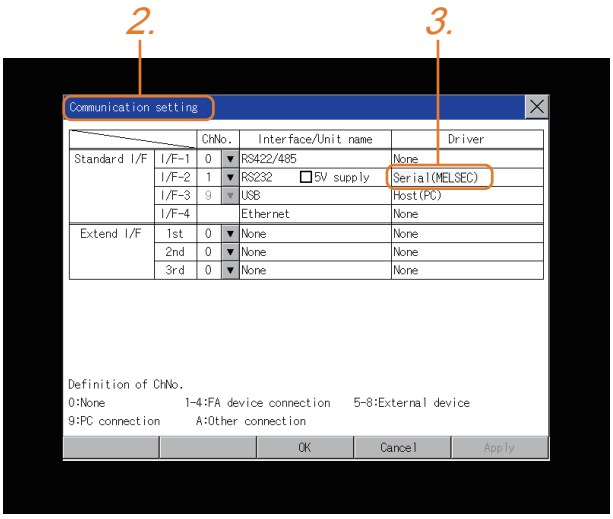
For details on the Utility, refer to the following manual.

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.

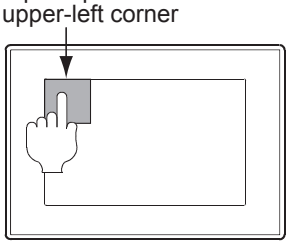
☞ Page 24 Setting the Communication Interface

Point

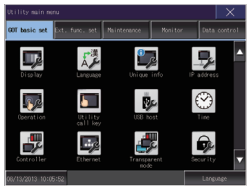
Utility

• How to display Utility (at default)

Utility call key
1-point press on GOT screen
upper-left corner



Utility display



• 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)

• Communication interface setting by the Utility

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

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

GOT2000 Series User's Manual (Utility)

• 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

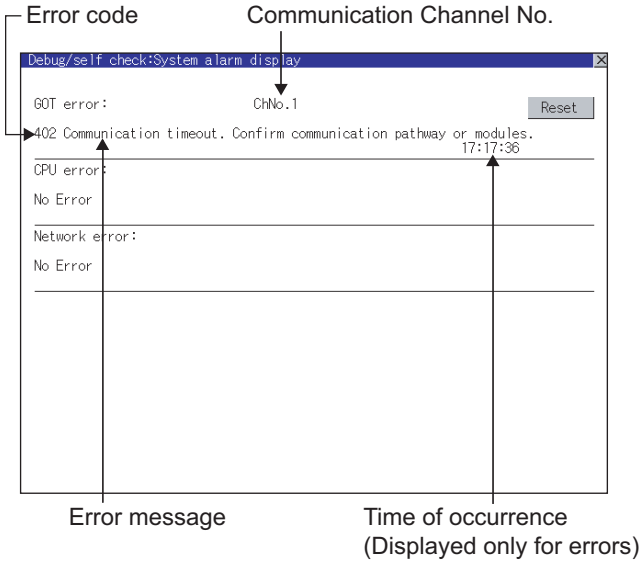
Check on the GOT

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)



Point

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) Screen Design Manual

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.

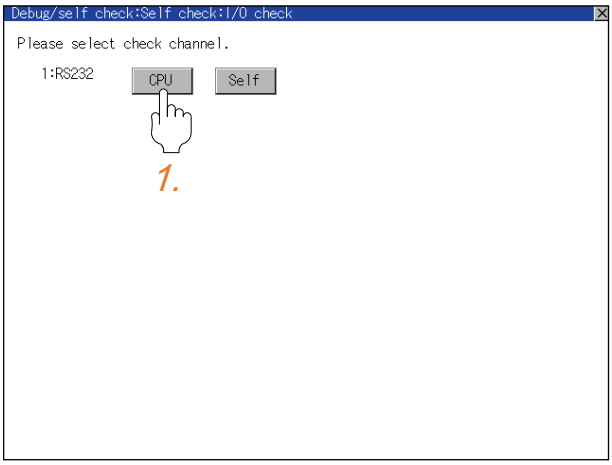
- Display the I/O check screen by [Maintenance] → [I/O check].

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

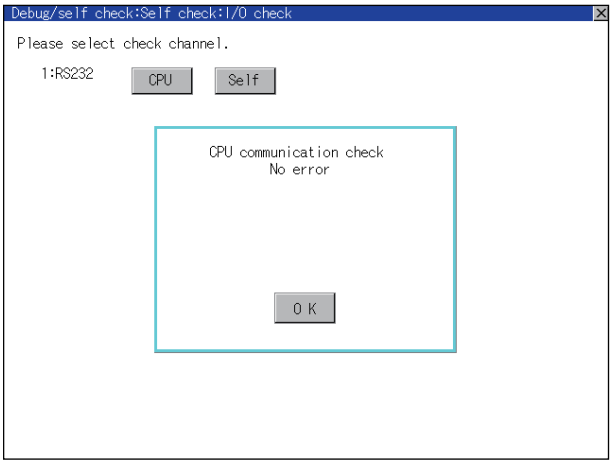
GOT2000 Series User's Manual (Utility)

1. Touch [CPU] on the I/O check screen.

Touching [CPU] executes the communication check with the connected PLC.

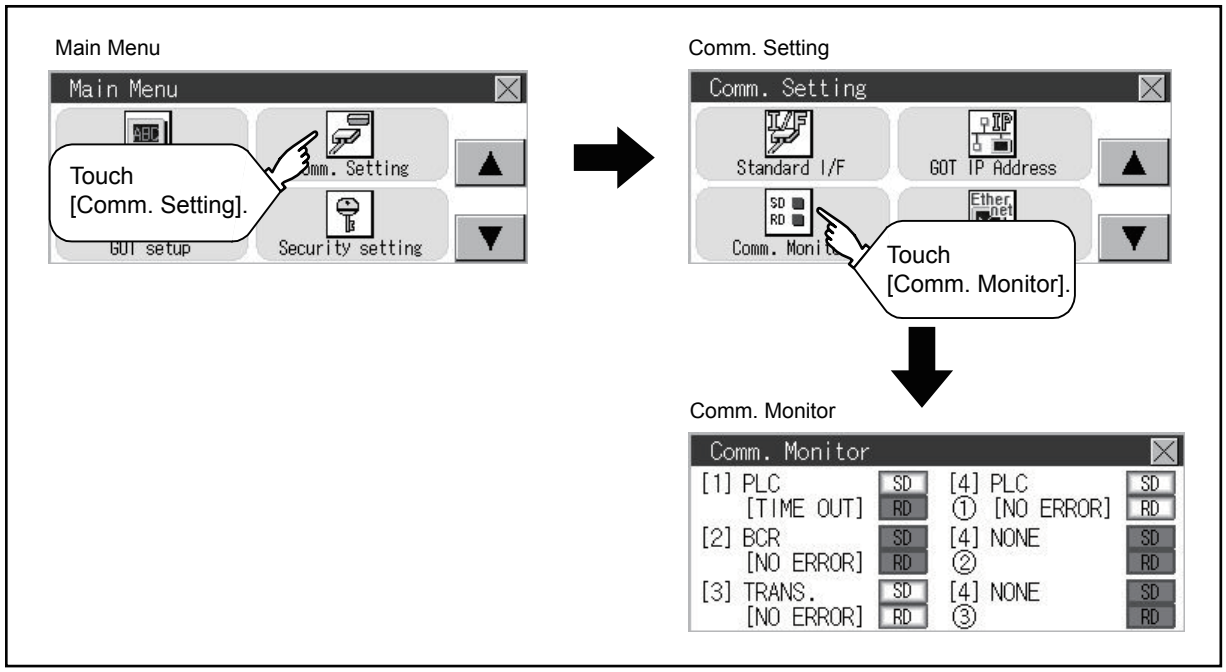


2. When the communication screen ends successfully, the screen on the left is displayed.



Communication monitoring function

The communication monitoring is a function that checks whether the PLC can communicate with the GOT.
If this check ends successfully, it means correct communication interface settings and proper cable connection.
Display the communication monitoring function screen by [Main Menu] → [Comm. Setting] → [Comm. Monitor].
For details on the communication monitoring function, refer to the following manual:
GOT2000 Series User's Manual (Utility)
(Operation of communication monitoring function screen)



Confirming the communication status with network unit by GOT

When the GOT with any of the following units mounted is connected, the communication status of the communication unit can be checked on the GOT.

Communication unit		Connection type
MELSECNET/H communication unit	GT15-J71LP23-25 GT15-J71BR13	MELSECNET/H, MELSECNET/10 connection
CC-Link IE TSN communication unit	GT25-J71GN13-T2	CC-Link IE TSN connection
CC-Link IE Controller Network communication unit	GT15-J71GP23-SX	CC-Link IE Controller Network connection
CC-Link IE Field Network communication unit	GT15-J71GF13-T2	CC-Link IE Field Network connection
CC-Link communication unit	GT15-J61BT13	CC-Link connection (Intelligent device station)

The communication status of the communication unit can be checked in the [Network Status Display] in utility 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)
For details on the [Network Status Display], refer to the following manual.
GOT2000 Series User's Manual (Monitor)

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

Confirming the communication state on Windows, GT Designer3

■When using the Windows Command Prompt

Execute a Ping command at the Command Prompt of Windows.

• At normal communication

C:\>Ping 192.168.3.18

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

• At abnormal communication

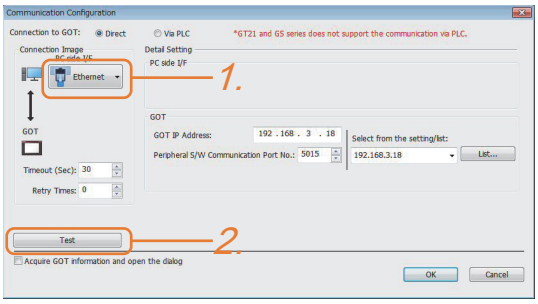
C:\>Ping 192.168.3.18

Request timed out.

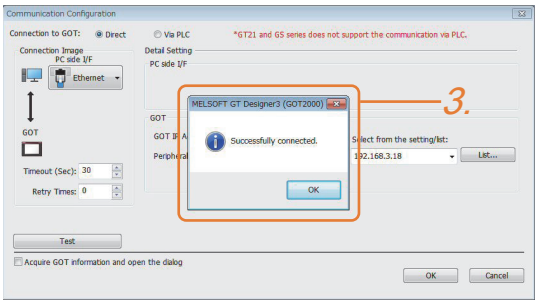
■When using the [Test] of GT Designer3

Select [Communication] → [Communication settings] from the menu to display [TEST].

1. Set the [PC side I/F] to the [Ethernet].
2. Specify the [GOT IP Address] of the [Communication Configuration] and click the [Test] button.



3. Check if GT Designer3 has been connected to the GOT.



■At abnormal communication

At abnormal communication, check the followings and execute the Ping command or [Test] again.

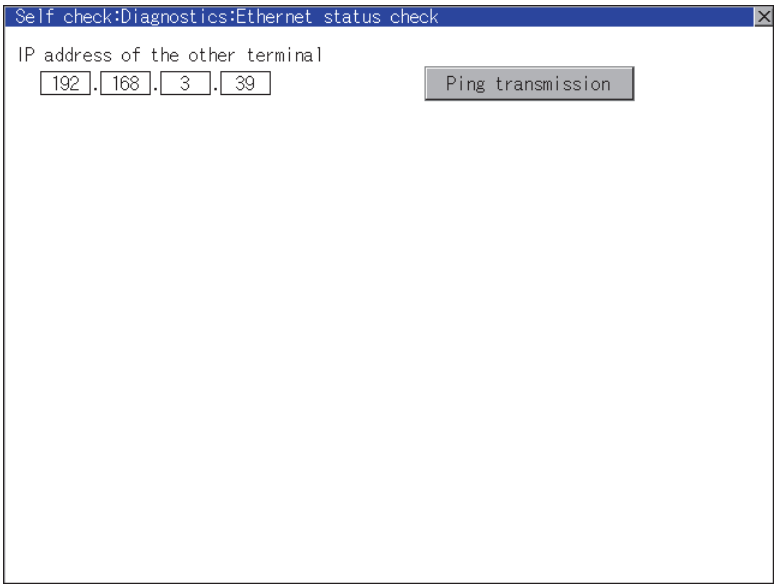
- Mounting condition of Ethernet communication unit
- Cable connecting condition
- Confirmation of [Communication Settings]
- IP address of GOT specified by Ping command

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)



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).

No. of faulty stations

■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

■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

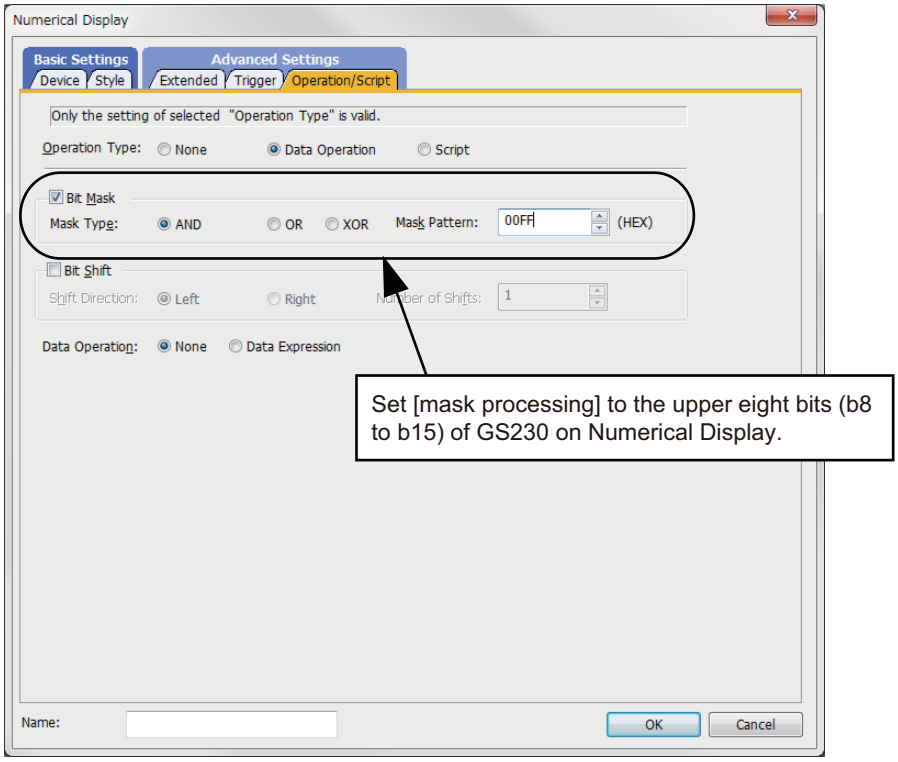
When monitoring GS230 on Numerical Display

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) Screen Design Manual

• Numerical Display (Data Operation tab)

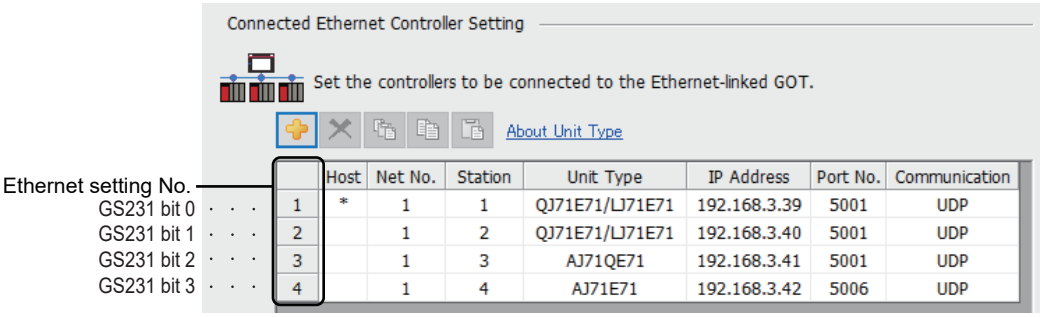


Faulty station information

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

The bit is reset after the fault is recovered.

■Ethernet connection



Device	Ethernet setting No.															
	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

The following shows the Ethernet setting numbers corresponding to each devices in the multi-channel Ethernet connection.

Device				Ethernet setting No.															
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

■CC-Link IE TSN connection

Device	Station number															
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
GS1281	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
GS1282	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
GS1283	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32
GS1284	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48
GS1285	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64
GS1286	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80
GS1287	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96
GS1288	-	-	-	-	-	-	-	120	119	118	117	116	115	114	113	112

■Temperature controller (AZBIL temperature controller (DMC50)) connection

Device				Station number-Sub Station															
Ch1	Ch2	Ch3	Ch4	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
GS281	GS301	GS321	GS341	1-15	1-14	1-13	1-12	1-11	1-10	1-9	1-8	1-7	1-6	1-5	1-4	1-3	1-2	1-1	1-0
GS282	GS302	GS322	GS342	2-15	2-14	2-13	2-12	2-11	2-10	2-9	2-8	2-7	2-6	2-5	2-4	2-3	2-2	2-1	2-0
GS283	GS303	GS323	GS343	3-15	3-14	3-13	3-12	3-11	3-10	3-9	3-8	3-7	3-6	3-5	3-4	3-3	3-2	3-1	3-0
GS284	GS304	GS324	GS344	4-15	4-14	4-13	4-12	4-11	4-10	4-9	4-8	4-7	4-6	4-5	4-4	4-3	4-2	4-1	4-0
GS285	GS305	GS325	GS345	5-15	5-14	5-13	5-12	5-11	5-10	5-9	5-8	5-7	5-6	5-5	5-4	5-3	5-2	5-1	5-0
GS286	GS306	GS326	GS346	6-15	6-14	6-13	6-12	6-11	6-10	6-9	6-8	6-7	6-6	6-5	6-4	6-3	6-2	6-1	6-0
GS287	GS307	GS327	GS347	7-15	7-14	7-13	7-12	7-11	7-10	7-9	7-8	7-7	7-6	7-5	7-4	7-3	7-2	7-1	7-0
GS288	GS308	GS328	GS348	8-15	8-14	8-13	8-12	8-11	8-10	8-9	8-8	8-7	8-6	8-5	8-4	8-3	8-2	8-1	8-0

■Other connection types

The corresponding devices differ depending on the communication driver to be used.

- Communication drivers that monitor the host station only

Communication driver list		
Bus Q	Bus A/QnA	Serial(MELSEC)
AJ71QC24, MELDAS C6*	AJ71C24/UC24	CC-Link(G4)
MELSEC-FX	MELSEC-WS	OMRON SYSMAC
YASKAWA GL	YASKAWA CP9200 (H)	YASKAWA CP9300MS (MC compatible)
YASKAWA MP2000/MP900/CP9200SH	AB Control/CompactLogix	SHARP JW
TOSHIBA PROSEC T/V	HITACHI IES HIDIC H	HITACHI IES HIDIC H(Protocol2)
PANASONIC MEWNET-FP	PANASONIC MEWTOCOL-7	SIEMENS S7-200
YOKOGAWA FA500/FA-M3/STARDOM	Serial(KEYENCE)	HITACHI S10mini/S10V
FUJI MICREX-SX SPH	SHIBAURA MACHINE TCmini	SICK Flexi Soft
IAI X-SEL	PROFIBUS DP	DeviceNet
ALPHA2		

The host station uses bit 0.

Ch1: GS281.b0

Ch2: GS301.b0

Ch3: GS321.b0

Ch4: GS341.b0

• Communication drivers that monitor other stations as well as the host station

Communication driver list		
CC-Link IE Controller Network	CC-Link IE Field Network	MEI Nexgenie
AB SLC500 AB 1:N connection	AB MicroLogix	AB MicroLogix(Extended)
SIEMENS S7-300/400	JTEKT TOYOPUC-PC	FUJI MICREX-F
GE(SNP-X)	KOYO KOSTAC/DL	LS Industrial Systems MASTER-K
Hirata HNC	IAI robocylinder	Panasonic MINAS A4
Panasonic MINAS A5	Muratec MPC	MELSERVO-J4,J3,J2S/M,JE
FREQROL 500/700/800,SENSORLESS SERVO	FREQROL 800	FREQROL(Batch monitor)
OMRON THERMAC/INPANEL NEO	OMRON Digital Temperature Controller	AZBIL SDC/DMC
AZBIL DMC50	RKC SR Mini HG (MODBUS)	FUJI Temperature Controller/Digital Controller
YOKOGAWA GREEN/UT100/UT2000/ UTAdvanced	SHINKO TECHNOS CONTROLLER	CHINO MODBUS device
MODBUS/RTU Master		

The following shows the corresponding devices.

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	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0*1
GS282	GS302	GS322	GS342	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
GS283	GS303	GS323	GS343	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32
GS284	GS304	GS324	GS344	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48
GS285	GS305	GS325	GS345	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64
GS286	GS306	GS326	GS346	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80
GS287	GS307	GS327	GS347	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96
GS288	GS308	GS328	GS348	127 *1*2	126 *1*2	125 *1*2	124 *1*2	123 *1*2	122 *1*2	121 *1*2	120	119	118	117	116	115	114	113	112

*1 When CC-Link IE controller network connection is not used.

*2 When CC-Link IE field network connection is not used.

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

GT Designer3 (GOT2000) Screen Design Manual

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)

When using the station monitoring function in the CC-Link IE Field Network connection

When a submaster station is on the network, use the CC-Link IE Field Network communication unit (GT15-J71GF13-T2) with the software version C or later.

The software version is the 10th digit of the serial number described on the rating plate of the unit.

Faulty station that can be detected by the station monitoring function (CC-Link IE TSN connection)

A faulty station that can be detected differs depending on the communication mode of the cyclic transmission.

■When the communication mode is the multicast mode

All data link faulty stations are detected from each data link status.

For details of the data link status, refer to the following.

MELSEC iQ-R CC-Link IE TSN User's Manual (Application)

■When the communication mode is the unicast mode

Only the errors in the master station are detected.

Stations other than the master station are always recognized as a faulty station.

Check on GX Developer

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

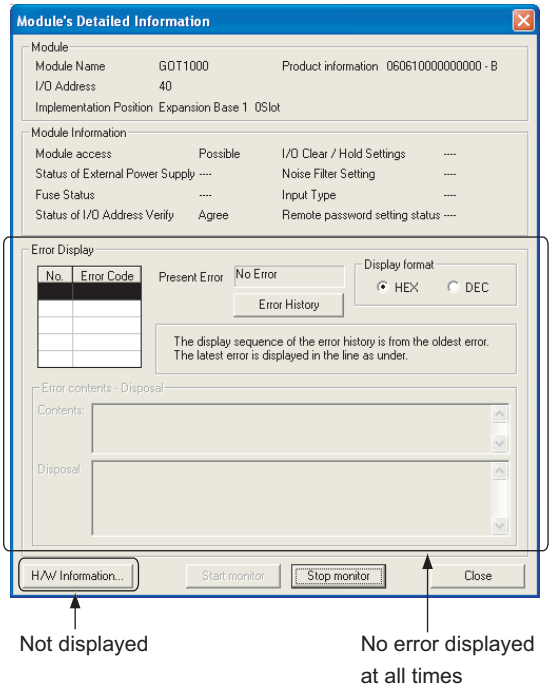
Using the [System monitor] of GX Developer, check if the PLC CPU recognizes the GOT or not.

For the GX Developer operation method, refer to the following manual.

GX Developer Version □Operating Manual

■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]



Not displayed

No error displayed at all times

Checking the wiring state (For optical loop system only)

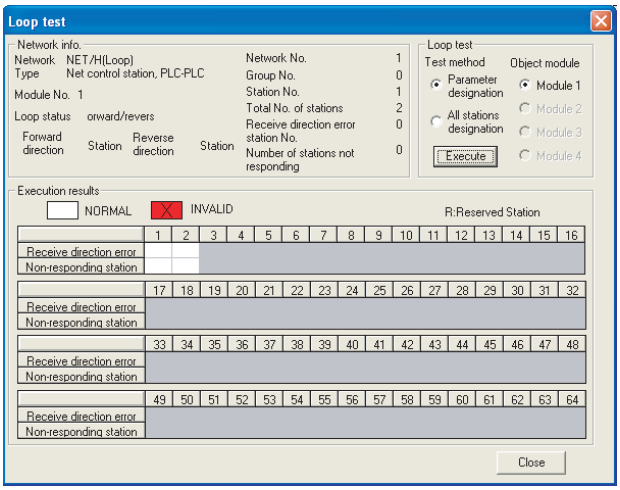
Check if the optical fiber cable is connected correctly in [Loop test] of GX Developer.

For the GX Developer operation method, refer to the following manual.

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

■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

■For MELSECNET/H, MELSECNET/10 network system

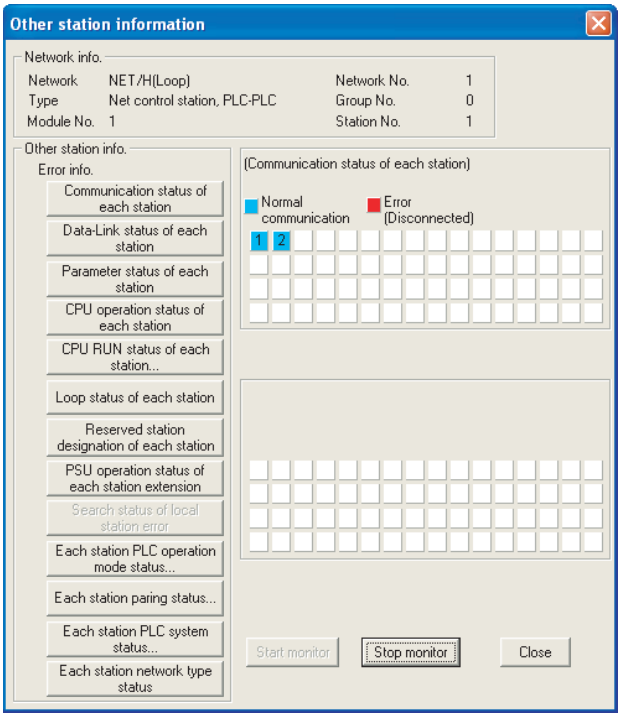
Check if the GOT is performed the data link correctly in [Other station information].

For the GX Developer operation method, refer to the following manual.

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

- 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.



■For CC-Link IE Controller Network system

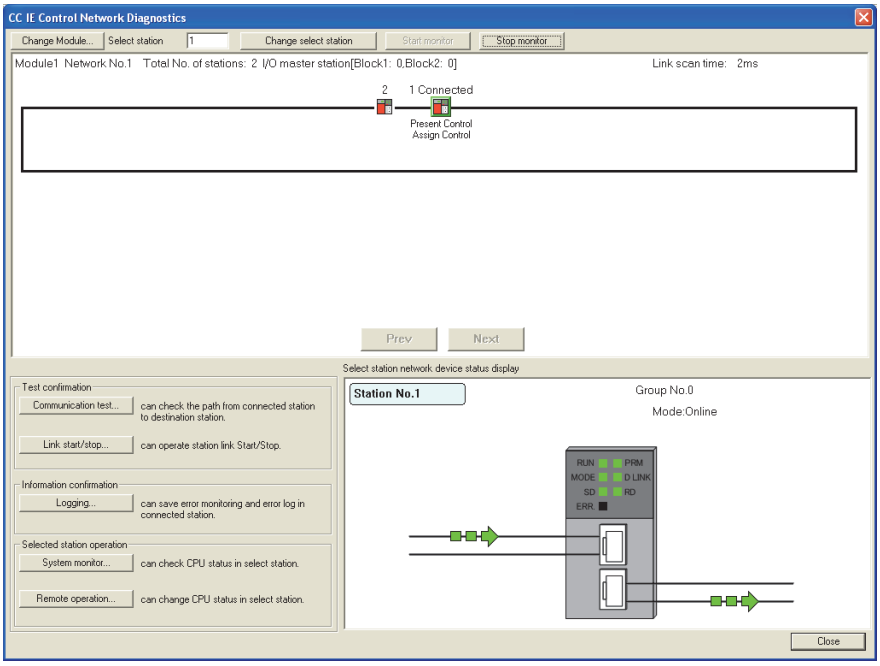
Use [CC IE Control diagnostics…] of GX Developer to check if the GOT is correctly performed the data link.

For the GX Developer operation method, refer to the following manual.

📖CC-Link IE Controller Network Reference Manual

• 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]



■For CC-Link system

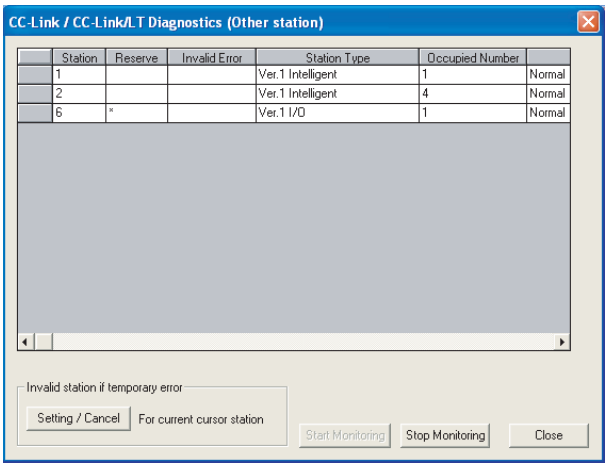
Use [Monitoring other station] of the GX Developer to check if the GOT is correctly performed the data link.

For the GX Developer operation method, refer to the following manual.

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

• 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



Check on GX Works2

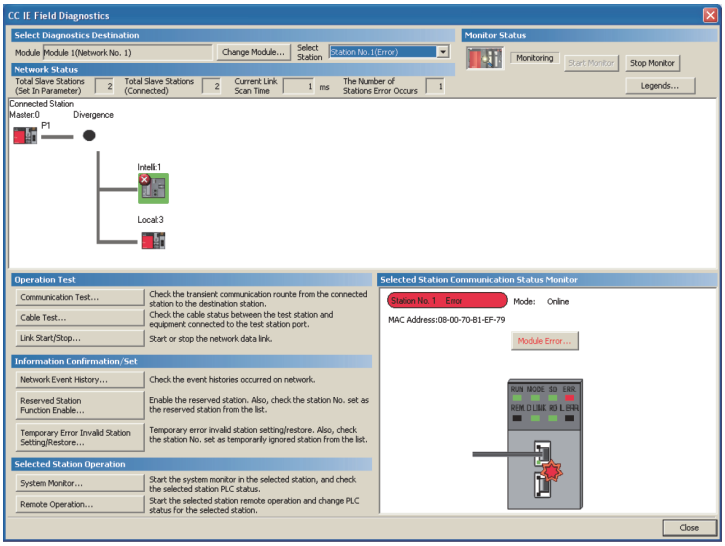
For CC-Link IE Controller Network system

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]



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

2 ALPHA2 CONNECTION

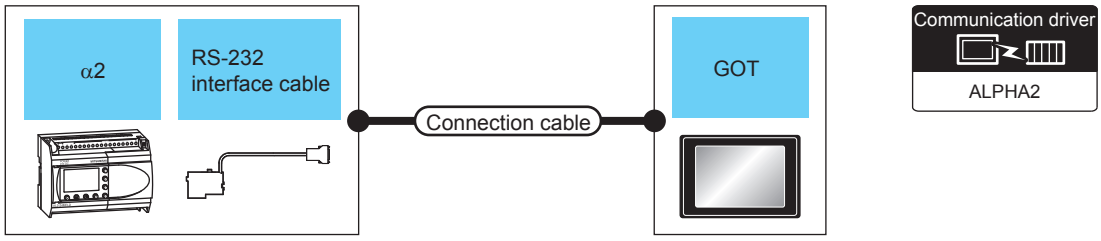
2.1 Connectable Model List

The following table shows the connectable models.

Model name	Clock	Communication type	Connectable model	Refer to
AL2-14MR AL2-24MR	×	RS-232	GT27 GT25 GT23 GT21 GS25 GS21	☞ Page 69 Connecting to AL2-14MR, AL2-24MR

2.2 System Configuration

Connecting to AL2-14MR, AL2-24MR



PLC			Connection cable		GOT		Number of connectable equipment
Model name	RS-232 interface cable	Communication type	Connection diagram number	Max. distance	Option device	Model	
AL2-14MR AL2-24MR	AL2-GSM-CAB	RS-232	User preparing Page 70 RS-232 connection diagram 1)	15m	- (Built into GOT)	GT27 GT25 GT23 GT21(07W) GT21(05Q) GS25 GS21	1 GOT for 1 PLC
					GT10-C02H-6PT9P	GT21(03P,04P R4) GT21(03P,04P R2)	
			User preparing Page 70 RS-232 connection diagram 2)	15m	- (Built into GOT)	GT21(04R) GT21(03P,04P R2)	

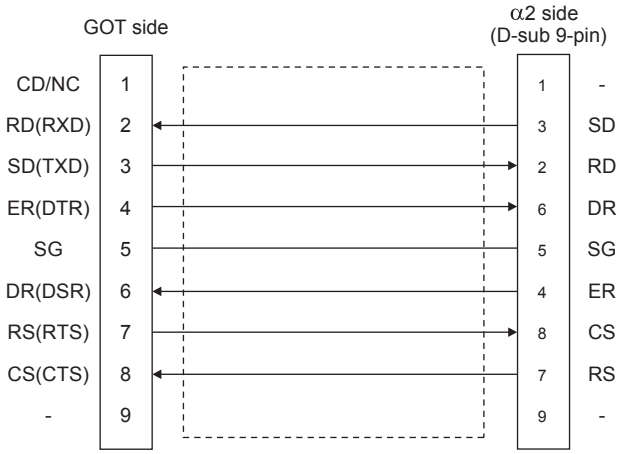
2.3 Connection Diagram

The following shows the connection diagrams of cables used for connecting the GOT to a α2.

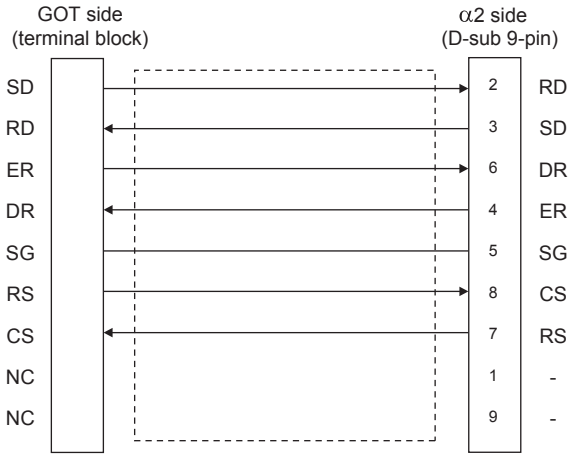
RS-232 cable

Connection diagram

■RS-232 connection diagram 1)



■RS-232 connection diagram 2)



Precautions when fabricating the cable

■Cable length

The length of the cable RS-232 must be 15m or less.

■GOT side connector

For the GOT side connector, refer to the following.

☞ Page 42 GOT connector specifications

■α2 side connector

Use the connector compatible with the α2.

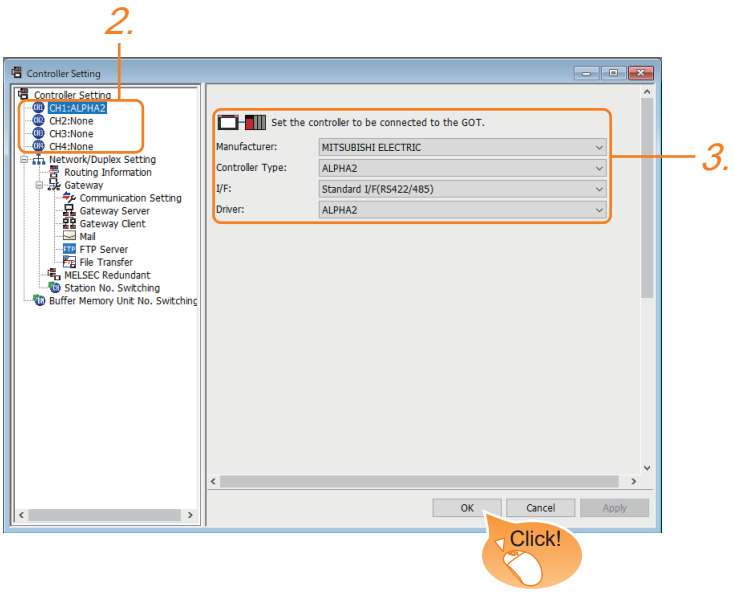
For the GOT side connector, refer to the following.

📖α2 Simple Application Controller HARDWARE MANUAL

2.4 GOT Side Settings

Setting communication interface (Controller Setting)

Set the channel of the connected equipment.



1. Select [Common] → [Controller Setting] from the menu.
2. In the [Controller Setting] window, select the channel No. to be used from the list menu.
3. Set the following items.
   - [Manufacturer]: [MITSUBISHI ELECTRIC]
   - [Controller Type]: [ALPHA2]
   - [I/F]: Interface to be used
   - [Driver]: [ALPHA2]
4. When you have completed the settings, click the [OK] button.

Point

The settings of connecting equipments can be confirmed in [I/F Communication Setting].
For details, refer to the following.
☞ Page 32 I/F communication setting

2.5 PLC Side Settings

For details of the α2, refer to the following manual.
📖COMMUNICATION MANUAL α2 SIMPLE APPLICATION CONTROLLER
📖PROGRAMING MANUAL α2 SIMPLE APPLICATION CONTROLLER

Communication setting

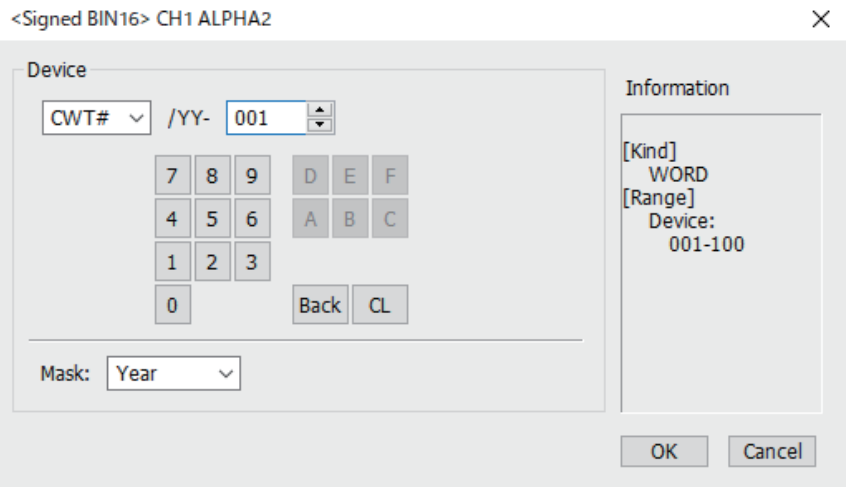
Make the communication settings by front panel key or ALVLS/WIN-E.

Item	Setting
Modem	other
Data Bit	8
Parity	None
Stop Bit	1
Baud Rate	9600

2.6 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 when specifying the bit of word device.
[Information]	Displays the device type and setting range which are selected in [Device].
[Mask]	Set this item when using the "Communication Word Device For Time Switch FB (CWT#)".

■Setting of the mask type

• Mask type Year (CWT#/YY)

Set "year" of the Time Switch FB.

Device	Setting range	Description
CWT#/YY	1998 to 2053	• From the year 1998 to the year 2053 • This item is valid only while Date setting is valid. • Date setting becomes valid when "CWT#/YY" is set while Weekly setting is valid. In that case, "month", "day" and "output ON/OFF status" are initialized to "January", "1" and "OFF" respectively.

• Mask type Month (CWT#/MM)

Set "month" of the Time Switch FB.

Device	Setting range	Description
CWT#/MM	1 to 12	• From January to December • This item is valid only while Date setting is valid. • Date setting becomes valid when "CWT#/MM" is set while Weekly setting is valid. In that case, "year", "day" and "output ON/OFF status" are initialized to "2009", "1" and "OFF" respectively.

• Mask type Day (CWT#/DD)

Set "day" of the Time Switch FB.

Device	Setting range	Description
CWT#/DD	1 to 31	• From the 1st day to the 31st day • This item is valid only while Date setting is valid. • Date setting becomes valid when "CWT#/DD" is set while Weekly setting is valid. In that case, "year", "month" and "output ON/OFF status" are initialized to "2009", "January" and "OFF" respectively.

• Mask type Hour (CWT#/HH)

Set "hour" of the Time Switch FB.

Device	Setting range	Description
CWT#/HH	0 to 23	• From 0 hour to 23 hours

• Mask type Minute (CWT#/MI)

Set "minute" of the Time Switch FB.

Device	Setting range	Description
CWT#/MI	0 to 59	• From 0 minute to 59 minutes

• Mask type DMY (CWT#/DM)

Set "monthly" or "yearly" of the Time Switch FB.

Device	Setting range	Description
CWT#/DM	0 to 2	• 0: Time settings by date 1: Monthly time settings 2: Yearly time settings • This item is valid only while Date setting is valid. • Date setting becomes valid when "CWT#/DM" is set while Weekly setting is valid. In that case, "year", "month" and "day" are initialized to "2009", "January" and "1" respectively.

• Mask type BI (CWT#/BI)

Set "output ON/OFF status" of the Time Switch FB.

Device	Description
CWT#/BI	• 0: OFF 1: ON

• Mask type Weekday (CWT#/WD)

Set "day of the week" of the Time Switch FB.

Device	Description
CWT#/WD	• b0: Sunday b1: Monday b2: Tuesday b3: Wednesday b4: Thursday b5: Friday b6: Saturday b7: Reserved (Fixed to "0") b8: Every day of the week b9 to b14: Reserved (Fixed to "0") b15: 0 = Weekly setting, 1 = Date setting • This item is valid only while Weekly setting is valid. • Date setting becomes valid when "CWT#/WD.b15=1" is written while Weekly setting is valid. In that case, "year", "month", "day" and "output ON/OFF status" are initialized to "2009", "January", "1" and "OFF" respectively. • Weekly setting becomes valid when "CWT#/WD.b15=0" is written while Date setting is valid. In that case, "day of the week" and "week of the month" are initialized to "every day of the week" and "every week" respectively. • Weekly setting becomes valid when "1" is written to either of "CWT#/WD.b0" to "CWT#/WD.b6" and "CWT#/WD.b8" while Date setting is valid. In that case, "week of the month" is initialized to "every week".

• Mask type Week (CWT#/WE)

Set "week of the month" of the Time Switch FB.

Device	Description
CWT#/WE	• b0: 1st week (1st to 7th days) b1: 2nd week (8th to 14th days) b2: 3rd week (15th to 21st days) b3: 4th week (22nd to 28th days) b4: 5th week (29th day to month end) b5 to b7: Reserved (Fixed to "0") b8: Every week b9 to b15: Reserved (Fixed to "0") • This item is valid only while Weekly setting is valid. • Weekly setting becomes valid when "1" is written to either of "CWT#/WE.b0" to "CWT#/WE.b4" and "CWT#/WE.b8" while Date setting is valid. In that case, "day of the week" is initialized to "every day of the week".

ALPHA2

Device name		Setting range	Device No. representation
Bit device	System Bit (M) *1	M01 to M24	Decimal
	Input Terminal (I)	I01 to I15	
	External Input (EI)	EI129 to EI132	
	Output Terminal (O)	O01 to O09	
	External Output (EO)	EO129 to EO132	
	Key Input (K)	K01 to K08	
	Link Input (E)	E01 to E04	
	Link Output (A)	A01 to A04	
	Control Device (N)	N01 to N04	
	Communication Word Device For Time Switch FB (CWT#BI)	CWT#/BI-001 to CWT#/BI-100	
	Communication Bit Device (CB) *4	CB001 to CB100	
Word device	Analog Input (AI) *1*2	AI01 to AI08	Decimal
	Communication Word Device (CW) *2*4	CW001 to CW100	
	Communication Word Device For Time Switch FB (CWT#**) *2	CWT#/**-001 to CWT#/**-100	
	Communication Word Device For Time Switch FB (CWT) *3	CWT001 to CWT100	

*1 Only reading is possible.
*2 Only 16-bit (1-word) specification is possible.
*3 Only 32-bit (2-word) designation is possible.
On the PLC side, CWT means CW that related TimeSwitchFunctionBlock.
*4 For details of CW and CB, refer to the following manuals.
COMMUNICATION MANUAL α2 SIMPLE APPLICATION CONTROLLER

MEMO

REVISIONS

* The manual number is given on the bottom left of the back cover.

Revision date	* Manual Number	Revision
Sep. 2013	JY997D52301A	First edition
Oct. 2014	JY997D52301B	Compatible with GT Works3 Version1.122C • GT25, GT21 and GS are added.
Apr. 2015	JY997D52301C	Compatible with GT Works3 Version1.130L • GT21 models (GT2104-RTBD, GT2103-PMBDS2, GT2103-PMBLS) are added.
Oct. 2015	JY997D52301D	Compatible with GT Works3 Version1.144A • GT21 is added (GT2104-PMBD, GT2104-PMBDS).
May 2016	JY997D52301E	• GT21 is added (GT2105-QTBDS, GT2105-QMBDS, GT2104-PMBDS2, GT2104-PMBLS).
Jan. 2021	JY997D52301F	Compatible with GT Works3 Version1.250L • Complete revision
Apr. 2021	JY997D52301G	Some corrections
Jan. 2022	JY997D52301H	Some corrections
Jul. 2022	JY997D52301J	Some corrections
Jan. 2023	JY997D52301K	Some corrections
Apr. 2023	JY997D52301L	Compatible with GT Works3 Version1.295H • GS2512-WXTBD has been added.

WARRANTY

Please check 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.

(1) 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.

(2) Gratis Warranty Range

(a) 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 expense.
The primary failure diagnosis will, however, be free of charge should the cause of failure be attributable to Mitsubishi Electric Corporation.

(b) 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.

(c) Even within the gratis warranty term, repairs shall be charged in the following cases.
- Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
- Failure caused by unapproved modifications, etc., to the product by the user.
- 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.
- Failure that could have been avoided if consumable parts designated in the instruction manual had been correctly serviced or replaced.
- Replacing consumable parts such as a battery, backlight, and fuse.
- 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.
- Failure caused by reasons that could not be predicted by scientific technology standards at the time of shipment from Mitsubishi.
- 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) Mitsubishi shall not accept a request for product supply (including spare parts) 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:

(1) Damages caused by any cause found not to be the responsibility of Mitsubishi.

(2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products.

(3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.

(4) 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 shall be excluded from the graphic operation terminal applications.
In addition, applications in which human life or property could be greatly affected, such as in aircraft, medical, railway applications, incineration and fuel devices, manned transportation equipment, recreation and amusement devices, safety devices, shall also be excluded from the graphic operation terminal.
Even for the above applications, 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, after the user consults the local Mitsubishi representative.

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