

# MITSUBISHI



GRAPHIC OPERATION TERMINAL

# GOT1000

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## GOT1000 Series Connection Manual

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(Ethernet connection with FXCPU)





# ● 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 "DANGER" and "CAUTION".




**DANGER**

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



**CAUTION**

Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

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

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

## [DESIGN PRECAUTIONS]



**DANGER**

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

## [DESIGN PRECAUTIONS]

### **DANGER**

- Incorrect operation of the touch switch(s) may lead to a serious accident if the GOT backlight is gone out.

When the GOT backlight goes out, the POWER LED flickers (green/orange) and the display section turns black and causes the monitor screen to appear blank, while the input of the touch switch(s) remains active.

This may confuse an operator in thinking that the GOT is in "screensaver" mode, who then tries to release the GOT from this mode by touching the display section, which may cause a touch switch to operate.

Note that the following occurs on the GOT when the backlight goes out.

The POWER LED flickers (green/orange) and the monitor screen appears blank.

### **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.

## [MOUNTING PRECAUTIONS]

### **DANGER**

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the GOT to/from the panel.  
Not doing so can cause the GOT 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 communication unit, option function board or multi-color display board onto/from the GOT.  
Not doing so can cause the unit to fail or malfunction.
- Before mounting an optional function board or Multi-color display board, wear a static discharge wrist strap to prevent the board from being damaged by static electricity.

### **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.  
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.

## [MOUNTING PRECAUTIONS]



### CAUTION

- When loading the communication unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range.  
Overtightening can cause a drop, failure or malfunction due to the damage of the screws or unit.
- When mounting the multi-color display board onto the GOT, tighten the mounting screws within the specified torque range.  
Loose tightening may cause the unit and/or GOT to malfunction due to poor contact.  
Overtightening may damage the screws, unit and/or GOT; they might malfunction.
- When mounting an optional function board onto the GT15□□, fully connect it to the connector until you hear a click.
- When mounting an optional function board onto the GT11□□, fully connect it to the connector.
- Push the multi-color display board onto the corresponding connector so that it will be secured firmly.
- When inserting a CF card into the GOT, push it into the insertion slot until the CF card eject button will pop out.  
Failure to do so may cause a malfunction due to poor contact.
- When inserting/removing a CF card into/from the GOT, turn the CF card access switch off in advance.  
Failure to do so may corrupt data within the CF card.
- When removing a CF card from the GOT, make sure to support the CF card by hand, as it may pop out.  
Failure to do so may cause the CF card to drop from the GOT and break.

## [WIRING PRECAUTIONS]



### DANGER

- 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

- Always ground the FG terminal, LG terminal, and protective ground terminal of the GOT power to the protective ground conductors dedicated to the GOT.  
Not doing so may cause an electric shock or malfunction.
- Be sure to tighten any unused terminal screws with a torque of 0.5 to 0.8N•m.  
Failure to do so may cause a short circuit due to contact with a solderless terminal.
- Use applicable solderless terminals and tighten them with the specified torque.  
If any solderless spade terminal is used, it may be disconnected when the terminal screw comes loose, resulting in failure.
- Correctly wire the GOT power supply section after confirming the rated voltage and terminal arrangement of the product.  
Not doing so can cause a fire or failure.
- Tighten the terminal screws of the GOT power supply section in the specified torque range.  
Undertightening can cause a short circuit or malfunction.  
Overtightening can cause a short circuit or malfunction due to the damage of the screws or the GOT.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the GOT. Not doing so can cause a fire, failure or malfunction.
- Plug the 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.
- Plug the communication cable into the connector of the connected unit and tighten the mounting and 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.

## [TEST OPERATION PRECAUTIONS]

### **DANGER**

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

## [STARTUP/MAINTENANCE PRECAUTIONS]

### **DANGER**

- When power is on, do not touch the terminals.  
Doing so can cause an electric shock or malfunction.
- Connect the battery correctly.  
Do not discharge, disassemble, heat, short, solder or throw the battery into the fire.  
Incorrect handling may cause the battery to generate heat, burst or take fire, resulting in injuries or fires
- 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 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 or apply strong impact to the unit.  
Doing so may damage the unit.
- 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 metal, etc. to discharge static electricity from human body, etc.  
Not doing so can cause the unit to fail or malfunction.

## [BACKLIGHT REPLACEMENT PRECAUTIONS]

### DANGER

- Be sure to shut off all phases of the external power supply of the GOT (and the programmable controller CPU in the case of a bus topology) and remove the GOT from the control panel before replacing the backlight (when using the GOT with the backlight replaceable by the user).  
Not doing so can cause an electric shock.  
Replacing a backlight without removing the GOT from the control panel can cause the backlight or control panel to drop, resulting in an injury.

### CAUTION

- Wear gloves for the backlight replacement when using the GOT with the backlight replaceable by the user.  
Not doing so can cause an injury.
- Before replacing a backlight, allow 5 minutes or more after turning off the GOT when using the GOT with the backlight replaceable by the user.  
Not doing so can cause a burn from heat of the backlight.



## [DISPOSAL PRECAUTIONS]



### CAUTION

- When disposing of the product, handle it as industrial waste.

## [TRANSPORTATION PRECAUTIONS]



### CAUTION

- When transporting lithium batteries, make sure to treat them based on the transport regulations.  
(For details on models subject to restrictions, refer to the User's Manual for the GOT you are using.)
- 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 the User's Manual, as they are precision devices.  
Failure to do so may cause the unit to fail.  
Check if the unit operates correctly after transportation.

## REVISIONS

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

Print Date	* Manual Number	Revision
Jun., 2007	SH(NA)-080719ENG-A	First edition
Oct., 2008	SH(NA)-080719ENG-B	Compatible with GT Designer2 Version2.90U <div>Partial addition</div> Section 1.1, 2.1.1, 2.2.3, 2.2.5, 2.2.6 <div>Partial correction</div> Section 2.2.1, 2.2.2, 2.2.4, 2.2.7

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# INTRODUCTION

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Thank you for choosing Mitsubishi Graphic Operation Terminal (Mitsubishi GOT).

Read this manual and make sure you understand the functions and performance of the GOT thoroughly in advance to ensure correct use.

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## ABOUT MANUALS

The following manuals are also related to this product.

In necessary, order them by quoting the details in the tables below.

The manual in PDF-format is included in the GT Works2 and GT Designer2 products.

### Related Manuals

Manual Name	Manual Number (Model Code)
<b>GT16 User's Manual</b> - Describes the GT16 hardware-relevant contents, including the specifications, part names, mounting, power supply wiring, external dimensions, and option devices. - Describes the GT16 functions, including the utility. (Sold separately)	SH-080778ENG (1D7M88)
<b>GT15 User's Manual</b> - Describes the GT15 hardware-relevant contents, including the specifications, part names, mounting, power supply wiring, external dimensions, and option devices. - Describes the GT15 functions, including the utility. (Sold separately)	SH-080528ENG (1D7M23)
<b>GT11 User's Manual</b> - Describes the GT11 hardware-relevant contents, including the specifications, part names, mounting, power supply wiring, external dimensions, and option devices. - Describes the GT11 functions, including the utility. (Sold separately)	JY997D17501 (09R815)
<b>GT10 User's Manual</b> - Describes the GT10 hardware-relevant contents, including the specifications, part names, mounting, power supply wiring, external dimensions, and option devices. - Describes the GT10 functions, including the utility. (Sold separately)	JY997D24701 (09R819)
<b>Handy GOT User's Manual</b> - Describes the Handy GOT hardware-relevant contents, including the system configurations, specifications, part names, mounting, power supply wiring, external dimensions, and option devices. - Describes the Handy GOT functions, including the utility, and how to make cables. (Sold separately)	JY997D20101 (09R817)
<b>GT SoftGOT1000 Version2 Operating Manual</b> Describes the screen configuration, functions and using method of GT SoftGOT1000. (Sold separately)	SH-080602ENG (1D7M48)
<b>GT Designer2 Version2 Basic Operation/Data Transfer Manual (For GOT1000 Series)</b> Describes methods of the GT Designer2 installation operation, basic operation for drawing and transmitting data to GOT1000 series (Sold separately)	SH-080529ENG (1D7M24)
<b>GT Designer2 Version2 Screen Design Manual (For GOT1000 Series) (1/3, 2/3, 3/3)</b> Describes specifications and settings of each object function applicable to GOT1000 series. (Sold separately)	SH-080530ENG (1D7M25)
<b>GOT1000 Series Gateway Functions Manual</b> Describes specifications, system configurations and setting method of the gateway function. (Sold separately)	SH-080545ENG (1D7M33)
<b>GOT1000 Series MES Interface Function Manual</b> Describes the specifications, system configurations, and setting method of GT MES interface function. (Sold separately)	SH-080654ENG (1D7M63)

## ABBREVIATIONS AND GENERIC TERMS

Abbreviations and generic terms used in this manual are as follows:

### ■ GOT

Abbreviations and generic terms		Description
GOT1000 Series	GT SoftGOT1000	Abbreviation of GT SoftGOT1000
	GT1695    GT1695M-X	Abbreviation of GT1695M-XTBA, GT1695M-XTBD
	GT1685    GT1685M-S	Abbreviation of GT1685M-STBA, GT1685M-STBD
	GT16□□, GT16	Abbreviation of GT1695, GT1685
	GT1595    GT1595-X	Abbreviation of GT1595-XTBA, GT1595-XTBD
	GT1585	GT1585V-S    Abbreviation of GT1585V-STBA, GT1585V-STBD
		GT1585-S    Abbreviation of GT1585-STBA, GT1585-STBD
	GT157□	GT1575V-S    Abbreviation of GT1575V-STBA, GT1575V-STBD
		GT1575-S    Abbreviation of GT1575-STBA, GT1575-STBD
		GT1575-V    Abbreviation of GT1575-VTBA, GT1575-VTBD
		GT1575-VN    Abbreviation of GT1575-VNBA, GT1575-VNBD
		GT1572-VN    Abbreviation of GT1572-VNBA, GT1572-VNBD
	GT156□	GT1565-V    Abbreviation of GT1565-VTBA, GT1565-VTBD
		GT1562-VN    Abbreviation of GT1562-VNBA, GT1562-VNBD
	GT155□	GT1555-V    Abbreviation of GT1555-VTBD
		GT1555-Q    Abbreviation of GT1555-QTBD, GT1555-QSBD
		GT1550-Q    Abbreviation of GT1550-QLBD
	GT15□□, GT15	Abbreviation of GT1595, GT1585, GT157□, GT156□, GT155□
	GT115□	GT1155-Q    Abbreviation of GT1155-QTBDQ, GT1155-QSBDQ, GT1155-QTBDA, GT1155-QSBDA, GT1155-QTBD, GT1155-QSBD
		GT1150-Q    Abbreviation of GT1150-QLBDQ, GT1150-QLBDA, GT1150-QLBD
	Handy GOT	GT1155HS-Q    Abbreviation of GT1155HS-QSBD
		GT1150HS-Q    Abbreviation of GT1150HS-QLBD
	GT11□□, GT11	Abbreviation of GT115□, GT11 Handy GOT
	GT105□	GT1055-Q    Abbreviation of GT1055-QSBD
		GT1050-Q    Abbreviation of GT1050-QBBD
	GT1030	Abbreviation of GT1030-LBD, GT1030-LBD2, GT1030-LBDW, GT1030-LBDW2
	GT1020	Abbreviation of GT1020-LBD, GT1020-LBD2, GT1020-LBL, GT1020-LBDW, GT1020-LBDW2, GT1020-LBLW
	GT10□□, GT10	Abbreviation of GT105□, GT1030, GT1020
GOT900 Series		Abbreviation of GOT-A900 series, GOT-F900 series
GOT800 Series		Abbreviation of GOT-800 series

## ■ Communication unit

Abbreviations and generic terms	Description			
Bus connection unit	GT15-QBUS, GT15-75QBUSL,	GT15-QBUS2, GT15-75QBUS2L,	GT15-ABUS, GT15-75ABUSL,	GT15-ABUS2, GT15-75ABUS2L
Serial communication unit	GT15-RS2-9P,	GT15-RS4-9S,	GT15-RS4-TE	
RS-422 conversion unit	GT15-RS2T4-9P,	GT15-RS2T4-25P		
Ethernet communication unit	GT15-J71E71-100			
MELSECNET/H communication unit	GT15-J71LP23-25,	GT15-J71BR13		
MELSECNET/10 communication unit	GT15-75J71LP23-Z <sup>*1</sup> , GT15-75J71BR13-Z <sup>*2</sup>			
CC-Link IE controller network communication unit	GT15-J71GP23-SX			
CC-Link communication unit	GT15-J61BT13,	GT15-75J61BT13-Z <sup>*3</sup>		
Interface converter unit	GT15-75IF900			

\*1 A9GT-QJ71LP23 + GT15-75IF900 set

\*2 A9GT-QJ71BR13 + GT15-75IF900 set

\*3 A8GT-J61BT13 + GT15-75IF900 set

## ■ Option unit

Abbreviations and generic terms		Description	
Printer unit		GT15-PRN	
Video/RGB unit	Video input unit	GT16M-V4,	GT15V-75V4
	RGB input unit	GT16M-R2,	GT15V-75R1
	Video/RGB input unit	GT16M-V4R1,	GT15V-75V4R1
	RGB output unit	GT16M-ROUT,	GT15V-75ROUT
Multimedia unit		GT16M-MMR	
CF card unit		GT15-CFCD	
CF card extension unit <sup>*1</sup>		GT15-CFEX-C08SET	
External I/O unit		GT15-DIO,	GT15-DIOR
Sound output unit		GT15-SOUT	

\*1 GT15-CFEX + GT15-CFEXIF + GT15-C08CF set.

## ■ Option

Abbreviations and generic terms		Description			
Memory card	CF card	GT05-MEM-16MC, GT05-MEM-256MC	GT05-MEM-32MC,	GT05-MEM-64MC,	GT05-MEM-128MC,
Memory card adaptor		GT05-MEM-ADPC			
Option function board		GT16-MESB, GT15-QFNB32M,	GT15-FNB, GT15-QFNB48M,	GT15-QFNB, GT15-MESB48M,	GT15-QFNB16M, GT11-50FNB
Battery		GT15-BAT,	GT11-50BAT		
Protective Sheet		GT16-90PSCB,	GT16-90PSGB,	GT16-90PSCW,	GT16-90PSGW,
		GT16-80PSCB,	GT16-80PSGB,	GT16-80PSCW,	GT16-80PSGW,
		GT15-90PSCB,	GT15-90PSGB,	GT15-90PSCW,	GT15-90PSGW,
		GT15-80PSCB,	GT15-80PSGB,	GT15-80PSCW,	GT15-80PSGW,
		GT15-70PSCB,	GT15-70PSGB,	GT15-70PSCW,	GT15-70PSGW,
		GT15-60PSCB,	GT15-60PSGB,	GT15-60PSCW,	GT15-60PSGW,
		GT15-50PSCB,	GT15-50PSGB,	GT15-50PSCW,	GT15-50PSGW,
		GT11-50PSCB,	GT11-50PSGB,	GT11-50PSCW,	GT11-50PSGW,
		GT11H-50PSC,			
		GT10-50PSCB,	GT10-50PSGB,	GT10-50PSCW,	GT10-50PSGW,
Protective cover for oil		GT05-90PCO, GT05-50PCO	GT05-80PCO,	GT05-70PCO,	GT05-60PCO,
USB environmental protection cover		GT16-UCOV,	GT15-UCOV,	GT11-50UCOV	
Stand		GT15-90STAND, GT05-50STAND	GT15-80STAND,	GT15-70STAND,	A9GT-50STAND,
Attachment		GT15-70ATT-98, GT15-60ATT-87,	GT15-70ATT-87, GT15-60ATT-77,	GT15-60ATT-97, GT15-50ATT-95W,	GT15-60ATT-96, GT15-50ATT-85
Backlight		GT16-90XLTT, GT15-70SLTT, GT15-60VLTN	GT16-80SLTT, GT15-70VLTT,	GT15-90XLTT, GT15-70VLTN,	GT15-80SLTT, GT15-60VLTT,
Multi-color display board		GT15-XHNB,	GT15-VHNB		
Connector conversion box		GT11H-CNB-37S			
Emergency stop sw guard cover		GT11H-50ESCOV			
Memory loader		GT10-LDR			
Memory board		GT10-50FMB			

## ■ Software

Abbreviations and generic terms	Description
GT Works2 Version□	SW□D5C-GTWK2-E, SW□D5C-GTWK2-EV
GT Designer2 Version□	SW□D5C-GTD2-E, SW□D5C-GTD2-EV
GT Designer2	Abbreviation of screen drawing software GT Designer2 for GOT1000/GOT900 series
GT Converter2	Abbreviation of data conversion software GT Converter2 for GOT1000/GOT900 series
GT Simulator2	Abbreviation of screen simulator GT Simulator 2 for GOT1000 / GOT900 series
GT SoftGOT1000	Abbreviation of monitoring software GT SoftGOT1000
GT SoftGOT2	Abbreviation of monitoring software GT SoftGOT2
GX Developer	Abbreviation of SW□D5C-GPPW-E(-EV)/SW□D5F-GPPW-E type software package
GX Simulator	Abbreviation of SW□D5C-LLT-E(-EV) type ladder logic test tool function software packages (SW5D5C-LLT (-EV) or later versions)
Document Converter	Abbreviation of document data conversion software Document Converter for GOT1000 series
PX Developer	Abbreviation of SW□D5C-FBDQ-E type FBD software package for process control

## ■ License key (for GT SoftGOT1000)

Abbreviations and generic terms	Description
License	GT15-SGTKEY-U, GT15-SGTKEY-P

## ■ License key (for GT SoftGOT2)

Abbreviations and generic terms	Description
License key	A9GTSOFT-LKEY-P (For DOS/V PC)
License key FD	SW5D5F-SGLKEY-J (For PC CPU module)

## ■ Others

Abbreviations and generic terms		Description
OMRON PLC		Abbreviation of PLC manufactured by OMRON Corporation
KEYENCE PLC		Abbreviation of PLC manufactured by KEYENCE CORPORATION
KOYO EI PLC		Abbreviation of PLC manufactured by KOYO ELECTRONICS INDUSTRIES CO., LTD.
SHARP PLC		Abbreviation of PLC manufactured by Sharp Corporation
JTEKT PLC		Abbreviation of PLC manufactured by JTEKT Corporation
TOSHIBA PLC		Abbreviation of PLC manufactured by TOSHIBA CORPORATION
TOSHIBA MACHINE PLC		Abbreviation of PLC manufactured by TOSHIBA MACHINE CO., LTD.
HITACHI IES PLC		Abbreviation of PLC manufactured by Hitachi Industrial Equipment Systems Co., Ltd.
HITACHI PLC		Abbreviation of PLC manufactured by Hitachi, Ltd.
FUJI FA PLC		Abbreviation of PLC manufactured by Fuji Electric FA Components & Systems Co., Ltd.
MATSUSHITA PLC		Abbreviation of PLC manufactured by Matsushita Electric Works, Ltd.
YASKAWA PLC		Abbreviation of PLC manufactured by YASKAWA Electric Corporation
YOKOGAWA PLC		Abbreviation of PLC manufactured by Yokogawa Electric Corporation
ALLEN-BRADLEY PLC		Abbreviation of Allen-Bradley PLC manufactured by Rockwell Automation, Inc.
GE FANUC PLC		Abbreviation of PLC manufactured by GE Fanuc Automation Corporation
LS IS PLC		Abbreviation of PLC manufactured by LS Industrial Systems Co., Ltd.
SCHNEIDER PLC		Abbreviation of PLC manufactured by Schneider Electric SA
SIEMENS PLC		Abbreviation of PLC manufactured by Siemens AG
Temperature controller	OMRON temperature controller	Abbreviation of temperature controller manufactured by OMRON Corporation
	SHINKO indicating controller	Abbreviation of temperature controller manufactured by Shinko Technos Co., Ltd.
	CHINO controller	Abbreviation of temperature controller manufactured by CHINO CORPORATION
	FUJI SYS temperature controller	Abbreviation of temperature controller manufactured by Fuji Electric Systems Co., Ltd.
	YAMATAKE temperature controller	Abbreviation of temperature controller manufactured by Yamatake Corporation
	YOKOGAWA temperature controller	Abbreviation of temperature controller manufactured by Yokogawa Electric Corporation
	RKC temperature controller	Abbreviation of temperature controller manufactured by RKC INSTRUMENT INC.
PC CPU module		Abbreviation of PC CPU Unit manufactured by CONTEC CO., LTD
GOT (server)		Abbreviation of GOTs that use the server function
GOT (client)		Abbreviation of GOTs that use the client function
Windows® font		Abbreviation of TrueType font and OpenType font available for Windows® (Differs from the True Type fonts settable with GT Designer2)
Intelligent function module		Indicates the modules other than the PLC CPU, power supply module and I/O module that are mounted to the base unit.
MODBUS® /TCP		Generic term for the protocol designed to use MODBUS® protocol messages on a TCP/IP network.





# MEMO

[illegible]

# OVERVIEW

---

This manual describes the specifications, system configuration, setting method, connection cables, and others for connecting the GOT to the FXCPU via the Ethernet connection.

For applying the setting examples in this manual to the actual system, make sure that the target system has no troubles on the control.

## 1.1 Ethernet Connection with FXCPU . . . . . page 1-4


This section describes the connections and functions supported by GOT1000 series.

Check the overview and others of the connection type in this section.



Devices and access range applicable to FXCPU

For details on devices and access range applicable to the FXCPU, refer to the following manual.

 GT Designer2 Version □ Screen Design Manual  
(2.9.2 Device range available for GOT1000 series)

## 1 Relevant Manuals

The following manuals are available for GOT1000 series.








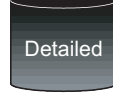
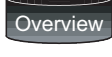
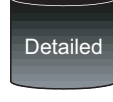

Refer to each manual suitable for the intended purpose.

The following manuals describe that the GOT cannot connect to the FXCPU (FX3U) via the Ethernet connection because the manuals are written for commercially available products.

For referring to each manual, read the manuals so that the GOT can connect to the FXCPU (FX3U) via the Ethernet connection.

### (1) Installing software → Drawing → Data transfer







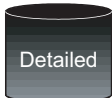


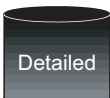
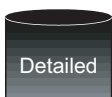
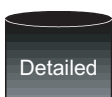
For operations from creating project data to transferring data to GOT, refer to the following manuals.

		
Purpose	GT Designer2 Version <input type="checkbox"/> Basic Operation/ Data Transfer Manual*1	GT Designer2 Version <input type="checkbox"/> Screen Design Manual*1
Installing product on personal computer		
Creating projects		
Creating screens		
Drawing figures		
Making common settings		
Placing/setting objects		
Transferring data to GOT		

\*1 GT Works2 and GT Designer2 include the manual in PDF format.

## (2) Installing a GOT → Connecting with a PLC

For the operations from installing a GOT to communicating with a PLC CPU, refer to the following manuals.

	 (Included)		
Purpose	GT16 General Description GT15 General Description GT11 General Description	GT16 User's Manual GT15 User's Manual GT11 User's Manual	GOT1000 Series Connection Manual
Confirming part names and specifications of the GOT			
Confirming the GOT installation method			
Confirming the mounting method for communication units or option devices			
Confirming the PLC connection method			
Confirming the utility operation method			
Confirming error codes (system alarm) displayed on GOT			

## (3) Other manuals

The following manuals are also available.

The following manuals are stored in the GT Works2/GT Designer2 in PDF format.

- (a) GOT1000 Series Extended/Option Functions Manual  
Describes how to use the ladder monitoring function, system monitor function and list editor for A/F, network monitor function, Q motion monitor function, servo amplifier monitor function, CNC monitor function, intelligent module monitor function.
- (b) GOT1000 Series Gateway Functions Manual  
Describes how to use the gateway function.
- (c) GT Simulator2 Version □ Operating Manual  
Describes how to simulate the created project data with the GT Simulator2.
- (d) GT Converter2 Version □ Operating Manual  
Describes how to use the GT Converter2.
- (e) GOT1000 Series MES Interface Function Manual  
Describes how to use the MES Interface Function.

## 1.1 Ethernet Connection with FXCPU

---

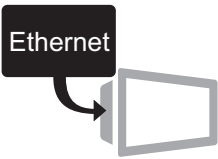
### 1 Ethernet connection with FXCPU

The GOT can monitor devices of the FXCPU via the Ethernet connection (TCP/IP communication). The user can create a network with commercially-available products, including hubs and cables.


### 2 System configuration for Ethernet connection

The following shows the system configuration.

#### (1) GT16

Connection Type	Communication interface on GOT	Connection target
Ethernet	Built in GT16 body 	<ul style="list-style-type: none"><li>• FX3U</li></ul>

#### (2) GT15

Connection Type	Communication interface on GOT	Connection target
Ethernet	Ethernet communication unit • GT15-J71E71-100 	<ul style="list-style-type: none"><li>• FX3U</li></ul>

# ETHERNET CONNECTION WITH FXCPU



## 2.1 System Configuration . . . . . page 2-2

This section describes devices and cables required for the Ethernet connection.

Select a system suitable for the application.

## 2.2 Preparatory Procedures for Monitoring . . . . . . . . . page 2-4

This section describes the procedures before monitoring via the Ethernet connection.

The procedures are written in order so that even GOT beginners can follow the procedures for communications with the GOT.

## 2.3 Programmable Controller Settings . . . . . . . . . . page 2-23

This section describes the programmable controller settings for connecting to the GOT.

For checking the programmable controller settings, refer to this section.

## 2.4 Precautions . . . . . page 2-29

This section describes the precautions for the Ethernet connection.

Be sure to refer this section before establishing the Ethernet connection.

## 2.5 List of Functions Added by Version Upgrade . . . . . . . . . . page 2-30

This section describes the functions added by version upgrade of GT Designer2 or OS.

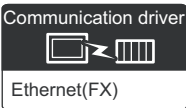
# 2.1 System Configuration

Select a system configuration suitable for the application.



Conventions used in this section

Numbers (e.g. 1) of 1 System configuration and connection conditions correspond to the numbers (e.g. 1) of 2 System equipment.  
Refer to the numbers for checking models and applications.



## 2.1.1 Connecting to FXCPU (FX3U)

### 1 System configuration and connection conditions

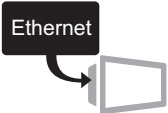

Connection conditions		System configuration
Number of GOTs	Distance	
TCP: 4	100m or less*3	

- \*1 Connect the GOT to the Ethernet module via a hub.  
Use cables, connectors, and hubs that meet the IEEE802.3 10BASE-T/100BASE-TX standard.
- \*2 When connecting GT16 to an equipment that meets the 10BASE (-T/2/5) standard, use the switching hub and operate in an environment where 10Mbps and 100Mbps can be mixed.
- \*3 Length between a hub and a node




## 2 System equipment

### (1) GOT

Image	No.	Name	Model name	Model
	1	Ethernet interface • For Ethernet communication	- (Built into GOT)	GT 16
		Ethernet communication unit • For Ethernet communication	GT15-J71E71-100	GT 15

### (2) Programmable controller


Image	No.	Name	Model
	2	Ethernet module *1 *2	FX3U-ENET

\*1 For the system configuration of the Ethernet module, refer to the following manual.


 FX3U-ENET USER'S MANUAL

\*2 Select [FX] for [Type] in [Ethernet] of GT Designer2.

For [Ethernet] of GT Designer2, refer to the following.

 Section 2.2.3 Setting communication interface (Communication settings)

### (3) Cable

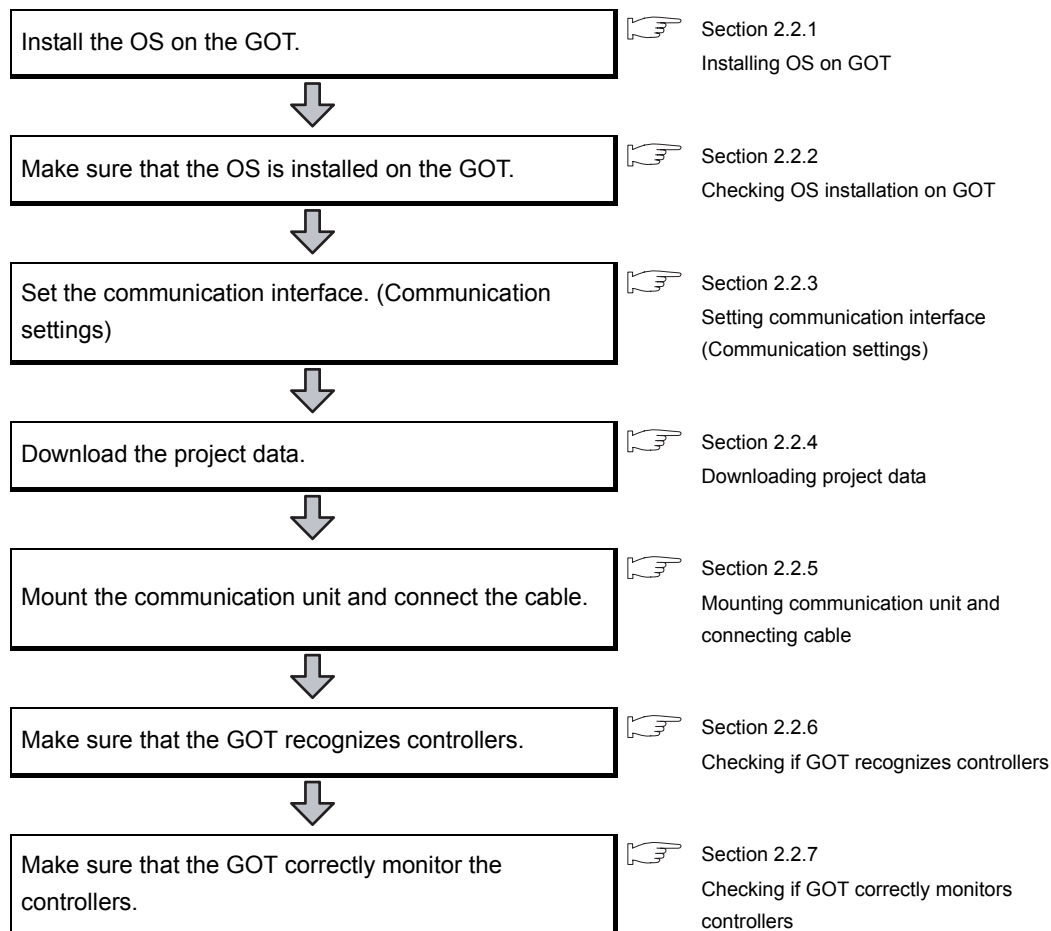
Image	No.	Name	Model
	3	Twisted pair cable *3	Shielded twisted pair cable (STP)

\*3 Use the straight cable.

## 2.2 Preparatory Procedures for Monitoring

---

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



### Checking programmable controller settings

This section describes GOT settings.

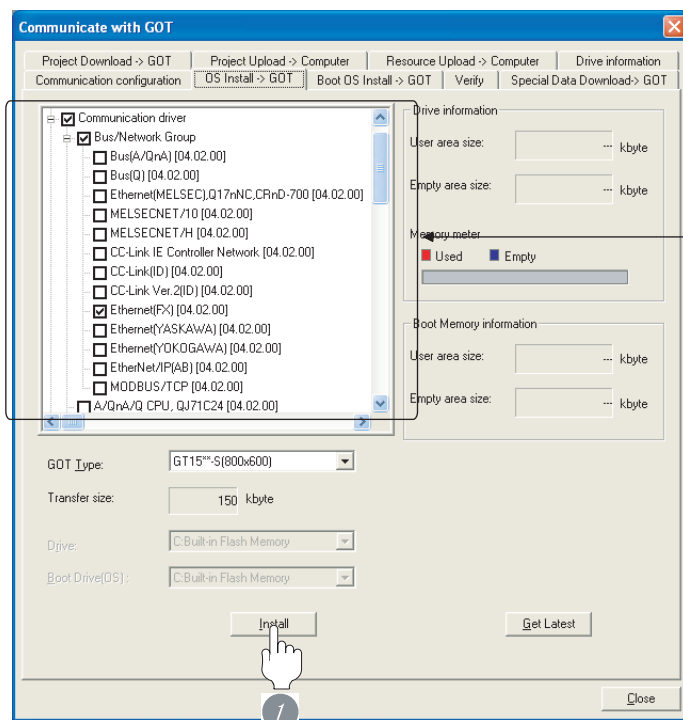
For checking programmable controller settings, refer to the following.

Section 2.3 Programmable Controller Settings

## 2.2.1 Installing OS on GOT

Install the standard monitor OS, communication driver, and option OS on the GOT.  
For how to install the OS, refer to the following manual.

 GT Designer2 Version □ Basic Operation/Data Transfer Manual




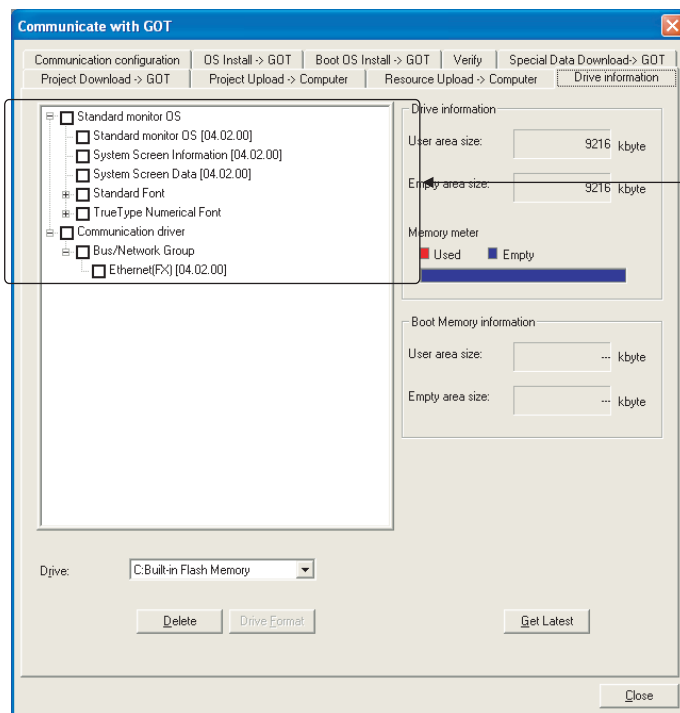
Check the following in the communication driver.  
• Ethernet(FX)

- 1 Check the standard monitor OS, communication driver, option OS, and extended function OS, and then click the **Install** button.

## 2.2.2 Checking OS installation on GOT

Check if the OS is correctly installed on the GOT with the Drive information tab of GT Designer2.  
For the operations on the Drive information tab, refer to the following manual.

 GT Designer2 Version □ Basic Operation/Data Transfer Manual




The OS is correctly installed on the GOT when the following can be checked.

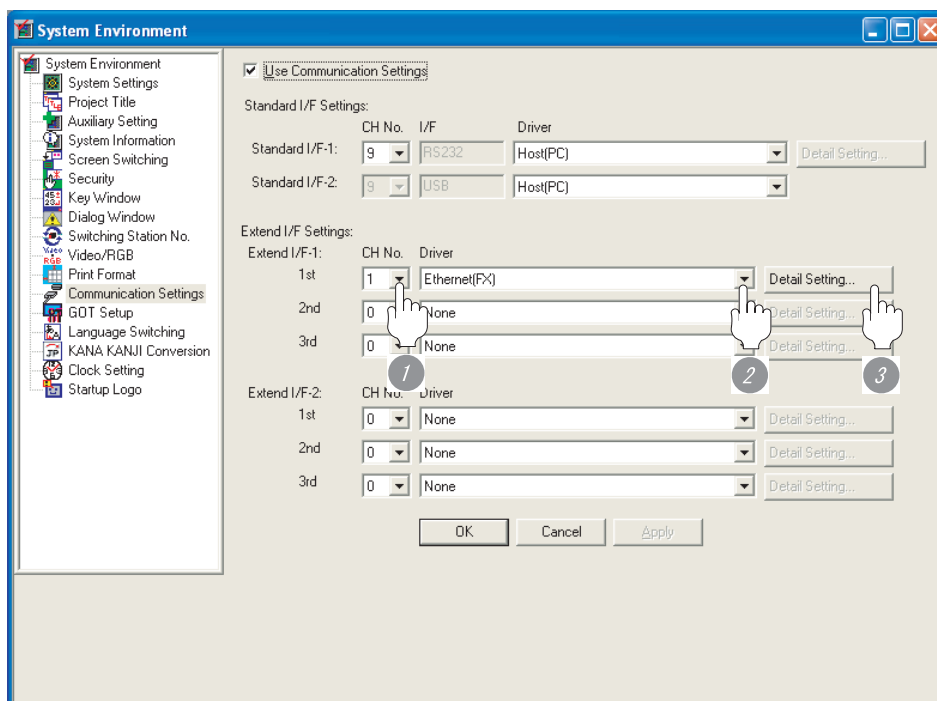
- 1) Standard monitor OS
- 2) Communication driver: Ethernet(FX)

## 2.2.3 Setting communication interface (Communication settings)


Set the GOT communication interface with [Communication Settings] and [Ethernet] of GT Designer2. Select the communication driver installed on the GOT for drivers to be set for each communication interface. For details on [Communication Settings] and [Ethernet] of GT Designer2, refer to the following manual.

 GT Designer2 Version ☐ Screen Design Manual

### 1 Communication settings



(When using GT15)

- 1 Set the channel No. to [1].
- 2 Set the driver to [Ethernet(FX)].
- 3 Set the detailed settings for the driver. ( 2 Communication detail settings)

## 2 Communication detail settings

### (1) GT16

The screenshot shows the 'Communication Detail Settings' window. It contains the following fields and values:

- Driver: Ethernet(FX)
- GOT NET No.: 1
- GOT PLC No.: 1
- GOT IP Address: 192.168.3.18
- IP Label: (empty)
- Ethernet Download Port No.: 5014
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- GOT Port No.: 5019
- Communication: 5019
- Retry: 3 (Times)
- Startup Time: 3 (Sec)
- Timeout Time: 3 (Sec)
- Delay Time: 0 (x 10 ms)
- 32bit Storage: (empty)

Item	Description	Range
GOT NET No.	Set the network No. of the GOT. <Default: 1>	1 to 239
GOT PLC No.	Set the station No. of the GOT. <Default: 1>	1 to 64
GOT IP Address* <sup>1</sup>	Set the IP address of the GOT. <Default: 192.168.3.18>	0.0.0.0 to 255.255.255.255
Ethernet Download Port No.* <sup>1</sup>	Set the GOT port No. for Ethernet download. <Default: 5014>	1024 to 5010, 5014 to 65534 (Except for 5011, 5012 and 5013)
Subnet Mask* <sup>1</sup>	Set the subnet mask for the sub network. (Only for connection via router) If the sub network is not used, the default value is set. <Default: 255.255.255.0>	0.0.0.0 to 255.255.255.255
Default Gateway* <sup>1</sup>	Set the router address of the default gateway where the GOT is connected. (Only for communication via router) <Default: 0.0.0.0>	0.0.0.0 to 255.255.255.255
GOT Port No. (Communication)	Set the GOT port No. for the connection with the Ethernet module. <Default: 5001>	1024 to 5010, 5014 to 65534 (Except for 5011, 5012 and 5013)
Retry	Set the number of retries to be performed when a communication error occurs. When receiving no response after retries, the communication times out. <Default: 3 Times>	0 to 5 Times
Startup Time	Specify the time period from the GOT startup until GOT starts the communication with the PLC CPU. <Default: 3 Sec>	3 to 255 Sec
Timeout Time	Set the time period for a communication to time out. <Default: 3 Sec>	3 to 90 Sec
Delay Time	Set the delay time for reducing the load of the network/destination PLC. <Default: 0ms>	0 to 10000 (x 10 ms)

- \*1 Click the [Setting] button and perform the setting in the [GOT IP Address Setting] screen.

The screenshot shows a Windows-style dialog box titled "GOT IP Address Setting". Inside the dialog, there is a message at the top: "This setting is shared by other items of Ethernet Driver." Below this, there are several input fields: "GOT IP Address:" with the value "192.168.3.18", a "Select from IP Label:" dropdown menu, and a "List..." button. Below these, there are three more input fields: "Ethernet Download Port No.:" with the value "5014", "Subnet Mask:" with the value "255.255.255.0", and "Default Gateway:" with the value "0.0.0.0". At the bottom of the dialog are "OK" and "Cancel" buttons.

## (2) GT15


Item	Description	Range
GOT NET No.	Set the network No. of the GOT. <Default: 1>	1 to 239
GOT PLC No.	Set the station No. of the GOT. <Default: 1>	1 to 64
GOT IP Address	Set the IP address of the GOT. <Default: 192.168.0.18>	0.0.0.0 to 255.255.255.255
GOT Port No. (Communication)	Set the GOT port No. for the connection with the Ethernet module. <Default: 5019>	1024 to 5010, 5014 to 65534 (Except for 5011, 5012 and 5013)
GOT Port No. (Ethernet Download)	Set the GOT port No. for Ethernet download. <Default: 5014>	1024 to 5010, 5014 to 65534 (Except for 5011, 5012 and 5013)
Default Gateway	Set the router address of the default gateway where the GOT is connected. (Only for communication via router) <Default: 0.0.0.0>	0.0.0.0 to 255.255.255.255
Subnet Mask	Set the subnet mask for the sub network. (Only for connection via router) When the sub network is not used, the GOT operates with the default value. <Default: 255.255.255.0>	0.0.0.0 to 255.255.255.255
Retry	Set the number of retries when a communication error occurs. When the GOT receives no response from the programmable controller after retries, the communication times out. <Default: 3 Times>	0 to 5 Times
Startup Time	Specify the time from when the GOT starts until when the GOT starts communicating with the programmable controller CPU. <Default: 3 Sec>	3 to 255 Sec
Timeout Time	Set the time until the communication times out. <Default: 3 Sec>	3 to 90 Sec
Delay Time	Set the send delay time for reducing the load on the network or target programmable controller. <Default: 0ms>	0 to 10000 (x 10 ms)





## Examples of communication detail settings

For examples of communication detail settings, refer to the following.

 Section 2.3 Programmable Controller Settings

### 3 Ethernet settings

#### (1) Ethernet settings

Host	N/W No.	PLC No.	Type	IP address	Port No.	Communication
1	1	1	FX	1.1.1.1	5551	TCP

Item	Description	Range
Host	The host station is displayed. ( "*" is displayed for the host station.)	-
N/W No.	Set the network No. of the connected Ethernet module. <Default: blank>	1 to 239
PLC No.	Set the station No. of the connected Ethernet module. <Default: blank>	1 to 64
Type <sup>*1</sup>	Set the type of the connected Ethernet module. <FX (Fixed)>	FX (Fixed)
IP address	Set the IP address of the connected Ethernet module. <Default: blank>	0.0.0.0 to 255.255.255.255
Port No.	Set the port No. of the connected Ethernet module. <5551 (Fixed)>	5551 (Fixed)
Communication	TCP (Fixed)	TCP (Fixed)

\*1 Select [FX] for [Type].  
For the applicable Ethernet module, refer to the following.  
 Section 2.1 System Configuration



#### Examples of Ethernet settings

For examples of the Ethernet settings, refer to the following.

Section 2.3 Programmable Controller Settings



- (1) Communication interface settings with utility  
The communication interface setting can be changed on [Communication Setting] in the utility after downloading [Communication Settings] of the project data.  
For details on the utility, refer to the following manual.


 GT□ User's Manual

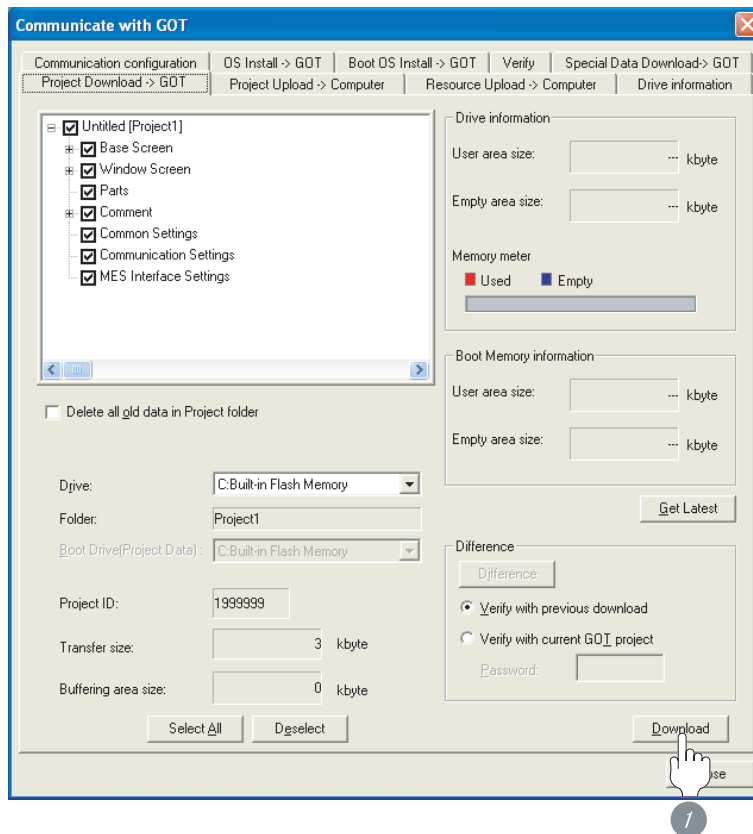
- (2) Precedence in communication settings  
When the communication settings are set with GT Designer2 or the utility, the GOT operates with the latest setting.

## 2.2.4 Downloading project data

Download the project data on the GOT.

For how to download the project data, refer to the following manual.

 GT Designer2 Version ☐ Basic Operation/Data Transfer Manual



- 1 Check items to be downloaded, and then click the **Download** button.

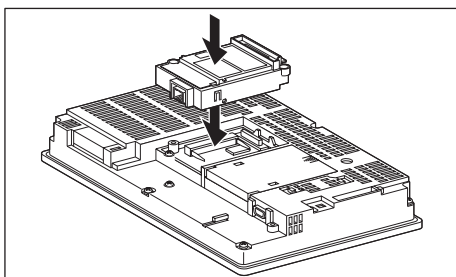
## 2.2.5 Mounting communication unit and connecting cable



### Precautions for mounting communication unit and connecting cable

Shut off all phases of the GOT power before mounting the communication unit and connecting the cable.

#### 1 Mounting communication unit



- 1 Mount the Ethernet communication unit on the extension unit connector of the GOT.



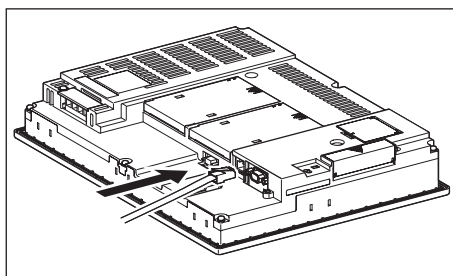
### Ethernet communication unit

For details on the Ethernet communication unit, refer to the following manual.

GT15 Ethernet Communication Unit User's Manual

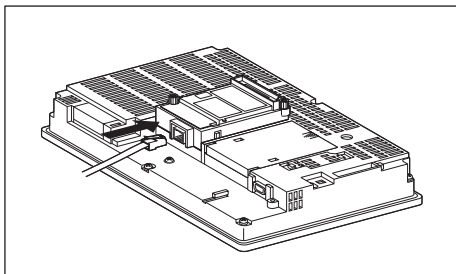
#### 2 Connecting cable

- (1) For GT16



- 1 Connect the twisted pair cable to the GOT Ethernet interface.

- (2) For GT15



- 1 Connect the twisted pair cable to the Ethernet communication unit.

## 2.2.6 Checking if GOT recognizes controllers

Check if the GOT recognizes controllers with [Communication Setting] of the utility.

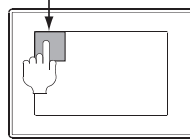
- Assignment status of the channel number and communication driver corresponding to the communication interface
- Communication unit installation status

### **Remark**

#### How to display utility (at factory default)

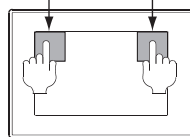
When using GT16 or GT1595

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

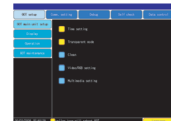


When using GT1585, GT157□, GT156□ or GT155□

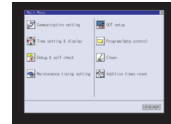
Utility call key  
Simultaneous 2-point press



Utility display  
(When using GT16)



(When using GT15)



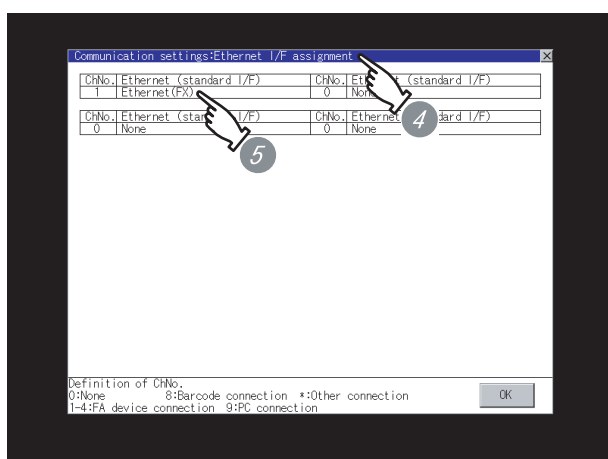
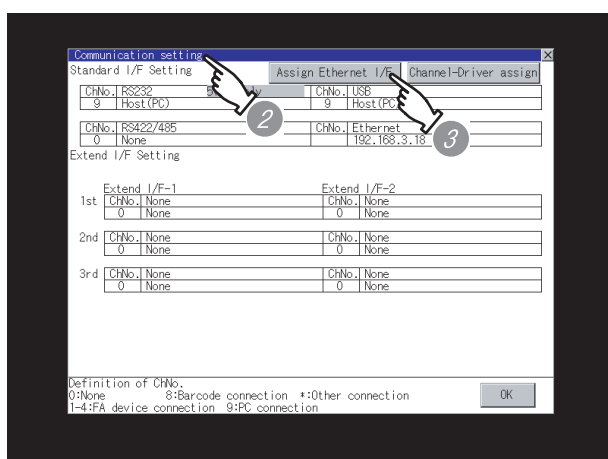
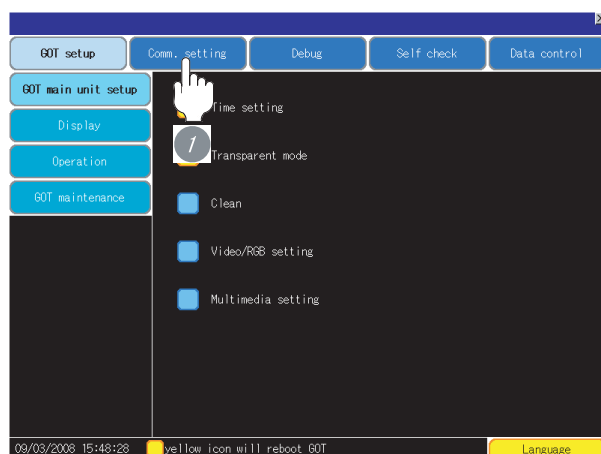
### **Point**

#### When setting utility call key to 1-point

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

➡ GT□ User's Manual

## (1) GT16



1 After powering up the GOT, touch [Main Menu] → [Comm. Setting] from the Utility.

2 The [Comm. Setting] appears.

3 Touch [Assign Ethernet I/F].

4 The [Assign Ethernet I/F] appears.

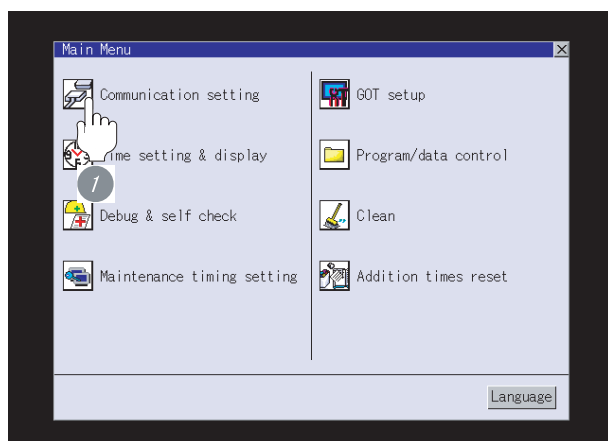
5 Verify that the following communication driver name is displayed in the box for the Ethernet interface to be used.

- Communication driver: Ethernet (FX)

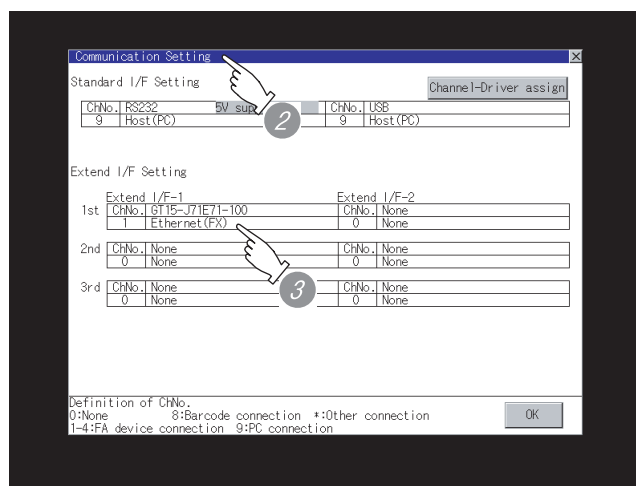
6 When the communication driver name is not displayed normally, carry out the following procedure again.

➡ Section 2.2 Preparatory Procedures for Monitoring

## (2) GT15



- 1 After turning on the GOT, touch [Main Menu] → [Communication Setting] from the utility.



- 2 The Communication Setting screen is displayed.
- 3 Check that the following communication driver name is displayed in the box for the communication interface to be used.
  - Communication driver: Ethernet (FX)
- 4 When the communication driver name is not correctly displayed, carry out the following procedure again.

➞ Section 2.2 Preparatory Procedures for Monitoring



When changing communication interface settings with utility

The communication interface settings can be changed with the utility.  
For details on the utility, refer to the following manual.

➞ GT □ User's Manual



## 2.2.7 Checking if GOT correctly monitors controllers

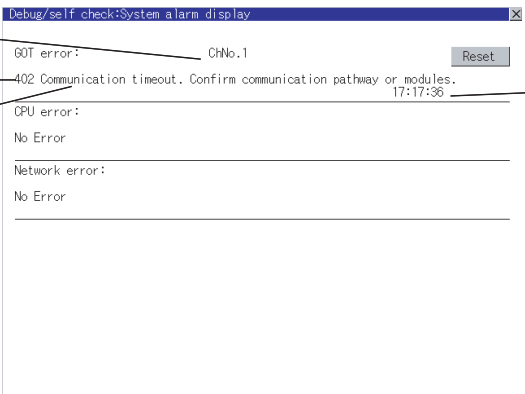
### 1 Checking errors on GOT

Errors occurred with the GOT, programmable controller CPU, servo amplifier, communications, and others can be checked with the utility of the GOT.

For how to use the utility of the GOT, refer to the following manual.

 GT □ User's Manual

(When using GT15)

Communication channel No. 

Error code

Error message

Time of occurrence  
(Applicable to only GOT errors)



GT 16 GT 15

#### Advanced alarm popup display

With the advanced 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).

Because comments can be flown from right to left, all comments can be displayed even though the comments are long.

For details of the advanced popup display, refer to the following manual.

 GT Designer2 Version □ Screen Design Manual

## 2 Checking communication state of GOT

### (1) When using Command Prompt of Windows®

Execute a Ping command with Command Prompt of Windows®.

#### (a) With normal communication

C:\>Ping 192.168.0.18

Reply from 192.168.0.18: bytes=32 time<1ms TTL=64

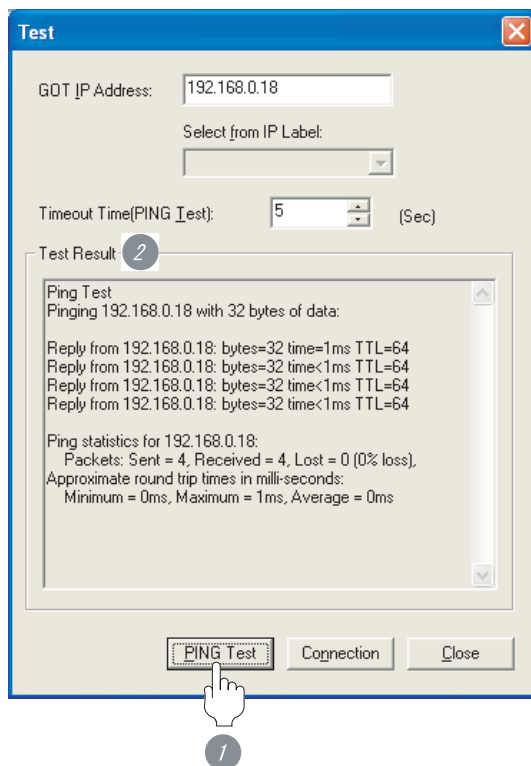
#### (b) With abnormal communication

C:\>Ping 192.168.0.18

Request timed out.

### (2) When using Ping test of GT Designer2

Select [Communication] → [Communication Configuration] → [Ethernet] → **Test** from the menu for using the Ping test.



1 Specify [GOT IP address] for the Ping test, and then click the **PING Test** button.

2 [Test Result] is displayed when the Ping test ends.

### (3) With abnormal communication

Check the following, and then execute the Ping command again.

- Mounting condition of Ethernet communication unit
- Cable connection condition
- Setting details of [Communication Settings]
- GOT IP address specified for the Ping command



#### Ethernet diagnostics function of FX Configurator-EN

With the Ethernet diagnostics function of FX Configurator-EN, the Ping test can be executed via the programmable controller.


For details on the Ethernet diagnostics function of FX Configurator-EN, refer to the following manual.



FX Configurator-EN OPERATION MANUAL

### 3 Checking programmable controller settings

For connecting the FXCPU to the GOT, programmable controller settings are required.  
Check if the programmable controller settings are correct.

 Section 2.3 Programmable Controller Settings

### 4 Checking communication state with each station (Station monitoring function)


The station monitoring function detects errors (communication timeout) of the stations monitored by the GOT. When errors are detected, the function enables the GOT to execute the Ping command on error stations and to check responses from the error stations.

The station monitoring state can be checked with GOT internal devices.

#### (1) Station monitoring state

##### (a) No. of faulty stations (GS230)

The total No. of the faulty CPUs is stored.

The station numbers of faulty stations can be checked with GS231. ( (b) Faulty station information (GS231))

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

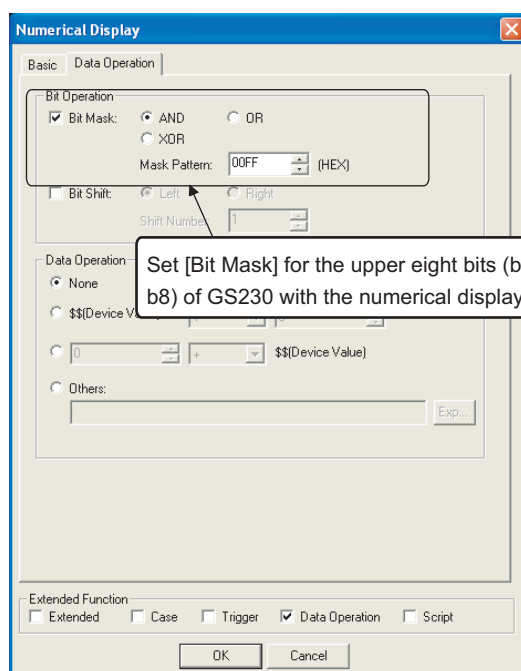


When monitoring GS230 with numerical display

Execute the mask processing of the data operation function as follows.  
For the data operation function, refer to the following manual.

 GT Designer2 Version□ Screen Design Manual

<Setting example of numerical display (Data Operation tab) >



(b) Faulty station information (GS231)

- The bit of the Ethernet setting No. corresponding to the faulty station turns on.  
0: Normal  
1: Abnormal
- When the error is recovered, the bit turns off.

GS231 bit 0 . . .  
GS231 bit 1 . . .  
GS231 bit 2 . . .  
GS231 bit 3 . . .

Ethernet

	Host	N/W No.	PLC No.	Type	IP address	Port No.	Communication
1	*	1	2	FX	192.168.0.19	5551	TCP
2		1	3	FX	192.168.0.20	5551	TCP
3		1	4	FX	192.168.0.21	5551	TCP
4		1	5	FX	192.168.0.22	5551	TCP

Add

Copy

Delete

Delete All

Set to Host

OK

Cancel

Device	Ethernet setting No.															
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
GS231	-	-	-	-	-	-	10	9	8	7	6	5	4	3	2	1

All settings related to communications are complete now.  
Create screens on GT Designer2 and download the project data again.

# 2.3 Programmable Controller Settings

This section describes the settings of the GOT and Ethernet module (FX<sub>3U</sub>-ENET) given for the system configuration shown at 1.

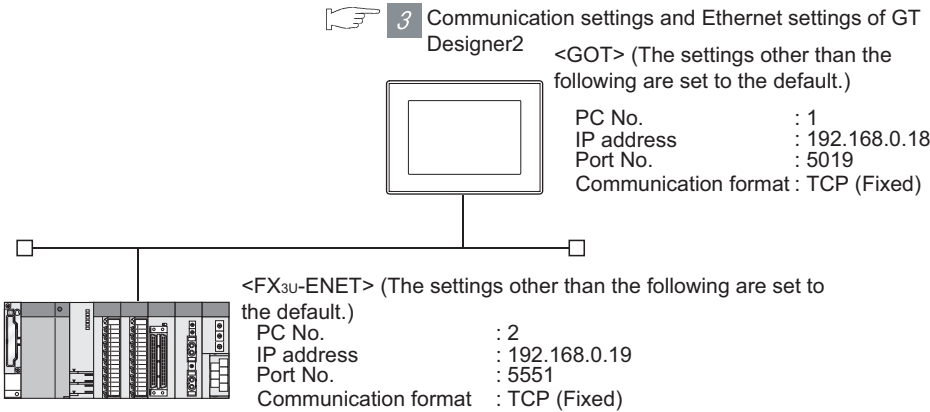


## Ethernet module (FX<sub>3U</sub>-ENET)

For details of the Ethernet module (FX<sub>3U</sub>-ENET), refer to the following manual.

FX<sub>3U</sub>-ENET USER'S MANUAL

## 1 System configuration




## 2 Ethernet parameter settings of FX Configurator-EN

## 2 Ethernet parameter settings of FX Configurator-EN

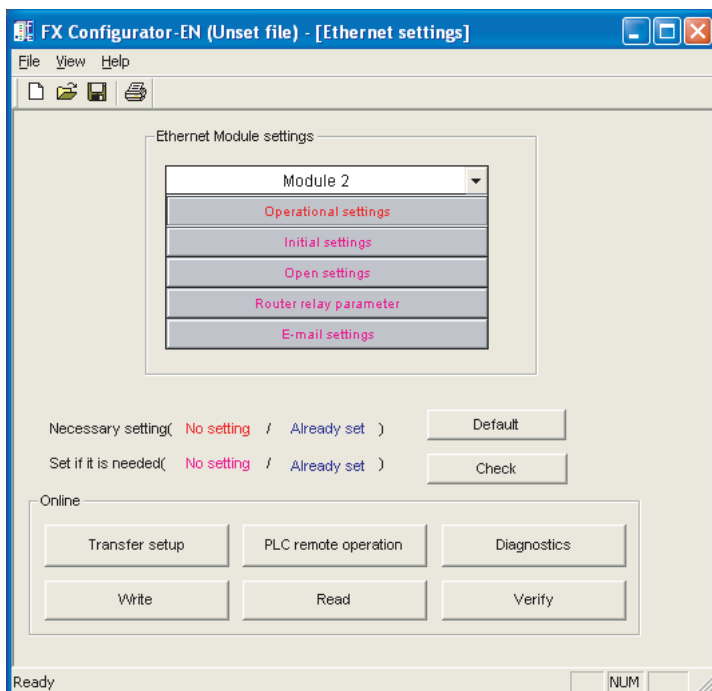
Set the Ethernet parameter with FX Configurator-EN.

For using FX Configurator-EN, install GX Developer Ver. 8.25B or later on the personal computer.

For details on FX Configurator-EN, refer to the following manual.

 FX Configurator-EN USER'S MANUAL

### (1) Ethernet settings

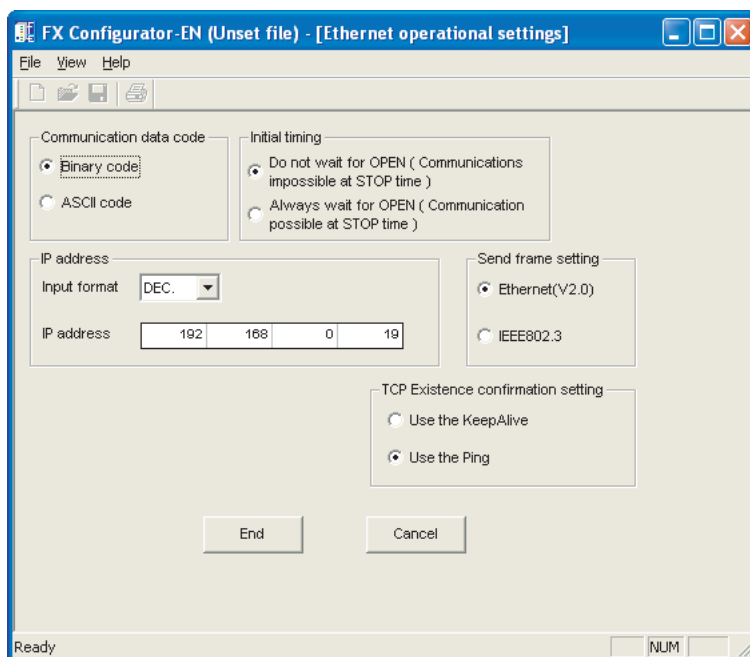


Item	Setting	Setting (with GOT connected)
Module*1	Module 2	○
Operational settings	Refer to (2)	○
Initial settings	(Use default value.)	×
Open settings	Refer to (3)	○
Router relay parameter	(Use default value.)	×
E-mail settings		×

○ : Required △ : Set if necessary × : Not required

\*1 Set the station No. of the Ethernet module for Module.  
Do not set the same station No. as that of the GOT.

## (2) Operational settings



Item	Setting	Setting (with GOT connected)
Communication date code <sup>*1</sup>	(Use default value.)	×
IP address	192.168.0.19	○
Initial timing <sup>*1</sup>	(Use default value.)	×
Send frame setting		×
TCP Existence confirmation setting		×

○ : Required △ : Set if necessary × : Not required

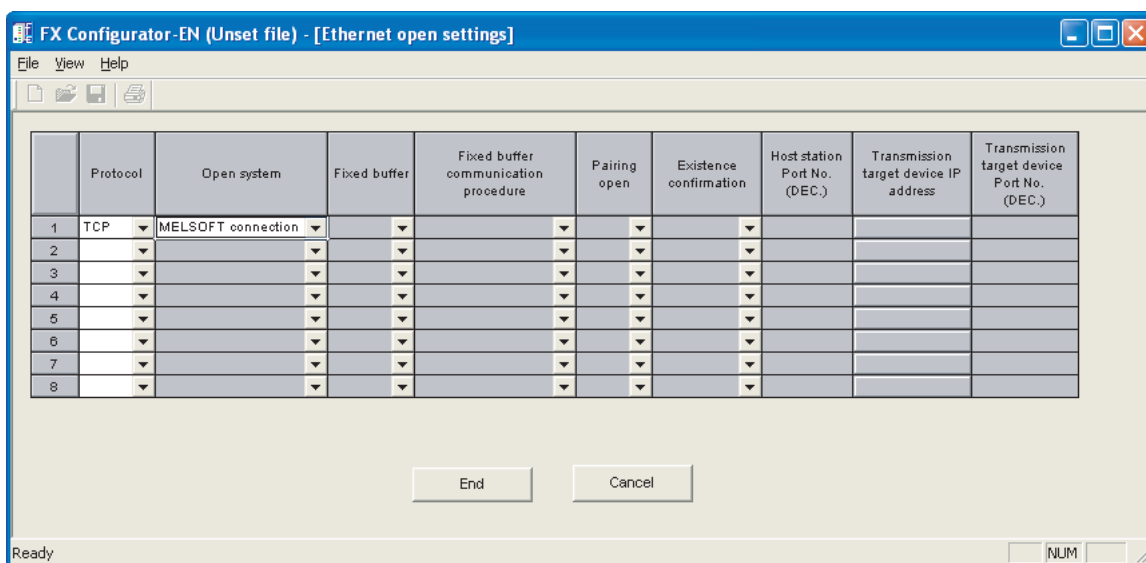
<sup>\*1</sup> Because the port No. 5551 is fixed, the GOT operates as follows, regardless of the setting for the item.

- Communication date code : [Binary code]
- Initial timing : [Always wait for OPEN] (Communications are enabled while the programmable controller CPU stops.)

**Point** When changing Ethernet parameter

After writing the Ethernet parameter to the programmable controller CPU, turn off and then on, or reset the programmable controller CPU.

### (3) Open settings

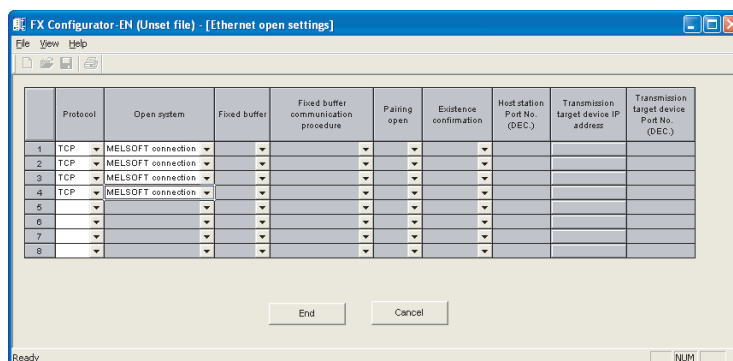


Item	Setting	Setting (with GOT connected)
Protocol	TCP	○
Open system	MELSOFT connection	○
Fixed buffer	(Use default value.)	×
Fixed buffer communication procedure		×
Pairing open		×
Existence confirmation		×
Host station Port No. (DEC.)		×
Transmission target device IP address		×
Transmission target device Port No. (DEC.)		×



When connecting to multiple GOTs and peripheral devices

The number of protocols equivalent to that of the GOTs and devices must be set.





### 3 Communication settings and Ethernet settings of GT Designer2

#### (1) Communication settings

Item	Setting (Use default value.)
GOT NET No.	1
GOT PLC No.	1
GOT IP Address	192.168.0.18
GOT Port No. (Communication)	5019
GOT Port No. (Ethernet Download)	5014
Default Gateway	0.0.0.0
Subnet Mask	255.255.255.0
Retry	3 [Times]
Startup Time	3 [Sec]
Timeout Time	3 [Sec]
Delay Time	0 [× 10 ms]

#### (2) Ethernet settings

Item		Setting
Ethernet setting No.1	Host	*
	N/W No.	1 (Use default value.)
	PLC No.	2
	Type	FX (Fixed)
	IP address	192.168.0.19
	Port No.	5551 (Fixed)
	Communication	TCP (Fixed)



#### Communication settings and Ethernet settings of GT Designer2

For how to set the communication settings and Ethernet settings of GT Designer2, refer to the following.

Section 2.2.3 Setting communication interface (Communication settings)

## 4 Checking communication state of Ethernet module

(1) When using Command Prompt of Windows®

Execute a Ping command with Command Prompt of Windows®.

(a) With normal communication

C:\>Ping 192.168.0.19

Reply from 192.168.0.19: bytes=32 time<1ms TTL=64

(b) With abnormal communication

C:\>Ping 192.168.0.19

Request timed out.

(2) With abnormal communication

Check the following, and then execute the Ping command again.

- Mounting condition of Ethernet communication unit
- Cable connection condition
- Ethernet parameter settings
- Operation state of the programmable controller CPU (Check if errors occur.)
- IP address of the Ethernet module specified for the Ping command



### Ethernet diagnostics function of FX Configurator-EN

With the Ethernet diagnostics function of FX Configurator-EN, the Ping test can be executed via the programmable controller.

For details on the Ethernet diagnostics function of FX Configurator-EN, refer to the following manual.



FX Configurator-EN OPERATION MANUAL

## 2.4 Precautions

### 1 When connecting to multiple GOTs

#### (1) Setting [PLC No.]

When the FXCPU is connected to multiple GOTs in the Ethernet network, set a different [PLC No.] for each GOT.

 Section 2.2.3 Setting communication interface (Communication settings)

#### (2) Setting IP address

Do not use the IP address "192.168.0.18" with multiple GOTs.

A communication error may occur on the GOT with the IP address.

### 2 When setting IP address

Do not use "0" and "255" at the end of an IP address.

(Numbers of \*.\*\*.0 and \*.\*\*.255 are used by the system.)

The GOT may not correctly monitor the controller with the above numbers.

Consult with the administrator of the network before setting IP addresses for the GOT and controller.

### 3 When connecting multiple network devices, including GOT, to the same segment

The network load may increase, and the communication speed may slow down between the GOT and a programmable controller.

The following actions may improve the communication performance.

- Use a switching hub.
- Use the high-speed 100BASE-TX (100Mbps).
- Reduce the GOT monitoring points.

### 4 GOT monitoring access range with ladder monitor function and FX list editor function

The GOT can access only the target CPU with the ladder monitor function and FX list editor function.

The GOT cannot monitor the other stations.

## 2.5 List of Functions Added by Version Upgrade

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The following describes the function added by version upgrade of GT Designer2 or OS.  
For using the function below, use the GT Designer2 or OS of the stated version or later.

Item	Description	Version of GT Designer2	Version of OS
Ethernet connection	Supporting the connection to GT16	2.90U	Communication driver Ethernet(FX) [04.02.**]

# **WARRANTY**

Please confirm the following product warranty details before using this product.

## **1. Gratis Warranty Term and Gratis Warranty Range**

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company. However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

### **[Gratis Warranty Term]**

The gratis warranty term of the product shall be for one year 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 eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

### **[Gratis Warranty Range]**

- (1) 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.
- (2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
  1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
  2. Failure caused by unapproved modifications, etc., to the product by the user.
  3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
  4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
  5. 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.
  6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
  7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

## **2. Onerous repair term after discontinuation of production**

- (1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
- (2) Product supply (including repair parts) is not available after production is discontinued.

## **3. Overseas service**

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

## **4. Exclusion of loss in opportunity and secondary loss from warranty liability**

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

## **5. Changes in product specifications**

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

## **6. Product application**

- (1) In using the Mitsubishi graphic operation terminal, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the graphic operation terminal device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.
- (2) The Mitsubishi graphic operation terminal has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or Public service purposes shall be excluded from the graphic operation terminal applications. In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation, equipment for recreation and amusement, and safety devices, shall also be excluded from the graphic operation terminal range of applications. However, in certain cases, some applications may be possible, providing the user consults their local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at the users discretion.

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GRAPHIC OPERATION TERMINAL

**GOT1000**

# GOT1000 Series Connection Manual

(Ethernet connection with FXCPU)

MODEL	GT1000-U(FX-CON)-E
MODEL CODE	1D7M73
SH(NA)-080719ENG-B(0810)MEE	

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