

MITSUBISHI ELECTRIC

GOT2000 Series Ethernet communication unit User's Manual

GT25-J71E71-100

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

Prior to use, please read both this manual and detailed manual thoroughly to fully understand the product.

MODEL	GT25-J71E71-U-JE
MODEL CODE	1D7MR6
IB(NA)-0800562-E(2107)MEE	

GOT2000

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SAFETY PRECAUTIONS

(Always read these precautions before using this equipment.)

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

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

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

Note that the CAUTION level may lead to a serious accident according to the circumstances. Always follow the precautions of both levels because they are important to personal safety. Please save this manual to make it accessible when required and always forward it to the end user.

DESIGN PRECAUTIONS

WARNING

- If a communication fails in data link, the faulty station holds the data link data generated before the communication error. Create an interlock circuit in the sequence program using the communication status information in order that the system will operate safely. Failure to do so may cause mis-outputs or malfunctions, resulting in accidents. Check the faulty station and the operation status during communication error by referring to the relevant manuals.
- Some failures of cable or the unit may cause the GOT to keep the outputs on or off. Create an external circuit for monitoring output signals that may lead to serious accidents. Failure to do so may cause mis-outputs or malfunctions, resulting in accidents.

DESIGN PRECAUTIONS

WARNING

- If a communication error (including cable disconnection) occurs during monitoring, the communication between the GOT and programmable controller CPU may be interrupted and the GOT may be inoperative. When configuring a system including the GOT, the possibility of GOT communication error must be considered; make sure the operation significant for the system will be performed by switches on devices other than the GOT. Failure to do so may cause mis-outputs or malfunctions, resulting in accidents.
- To maintain the security (confidentiality, integrity, and availability) of the GOT and the system against unauthorized access, DoS¹ 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.

CAUTION

- Do not bunch the control wires or cables with the main circuit or power wires, or lay them close to each other. As a guide, separate the lines by a distance of at least 100mm (3.94 inches) otherwise malfunctions may occur due to noise.

INSTALLATION PRECAUTIONS

WARNING

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing this unit from the GOT. Not doing so can cause a unit failure or malfunction.
- Before connecting the Bus connection cable to this unit, always shut off GOT power and PLC CPU power externally in all phases. Not doing so can cause a malfunction.

CAUTION

- Use this unit in the environment that satisfies the general specifications described in the User's Manual for the GOT used. Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- Do not drop the unit or subject it to string shock. A unit damage may result.
- When mounting this unit on the GOT, fit it to the connection interface of the GOT, and tighten the mounting screws in the specified torque range (0.36N·m to 0.48N·m) with a Phillips-head screwdriver No. 2. Undertightening can cause a drop, failure or malfunction. Overtightening can cause a drop, failure or malfunction due to screw or unit damage.

WIRING PRECAUTIONS

WARNING

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

CAUTION

- Use crimp-contact, pressure-displacement or soldering to wire the connectors for external connections properly using the manufacturer-specified tools. If the connection is incomplete, it may cause the module to short circuit, catch fire, or malfunction.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the unit. Not doing so can cause a fire, failure or malfunction.
- Make sure to securely connect the cable to the connector of unit. Incorrect connection may cause malfunctions.

STARTUP AND MAINTENANCE PRECAUTIONS

WARNING

- Before starting cleaning, always shut off GOT power externally in all phases. Not doing so can cause a unit failure or malfunction. Undertightening can cause the GOT to drop, short circuit or malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.
- Do not disassemble or modify the unit and the CF card. Doing so can cause a failure, malfunction, injury or fire.

CAUTION

- Do not touch the conductive areas and electronic parts of this unit directly. Doing so can cause a unit malfunction or failure.
- Always secure the cables connected to the unit, e.g. run them in conduits or clamp them. Not doing so can cause unit or cable damage due to dangling, moved or accidentally pulled cables or can cause a malfunction due to a cable contact fault.
- Do not hold the cable part when unplugging any cable connected to the unit. Doing so can cause unit or cable damage or a malfunction due to a cable contact fault.
- Always make sure to touch the grounded metal to discharge the electricity charged in the body, etc., before touching the unit. Failure to do so may cause a failure or malfunctions of the unit.

DISPOSAL PRECAUTIONS

CAUTION

- Dispose of this product as industrial waste.

TRANSPORTATION PRECAUTIONS

CAUTION

- 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 GOT2000 Series User's Manual (Hardware), 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.

Manual

The following shows manuals relevant to this product.

Manual name	Manual number (Model code)
GOT2000 Series User's Manual (Hardware) (Sold separately)	SH-081194ENG (1D7MJ5)
GT Designer3 (GOT2000) Screen Design Manual (Sold separately)	SH-081220ENG (1D7ML9)
GOT2000 Series Connection Manual (Mitsubishi Products) For GT Works3 Version1 (Sold separately)	SH-081197ENG (1D7MJ8)
GOT2000 Series Connection Manual (Non-Mitsubishi Products 1) For GT Works3 Version1	SH-081198ENG
GOT2000 Series Connection Manual (Non-Mitsubishi Products 2) For GT Works3 Version1	SH-081199ENG
GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1	SH-081200ENG

For detailed manuals or relevant manuals, refer to the e-Manual or the PDF manuals stored in the DVD-ROM for the drawing software used. The latest manuals are also available from MITSUBISHI ELECTRIC FA Global Website (www.MitsubishiElectric.com/fa).

Compliance with the EMC and Low Voltage Directives

To configure a system meeting the requirements of the EMC and Low Voltage Directives when incorporating the Mitsubishi GOT (EMC and Low Voltage Directives compliant) into other machinery or equipment, refer to "EMC AND LOW VOLTAGE DIRECTIVES" of the General Description included with the GOT used. The CE mark, indicating compliance with the EMC and Low Voltage Directives, is printed on the rating plate of the GOT.

Compliance with the new China RoHS directive

GOT 相关的基于“电器电子产品有害物质限制使用管理办法”要求的表示方法

Note: This symbol mark is for China only.

含有有害6物质的名称、含有量、含有部件
本产品中所含有的有害6物质的名称、含有量、含有部件如下表所示。

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
电路板组件	×	○	○	○	○	○
树脂壳体、电缆、线材	○	○	○	○	○	○
钣金部件、螺钉等金属部件	×	○	○	○	○	○

本表格依据 SJ/T11364 的规定编制。
○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T26572 规定的限量要求以下。
×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T26572 规定的限量要求。

Referenced Standard: GB/T15969.2 (Requirement of Chinese standardized law)

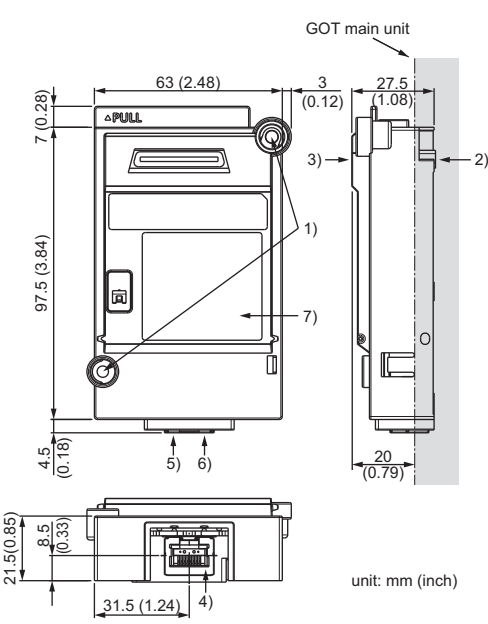
2.3 Specifications of the related devices

Use the connection cable and the hub which meet the IEEE802.3 10BASE-TX/10BASE-T standard.

Item	Specifications	
	100BASE-TX	10BASE-T
Cable	Category 5 or higher (shielded, STP) straight cable, category 5 or higher (shielded, STP) cross cable	Category 3 or higher (shielded, STP) straight cable, category 3 or higher (shielded, STP) cross cable
Connector	RJ45jack	RJ45jack
Hub	100Mbps hub	10Mbps hub

See the "List of valid devices applicable for GOT2000 series" (GOT-A-0064) for information about models whose operations have been confirmed. For technical documents, please contact your local Mitsubishi representative. When using any model not mentioned in the "List of valid devices applicable for GOT2000 series", the model may not work normally. If you need the Technical News, consult your local Mitsubishi representative or branch office.

3. PART NAMES AND EXTERNAL DIMENSIONS



No.	Name	Description
1)	Mounting screw	Mounting screws fixed with a front extension unit or GOT
2)	Interface connector	Extension connector installed to a front extension unit or the GOT
3)	Extension connector	Extension connector to which a back extension unit is installed
4)	Ethernet connector	Connector to which Ethernet cable is connected
5)	SPEED LED	ON : Communicating at 100 Mbps OFF: Communicating at 10 Mbps or disconnected
6)	SD/RD LED	ON : Data sent or received OFF: Data not sent or received
7)	Rating plate	-

4. INSTALLATION AND REMOVAL PROCEDURE

4.1 Installation

The following shows how to install the Ethernet communication unit on GT2712 as an example.

- Turn off the GOT.
- Pull up the hooks of the GOT extension unit cover to remove the cover.

- Mount the Ethernet communication unit on the extension interface of the GOT. Tighten two mounting screws (26 mm) with a torque of 0.36 N·m to 0.48 N·m to fix the unit.

- Attach the accessory stickers, or remove the stickers from the Ethernet communication unit as necessary. When connecting no extension unit to the extension connector: Leave the stickers on the Ethernet communication unit. Cover two mounting screws with the accessory stickers to avoid static electricity. When connecting an extension unit to the extension connector: Remove the stickers from the Ethernet communication unit, and connect the extension unit. The accessory stickers are not used.

4.2 Removal

Remove the Ethernet communication unit in the reverse of the installation procedure.

Point

- Grounding work for the 100BASE-TX and 10BASE-T requires appropriate safety measures. Consult professionals for work details including terminal of connection cables and other plant work such as laying of main cables.
- If you remove the Ethernet communication unit, detach it from specified direction (shown PULL) so as not to break a connector.

Ethernet is a registered trademark of Xerox Corporation in the United States. Other business or product names mentioned herein are a trademark or registered trademark of each company.

Packing List

After unpacking the box, check that the following products are included.

Model	Product	Quantity
GT25-J71E71-100	GOT2000 Series Ethernet communication unit	1
	Mounting screw set (2 screws (26 mm), 2 stickers)	1
	GOT2000 Series Ethernet communication unit User's Manual (This manual)	1

1. OVERVIEW

This user's manual describes the GOT2000 series Ethernet communication unit (hereinafter referred to as the Ethernet communication unit). The Ethernet communication unit is required for some operations with the GOT, such as the Ethernet connection and the gateway function. For the applicable GOTs, refer to the GOT2000 Series User's Manual (Hardware). To communicate with a PLC by using the Ethernet connection, configure the controller settings. For the controller settings, refer to the GT Designer3 (GOT2000) Screen Design Manual. For the details of the system configuration and communication driver for the Ethernet connection, refer to the relevant GOT2000 Series Connection Manual according to the controller used.

2. SPECIFICATIONS

2.1 Performance Specifications

The performance specifications of the Ethernet communication unit are indicated below. The general specifications of the Ethernet communication unit are the same as those of the GOT. Refer to GOT2000 Series User's Manual (Hardware) used for the general specifications of the GOT.

Item	Specification	
Transmission specifications	Data transfer method	100BASE-TX 10BASE-T
	Interface	RJ45 (AUTO MDI/MDI-X)
	Transmission method	Base band Base band
	Maximum node to mode distance	200m 200m
	Maximum segment length	100m 100m
Maximum number of cascade connection*1	2 steps	4 steps
	Number of units mounted to GOT	Only 1 unit can be mounted to the extension unit interface.
Connecting condition	Number of GOTs connected	128 (Recommend 16 or less)*2*3
	GOT placing distance	100m*2
Internal current consumption (5VDC)	0.14A	
Weight	0.07kg (0.15lb)	

*1 Maximum number of connectable nodes when a repeater hub is used. For the details, refer to the manual of Ethernet module of connected PLC.
*2 This depends on the specifications of the Ethernet network system to which the GOT is connected. For the details, refer to the manual of Ethernet module of connected PLC.
*3 If multiple network equipments (including GOT) are connected within a segment, the network load would increase. In such condition, the communication performance between GOT and PLC may be declined. The decline of the communication performance may be improved by the following measures.
• Using switching hubs.
• Reducing the number of monitoring devices of the GOT.

2.2 Supported version

When using the Ethernet communication unit, use the following software and BootOS.

Item	Supported version
Screen design software	GT Designer3 Version 1.160S or later
BootOS	Z or later

For how to check and upgrade the BootOS version, refer to the following manuals.
• GT Designer3 (GOT2000) Screen Design Manual
• GOT2000 Series User's Manual (Utility)

Warranty

Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; machine damage or lost profits caused by faults in the Mitsubishi Electric products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi Electric; damages to products other than Mitsubishi Electric products; and to other duties.

For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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Specifications subject to change without notice.
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