

MITSUBISHI ELECTRIC

GOT2000/GOT1000 Series Serial Communication Unit

User's Manual

**GT15-RS2-9P
GT15-RS4-9S
GT15-RS4-TE**

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	GT15-RS2/4-U
MODEL CODE	1D7M40
IB(NA)-0800325-L(1704)MEE	

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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.

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 to/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.

CAUTION

- When installing this unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range. Under-tightening can cause a drop, failure or malfunction. Over-tightening can cause a drop, failure or malfunction due to screw or unit damage.

DESIGN PRECAUTIONS

WARNING

- Do not bunch the control wires or communication 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.

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.
- Connect the connectors to the unit securely.
- 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.

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.

CAUTION

- Do not disassemble or modify any unit. This will cause failure, malfunction, injuries, or fire.
- Do not touch the conductive areas and electronic parts of this unit directly. Doing so can cause a unit malfunction or failure.
- 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.
- 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 User's Manual for the GOT used, as they are precision devices. Failure to do so may cause the unit to fail. Check if the unit operates correctly after transportation.

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)
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 (Sold separately)	SH-081198ENG
GOT2000 Series Connection Manual (Non-Mitsubishi Products 2) For GT Works3 Version1 (Sold separately)	SH-081199ENG
GOT2000 Series Connection Manual (Microcomputer, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1 (Sold separately)	SH-081200ENG
GT16 User's Manual (Hardware) (Sold separately)	SH-080928ENG (1D7MD3)
GT15 User's Manual (Sold separately)	SH-080528ENG (1D7M23)
GOT1000 Series Connection Manual (Mitsubishi Products) for GT Works3 (Sold separately)	SH-080868ENG (1D7MC2)
GOT1000 Series Connection Manual (Non-Mitsubishi Products 1) for GT Works3 (Sold separately)	SH-080869ENG (1D7MC3)
GOT1000 Series Connection Manual (Non-Mitsubishi Products 2) for GT Works3 (Sold separately)	SH-080870ENG (1D7MC4)
GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 (Sold separately)	SH-080871ENG (1D7MC5)

Relevant Manuals

For relevant manuals, refer to the PDF manuals stored in the DVD-ROM for the drawing software used.

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

15 Note: This symbol mark is for China only.

含有害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、膜材	○	○	○	○	○	○
钣金部件、螺丝等金属部件	○	○	○	○	○	○

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。

Packing List

The following items are included.

Model	Product	Quantity
GT15-RS2-9P	RS-232 serial communication unit	1
	Mounting screw set (2 screws, 2 stickers)	1
GT15-RS4-9S	GOT2000/GOT1000 Series Serial Communication Unit User's Manual (This manual)	1
	RS-422/485 serial communication unit	1
	Mounting screw set (2 screws, 2 stickers)	1
GT15-RS4-TE	GOT2000/GOT1000 Series Serial Communication Unit User's Manual (This manual)	1
	RS-422/485 serial communication unit	1
	Mounting screw set (2 screws, 2 stickers)	1
GT15-RS4-TE	Terminal block socket	1
	Plate type solderless terminal (For connecting braided shield cable)	1
	GOT2000/GOT1000 Series Serial Communication Unit User's Manual (This manual)	1
	Mounting screw set (2 screws, 2 stickers)	1

* For handling of the ferrite core, refer to "For users intending to connect the GOT directly to a PLC using the RS-422 cable (GT01-C□R4-25P)" provided with the product.

1. OVERVIEW

This user's manual describes the GOT2000/GOT1000 series serial communication unit (hereinafter referred to as the serial communication unit). The serial communication unit is used when performing the serial communication between GOT and a FA device. For attachable GOTs, refer to the User's Manual for the GOT used.

2. SPECIFICATIONS

2.1 Performance Specifications

The performance specifications of the serial communication unit are indicated below. The general specifications of the serial communication unit are the same as those of the GOT. Refer to the User's Manual for the GOT used for the general specifications of the GOT.

Item	Specification		
	GT15-RS2-9P	GT15-RS4-9S	GT15-RS4-TE
Transmission method	RS-232 compliant	RS-422/485 compliant	RS-422/485 compliant
Interface	D-sub 9-pin (Male)	D-sub 9-pin (Female)	Terminal block
Connector	DDK make (17LE-23090-27(D3CC))	DDK make (17LE-13090-27(D3AC))	-
Transmission speed	115200/57600/38400/19200/9600/4800bps		
Synchronous type	Non-Synchronous type (Asynchronous type)		
Error detection method	Parity check, sum check		
Maximum transmission distance	15m	1200m*	1200*
Internal current consumption (5VDC)	0.29A	0.33A	0.3A
Weight	0.09kg (0.20lb)		

* The maximum transmission distance differs depending on the controller connected. For details, refer to the GOT2000 or GOT1000 series connection manual for GT Works3 that covers the controller used.

Select a serial communication unit according to the connection type. When using the serial communication, make the communication settings to perform communication between the GOT and PLC. Since the GT15-RS4-TE cannot control the signals (RS/CS), the unit cannot be connected to the PLC. For the details of the connection type, refer to the GOT2000 or GOT1000 series connection manual for GT Works3 that covers the controller used.

When using serial communication unit, use a standard monitor OS and communication driver of GT Designer2 Version2.15R or later. With a standard monitor OS and communication driver of an older version, the GOT has cannot recognize the unit to perform monitoring.

2.2 Specifications of terminal block socket (For GT15-RS4-TE only)

Item	Specifications
Screw tightening torque	0.20 to 0.25 [N·m]
Recommended driver	DIN 5265: ISO 2380/2 compliant product DIN 5264: Product with the lip chrome-plated based on the ISO 2380/1 standard
Applicable wire size	0.08 to 1.5 [mm ²]

3. PART NAMES AND EXTERNAL DIMENSIONS

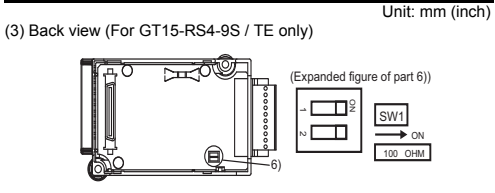
(1) GT15-RS2-9P / PS4-9S

(2) GT15-RS4-TE

Dimensions of X when the serial communication unit is mounted to the GOT

GOT	GT27	GT25	GT16	GT15
15"	23(0.91)	-	19.5(0.77)	21(0.83)
12.1"	23(0.91)	23(0.91)	18(0.71)	18(0.71)
10.4"	23(0.91)	23(0.91)	21(0.83)	21(0.83)
8.4"	23(0.91)	23(0.91)	23(0.91)	23(0.91)
5.7"	23(0.91)	-	23(0.91)	23(0.91)

Unit: mm (inch)



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)	Serial communication connector	Connector for connecting a serial communication cable (For GT15-RS4-TE, the terminal block socket is connected.)

No.	Name	Description
5)	Terminal block socket	Socket for connecting a serial communication cable to the serial communication connector
6)	DIP switch (For GT15-RS4-9S/TE only)	Switch to set terminating resistor. When using the built-in terminating resistor (100Ω), turn both No. 1 and No. 2 switches on. When using the external terminating resistor, turn both No. 1 and No. 2 switches off.
7)	Rating plate	-

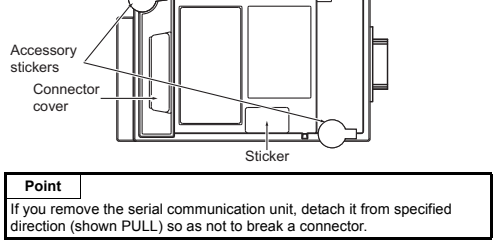
4. INSTALLATION PROCEDURE

The installation procedure for the serial communication unit is explained using the GT1575.

4.1 Serial communication unit installation

The following figures show an example of the GT15-RS2-9P/RS4-9S installation. The installation of the GT15-RS4-TE follows the same procedure.

- Power off the GOT.
- Remove one extension unit cover of the GOT.
- Fit the serial communication unit in the GOT case.
- Fasten the serial communication unit by tightening its mounting screws (2 places) with tightening torque 0.36 to 0.48 N·m.
- When installing an extension unit on the unit that has been installed, remove the connector cover and the sticker. When not installing an extension unit on the unit that has been installed, in order to avoid receiving electrostatic, stick accessory stickers to cover the top of mounting screws (2 places). Keep the connector cover fixed. Keep the sticker stuck as it is.



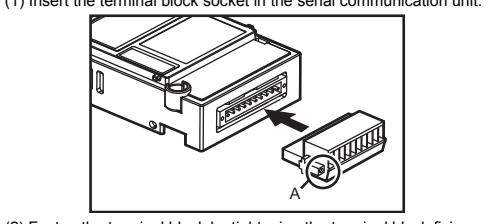
Point

If you remove the serial communication unit, detach it from specified direction (shown PULL) so as not to break a connector.

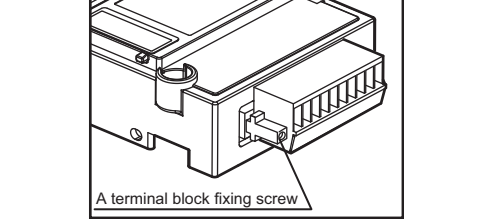
4.2 Terminal block socket installation (For GT15-RS4-TE only)

CAUTION

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.



(2) Fasten the terminal block by tightening the terminal block fixing screws (2 places) with the tightening torque of 0.20 to 0.25 N·m. (Expanded figure of part A)

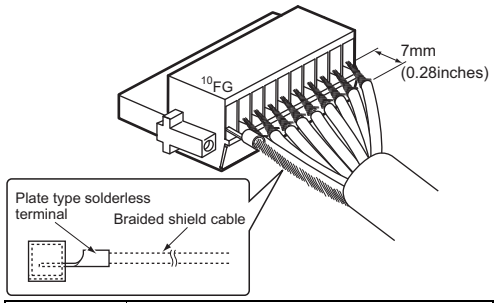


Point

When attaching or removing a communication cable to/from the terminal block socket, detach the terminal block socket from the connector. (When extension units are installed in multiple layers, the units do not have to be removed from the GOT main unit.)

4.3 Connecting the braided shield cable (For GT15-RS4-TE only)

When connecting the braided shield cable inside the RS-422/485 cable, use the plate type solderless terminal included with the product. Before connecting each cable inside the RS-422/485 cable to the terminal block, remove the cable sheath by 7mm (0.28 inches).



Point

- Tighten the terminal block wiring screws with the tightening torque of 0.5 to 0.6 N·m.
- When using the plate type solderless terminal, be sure to insert the terminal in the horizontal direction toward the terminal block. The solderless terminal may come off when it is inserted in the vertical direction.

Warranty

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