

mitsubishi

A9GT-J71E71-T type Ethernet communication module

User's Manual (Hardware)

Thank you for buying the MELSEC-GOT Series.

Prior to use, please read both this manual and detailed manual thoroughly and familiarize yourself with the product.



MODEL	A9GT-J71E71-T-U
MODEL CODE	1DM129
IB(NA)-0800199-D(0408)MEE	

MITSUBISHI Graphics Operation Terminal

● SAFETY PRECAUTIONS ●

(Read these precautions before using.)

When using Mitsubishi equipment, thoroughly read this manual and the associated manuals introduced in this manual. Also pay careful attention to safety and handle the module properly.

These precautions apply only to Mitsubishi equipment. Refer to the CPU module user's manual for a description of the PLC system safety precautions.

These ●SAFETY PRECAUTIONS● classify the safety precautions into two categories: "DANGER" and "CAUTION".



DANGER

Procedures which may lead to a dangerous condition and cause death or serious injury if not carried out properly.



CAUTION

Procedures which may lead to a dangerous condition and cause superficial to medium injury, or physical damage only, if not carried out properly.

Depending on circumstances, procedures indicated by  **CAUTION** may also be linked to serious results.

In any case, it is important to follow the directions for usage.

Store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user.

[DESIGN PRECAUTIONS]

DANGER

- Do not bundle control lines or communication wires together with main circuit or power lines, or lay them close to these lines.
As a guide, separate the lines by a distance of at least 100 mm (3.94 inch) otherwise malfunctions may occur due to noise.

[INSTALLATION PRECAUTIONS]

DANGER

- Before mounting or dismounting this module to or from the GOT, always shut off GOT power externally in all phases.
Not doing so can cause a module failure or malfunction.
- Before connecting the Bus connection cable to this module, always shut off GOT power and PLC CPU power externally in all phases.
Not doing so can cause a malfunction.

CAUTION

- Use this module in the environment given in the general specifications of the GOT User's Manual.
Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- 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.
Undertightening can cause a drop, failure or malfunction.
Overtightening can cause a drop, failure or malfunction due to GOT or screw damage.

[STARTUP AND MAINTENANCE PRECAUTIONS]

DANGER

- Before starting cleaning, always shut off GOT power.
Not doing so can cause a module failure or malfunction.

CAUTION

- Do not disassemble or modify any module.
This will cause failure, malfunction, injuries, or fire.
- Do not touch the conductive areas and electronic parts of this module directly.
Doing so can cause a module malfunction or failure.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the module.
Not doing so can cause a fire, failure or malfunction.
- Always secure the cables connected to the module, e.g. run them in conduits or clamp them. Not doing so can cause module 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 module. Doing so can cause module or cable damage or a malfunction due to a cable contact fault.
- Before handling the unit, touch a grounded metal or similar object to discharge the static electricity from the human body.
Failure to do so may cause the unit to fail or malfunction.

[DISPOSAL PRECAUTIONS]

CAUTION

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

Manuals

The following manuals are relevant to this product.
Refer to the following list and order the required manuals.

Detailed Manuals

Manual name	Manual No. (Model code)
A985GOT/A975GOT/A970GOT/A960GOT User's Manual (Available as option)	SH-4005 (1DM099)
A950GOT/A951GOT/A953GOT/A956GOT User's Manual (Available as option)	SH-080018 (1DM103)

Relevant Manual

For relevant manual, refer to the PDF manual stored within the drawing software.

1. Overview

This User's Manual describes the A9GT-J71E71-T type Ethernet communication module (hereinafter, A9GT-J71E71-T).

The A9GT-J71E71-T is required when performing Ethernet connection or Gateway function with GOT.

For details of the Ethernet connection, Refer to the GOT-A900 Series User's Manual (GT Works Version5/GT Designer Version5 compatible Connection System Manual).

For details of Gateway function, Refer to the GOT-A900 Series Operating Manual (GT Works Version5/GT Designer Version5 compatible Gateway Functions Manual).

After opening the box, check that the following items are present.

Description	Quantity
A9GT-J71E71-T	1

Install all relevant operating systems (Standard monitor OS/Communication driver/Extended function OS (Ver. 9.0.0 or later)) and ROM_BIOS (Ver.9.0.2 [S] or later) contained in version 26C or later of GT Works Version5 or GT Designer Version5 into the GOT, for A9GT-J71E71-T with hardware version E (2002, June) or later. (The product will not work with the operating system contained in version 13P to 22Y of GT Works Version5 or GT Designer Version5.)

2. Specification

2.1 General Specifications

Item	Specifications					
Operating ambient temperature	0 to 55°C					
Storage ambient temperature	-20 to 60°C					
Operating ambient humidity	10 to 90 % RH, non-condensing					
Storage ambient humidity	10 to 90 % RH, non-condensing					
Vibration resistance	Conforms to JIS B3502 and IEC 61131-2	In case of intermittent vibration	Frequency	Acceleration	Amplitude	Sweep Count 10 times in each of X, Y and Z directions (for 80 minutes)
			10 to 57 Hz	–	0.075 mm	
		In case of continuous vibration	57 to 150 Hz	9.8 m/s ²	–	
			10 to 57 Hz	–	0.035 mm	
Shock resistance	Conforms to JIS B3502, IEC 61131-2 (147 m/s ² , 3 times in each of X, Y and Z directions)					
Operating atmosphere	No corrosive gas					
Operating altitude	2000 m (6562 ft) max.					
Installation site	Inside control box					
Overvoltage category*1	II or less					
Contamination level*2	2 or less					

*1: Indicates the element in the distribution system between the public electricity grid and the mechanical equipment inside the premises that the relevant device is assumed to be connected to. Category II applies to devices such as those that draw their power supply from fixed installations. The surge voltage withstand capability of devices with ratings up to 300V is 2,500V.

*2: This index gives a measure of the incidence of conductive materials in the environment in which the device is used.
A contamination level of 2 indicates an environment in which there is only contamination by non-conducting materials, but due to occasional condensation, conductivity may occur.

*3: Please do not use or store A9GT-J71E71-T in an environment with atmospheric pressure greater than the atmospheric pressure at sea level (0m). There is a possibility errors may occur if this point is not observed.

2.2 Specification of the A9GT-J71E71-T

The performance specifications of the A9GT-J71E71-T is shown below.

Item		Specification
Transmission specifications	Data transmission speed	10Mbps
	Transmission method	Base band
	Maximum node to mode distance	4000m (13124ft)
	Maximum segment length	100m (328.1ft)
	Maximum number of nodes	1024units/all hubs (12units)
Connecting condition	Number of GOTs connected	128 (Recommend 16 or less)*1*2
	GOT placing distance	100m*1
Internal consumed current (5VDC) [mA]		50
Weight [g](lb)		160 (0.35)

*1: 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 you use.

*2: 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.

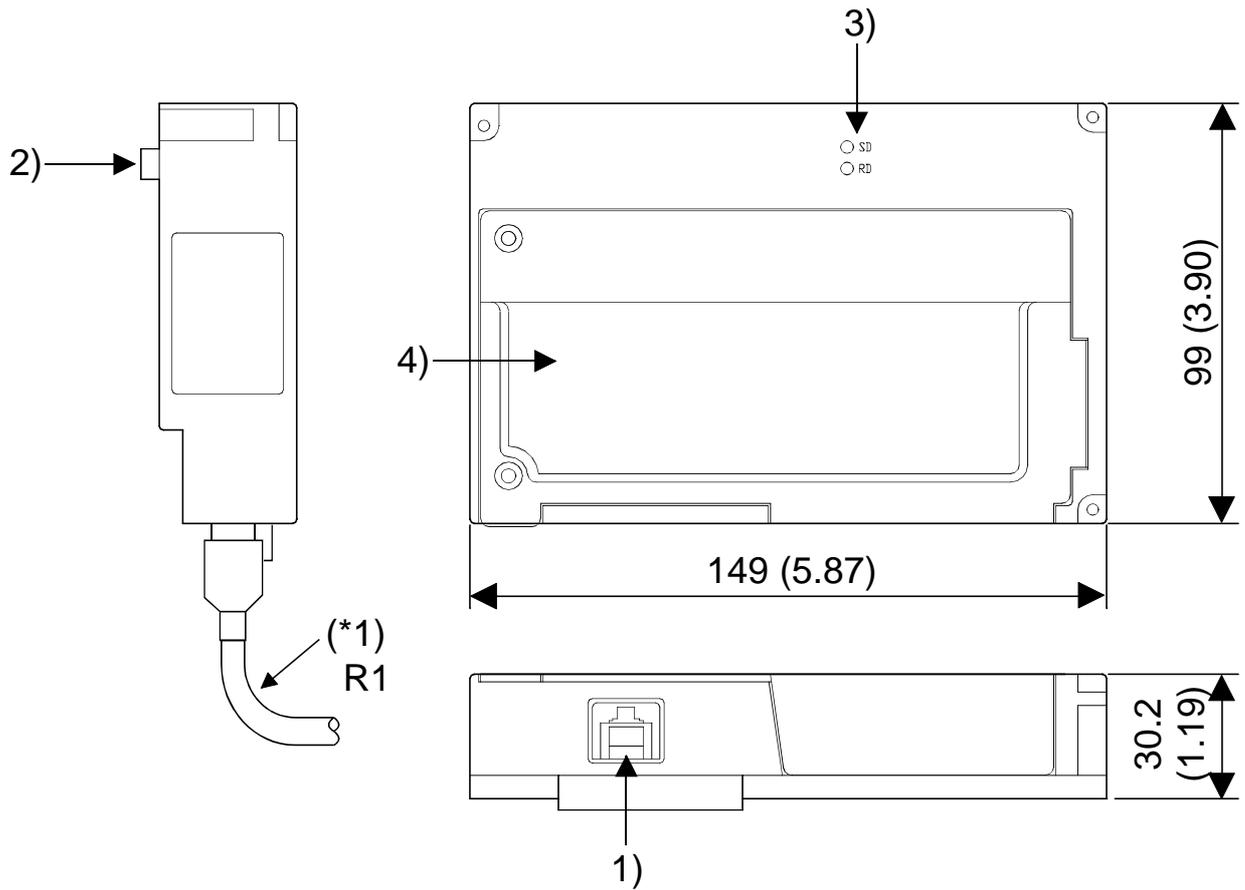
- Using switching hubs.
- Applying the high-speed 100BASE-TX (100Mbps) for PLC and other equipments (excluding GOT).
- Reducing the number of monitoring devices of the GOT.

2.3 Specifications of the related devices

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

Item	Specifications
Cable	Non-shielded twisted pair wire (category3(4, 5))
Connector	RJ45jack
Hub	10Mbps hub

3. Name of the Parts and Outline Dimension Drawing



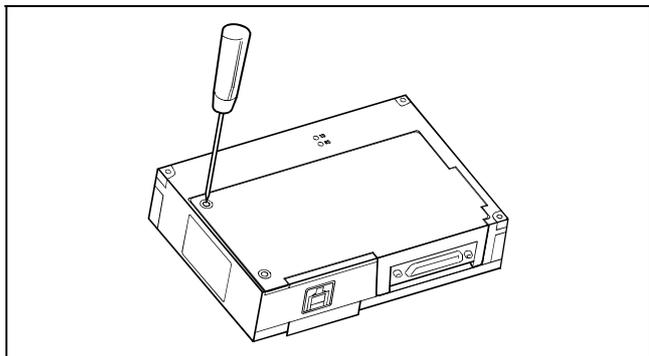
No.	Name	Description															
1)	Cable connection connector	Connector for connection of cable															
2)	GOT connection connector	Connector for connection to the GOT															
3)	LED display	<p>LEDs indicate transmit/receive state of data . (○ : Off ● : Flashing)</p> <table border="1"> <thead> <tr> <th>SD</th> <th>RD</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>○</td> <td>○</td> <td> <ul style="list-style-type: none"> No transmit/receive data. GOT being reset. Communication driver for Ethernet connection has not been installed into GOT. </td> </tr> <tr> <td>○</td> <td>●</td> <td>Data being received</td> </tr> <tr> <td>●</td> <td>○</td> <td>Data being transmitted</td> </tr> <tr> <td>●</td> <td>●</td> <td>Data being transmitted/received</td> </tr> </tbody> </table>	SD	RD	Description	○	○	<ul style="list-style-type: none"> No transmit/receive data. GOT being reset. Communication driver for Ethernet connection has not been installed into GOT. 	○	●	Data being received	●	○	Data being transmitted	●	●	Data being transmitted/received
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4)	Slot cover	Metal fixture that covers a slot for mounting Bus connection board. (should be removed when using Gateway function.)															

*1: The bending radius (R1: standard value) in the proximity of connector should be at least 4 times the external form of the cable.

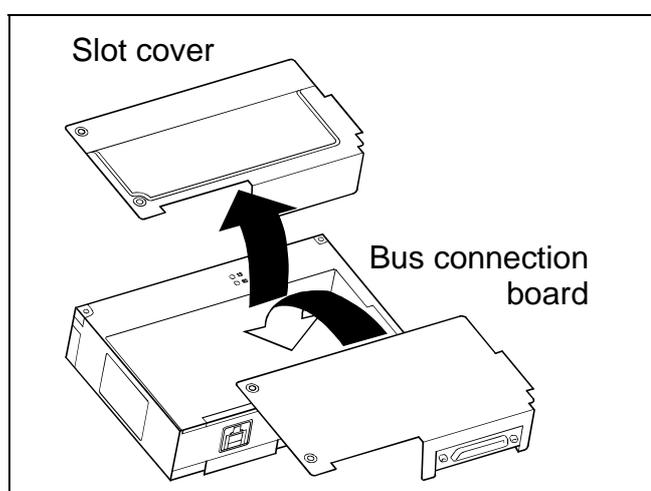
4. Installation Procedure

4.1 When using the bus connection board (only when using Gateway function)

How to mount the bus connection board is shown below.

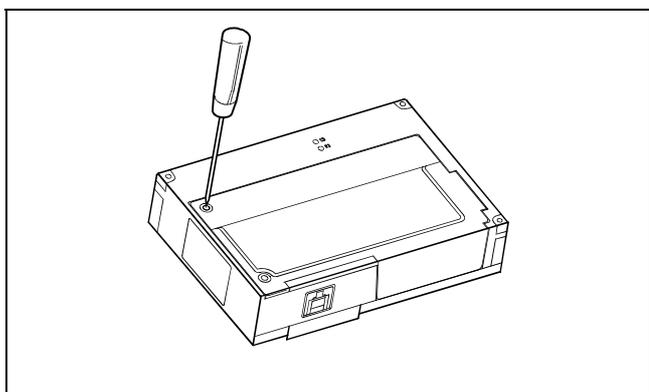


- (1) Loosen the mounting screws (2 pcs.) that fix the slot cover on the back of the A9GT-J71E71-T.



- (2) Remove the slot cover. Save the removed slot cover carefully. (If the A9GT-J71E71-T is used alone without the slot cover, foreign matter will enter the unit, causing a failure or malfunction.)

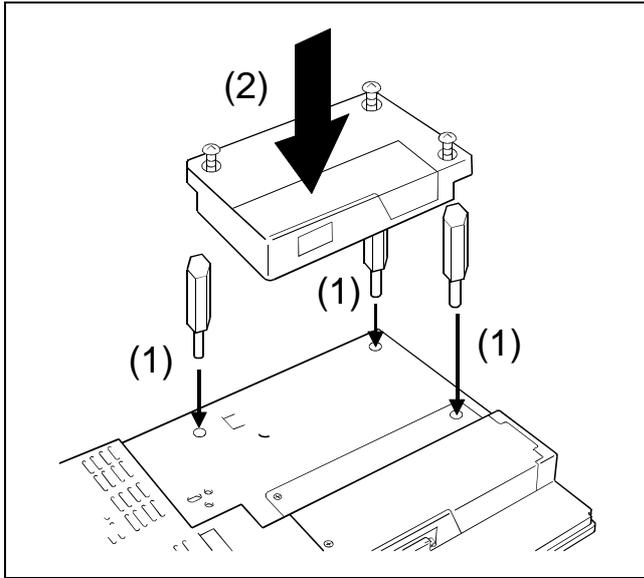
- (3) Fit the bus connection board to the A9GT-J71E71-T.



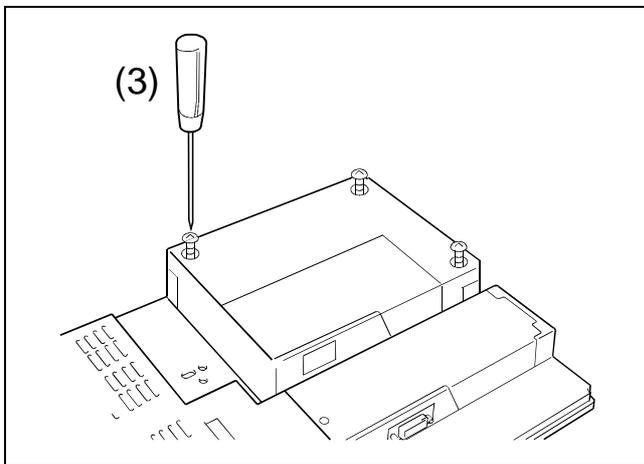
- (4) Tighten the mounting screws (2 pcs.) of the bus connection board to the specified torque (36 to 48N • cm) to fix the bus connection board.
- (5) After fitting the bus connection board, mount the A9GT-J71E71-T to the GOT.

4.2 How to mount the A9GT-J71E71-T to the GOT.

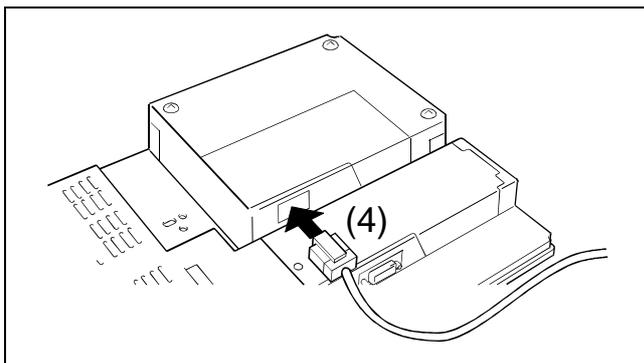
Mount the A9GT-J71E71-T to the GOT as follows;



- (1) Fit the communication module securing fixtures in the GOT main unit.
- (2) Mount the A9GT-J71E71-T on the GOT interface.



- (3) Tighten and fix the mounting screws (3 pcs.) of the A9GT-J71E71-T in the specified torque range.
(36 to 48N·cm)



- (4) Connect the twisted pair cable to the A9GT-J71E71-T.
- (5) To remove the unit, reverse the installation procedure.

Point

Grounding work for the 10BASE-T, 10BASE5 and 10BASE2 requires appropriate safety measures.
Consult professionals for work details including terminal of connection cables and other plant work such as laying of main cables.

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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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