

MITSUBISHI

A9GT-RS2T type Serial Communication Board with Built-in Clock User's Manual

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.



Mitsubishi Graphics Operation Terminal

Type	A9GT-RS2T-U
Type Code	1DM135
IB(NA)-0800022-E(0512)MEE	

● SAFETY PRECAUTIONS ●

(Read these precautions prior to use.)

When using Mitsubishi equipment, thoroughly read this manual and the associated manuals that are introduced in this manual. Also, pay careful attention to safety and handle the module properly. These precautions apply only to Mitsubishi equipment. Please refer to the relevant user's manuals for safety precautions pertaining to Mitsubishi programmable controller systems and Graphics Operation Terminal (abbreviated as GOT, hereafter).

The SAFETY PRECAUTIONS in this manual are classified into two categories: DANGER and CAUTION.

⚠ DANGER : Procedures which may lead to a dangerous condition and cause death or serious personal injury if not observed as directed.

⚠ CAUTION : Procedures which may lead to a dangerous condition and cause minor to medium personal injury or damage only to property, if not observed as directed.

Depending on circumstances, procedures indicated with

⚠ CAUTION could also lead to serious results.

In any case, it is important to strictly observe the directions indicated with the above signs.

Keep this manual in a place which allows you to easily reach it whenever necessary. Please make sure that the end user of this equipment be provided with this manual.

[DESIGN PRECAUTIONS]

⚠ CAUTION

- 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 RS-232C cable to this module, always shut off GOT power and PC 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.

[WIRING PRECAUTIONS]

⚠ CAUTION

- Plug the communication cable into the connector of the connected module and tighten the connector mounting 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 module.

[STARTUP AND MAINTENANCE PRECAUTIONS]

⚠ DANGER

- Before starting cleaning, always shut off GOT power externally in all phases. 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.
- 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.
- Always make sure to touch the grounded metal to discharge the electricity charged in the body, etc., before touching the module. Failure to do so may cause a failure or malfunctions of the module.

[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. (Refer to Chapter 5 for details of the controlled models.)

Related Manuals

The following manuals are available for this equipment.

Detailed Manual

Manual Name	Manual Number (Type Code)
A985GOT/A975GOT/A970GOT/A960GOT User's Manual(Available as option)	SH-4005 (1DM099)

Relevant Manual

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

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1. OVERVIEW

This User's Manual describes the A9GT-RS2T type serial communication board with built-in clock (hereinafter, A9GT-RS2T).

The A9GT-RS2T is mounted on the A985GOT(-V)/A975GOT/A970GOT/A960GOT (hereinafter, GOT), allowing connection with a microcomputer, computer link unit or programmable logic controller, etc. using an RS-232C connector for peripheral devices.

Even if the microcomputer does not have a clock, by using the A9GT-RS2T, time, such as the alarm history display, can be displayed on the GOT.

GT Designer (SW1D5C-GOTRE-PACK J Version or later), or GT Designer2 Version1 00A or later is required when using A9GT-RS2T.

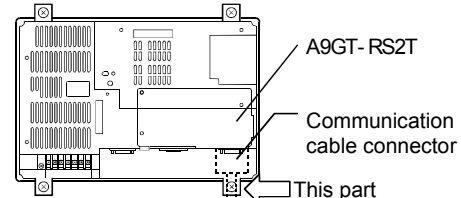
The A9GT-RS2T clock function is applicable for microcomputer connection only.

* Refer to the [A985GOT/A975GOT/A970GOT/A960GOT User's Manual] for details on mounting the A9GT-RS2T on the GOT.

* When A9GT-RS2T is used, the mounting fixture of the GOT interferes with the connector due to the shape of the communication cable connector.

Please substitute for the mounting fixture included in this product and use the mounting fixture as shown in diagram below.

Back side of GOT main unit



* The RS-232C cable used with the A9GT-RS2T must be prepared by the user. Refer to the [GOT-A900 Series User's Manual (Connection System Manual)] for details on manufacturing the cable.

After opening the container, check that the following products are present.

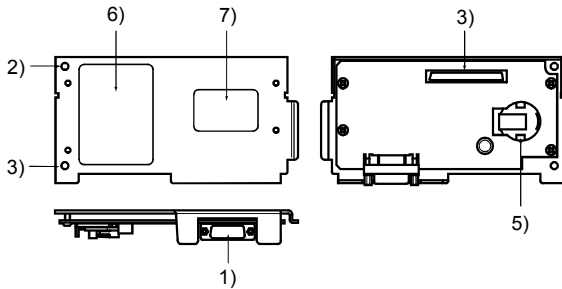
Description	Quantity
A9GT-RS2T	1
Communication board mounting screw	M3×10 M3×6 1 1
Lithium battery	1

2. PERFORMANCE SPECIFICATION

Item	Specification
Communication connector	9-pin D-sub (male) inch screw DDK brand (17LE-23030-27(D3CC))
Clock function	Yr, mon, day, hr, min, sec, wday (Leap years are automatically detected)
Clock accuracy	-4.8 to +0.7s/d at 0°C -1.8 to +1.7s/d at 25°C -4.2 to -1.6s/d at 55°C
Self-diagnosis	Battery voltage drop detection (Displayed with alarm list function (System alarm))
Lithium battery*	CR2032: Toshiba battery (Recommended)
Battery life [h]	50000 (Ambient temperature 25°C)
Battery life after battery voltage drop detection [h]	700 (Ambient temperature 25°C)
Guaranteed battery life [yr]	5
Internal current consumption (5VDC)[mA]	62
Weight[g](lb)	107 (0.24)

* If a lithium battery other than the above is used, the specifications, such as the battery life may not be satisfied.

3. NAME OF THE PARTS



No.	Name	Description
1)	RS-232C cable connection interface	Interface for connection of RS-232C cable
2)	Communication board mounting screw hole	For inserting the M3×10 screw (36 to 48N·cm) included with this product
3)	Communication board mounting screw hole	For inserting the M3×6 screw (36 to 48N·cm) included with this product
4)	Connector	Connector for connection to the GOT
5)	Battery holder	Holder for inserting battery
6)	Caution plate	-
7)	Rating plate	-

4. Lithium battery

4.1 Precautions for using battery

WARNING, Battery may explode if mistreated. Do not recharge, disassemble or dispose of in fire.

Always observe the following precautions.

⚠ DANGER	
● Do not use the battery with the + and - poles connected in reverse. Failure to observe this could lead to fire, heating, fluid leakage or rupture.	
● Do not connect the + and - poles of the battery with a wire, or carry or store the batteries together with metal necklaces or hair pins. Failure to observe this could lead to fire, heating, fluid leakage or rupture.	
● Store the battery out of the reach of children. If the leaking fluid is licked or the battery is swallowed, seek medical attention immediately.	
● Use and store the battery in a place not subject to direct sunlight or high temperatures. Failure to observe this could lead to heating, fluid leakage or rupture.	
● Do not submerge the battery in water, etc. Failure to observe this could lead to heating.	

⚠ CAUTION	
● When disposing or storing the battery, insulate the battery with tape, etc. Failure to observe this could lead to fire, heating or rupture. Although the battery can be disposed of with general non-burnable trash, if there are local laws provided, follow those laws when disposing.	

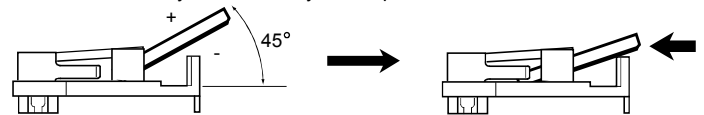
4.2 Replacing the lithium battery

Replace the battery within ten minutes, or else the backed up clock data could be lost.

1) Inserting the battery

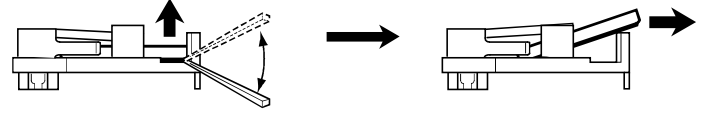
Face the + pole of the battery upward, and insert it into the battery holder at a 45° angle.

Press the battery in horizontally to complete the insertion.



2) Removing the battery

When removing the battery, insert a finger or bar-shaped object between the battery holder and battery. While lifting up the battery, place it on the battery stopper on the side, and then remove it.



5. Transportation Precautions

When transporting lithium batteries, make sure to treat them based on the transport regulations.

5.1 Controlled Models

The batteries for the A9GT-RS2T are classified as follows:

Product name	Model	Product supply status	Classification for transportation
Serial communication board with built-in clock	A9GT-RS2T	Packed with lithium coin battery (CR2032)	Non-dangerous goods

5.2 Transport Guidelines

Comply with IATA Dangerous Goods Regulations, IMDG code and the local transport regulations when transporting products after unpacking or repacking, while Mitsubishi ships products with packages to comply with the transport regulations.

Also, contact the transporters.

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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