

MITSUBISHI

PROGRAMMABLE CONTROLLER

MELSEC-A

User's Manual

Data link unit for A77GOT type A7GT-J71AT23B (Hardware)

INTRODUCTION

Thank you for choosing the Mitsubishi MELSEC-A Series of General Purpose Programmable Controllers. Please read this manual carefully so that the equipment is used to its optimum. A copy of this manual should be forwarded to the end user.

MODEL	A7GT-J71AT23B-U-E
MODEL CODE	1DM024

MITSUBISHI ELECTRIC
IB (NA) 66439-D

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About Manuals

The following manuals are also related to this product. Please order those that you require by referring to the table below.

Detailed Manuals

Manual Name	Manual Number (Model Code)
SW3NIW-A8GOT Graphic Settings Software Package Operating Manual (Monitor Screen Creation Manual) (Packaged with the software package)	IB-66794 (1DM175)



Related Manuals

Manual Name	Manual Number (Model Code)
Type MELSECNET, MELSECNET/B Data Link System Reference Manual	IB-66350 (13JF70)
A870GOT Graphic Operation Terminal User's Manual (Packaged with the A870GOT)	IB-66628 (1DM050)

Cautions on Safety


(Please read before using the module)

In order to handle this product correctly, thoroughly read this manual and the detailed manuals introduced in it, and pay due attention to safety. Note that the cautions here apply to this product in isolation. For details on safety of the PC system as a whole, refer to the user's manual for the CPU unit. The cautions in this cautions on safety are classified into two ranks, "DANGER" and "CAUTION", according to their importance.

 DANGER	A warning given when improper operation could result in a dangerous situation causing death or serious injuries.
 CAUTION	A caution given when improper operation could result in a dangerous situation causing moderate or injuries, and physical damage to the module, etc.

Even failure to observe a caution marked **CAUTION** may bring about a serious accident depending on the situation. Do not fail to follow the cautions. Retain this manual for consultation whenever necessary, and provide a copy to the end user.

Cautions on Design

 **CAUTION**

- Do not bundle the control wire and the communication cable with the main circuit or power line or keep them close to one another. Keep the control wire and the communication cable at least 100 mm away from the main circuit or power line; otherwise, noise or malfunctions will occur.

Cautions on Installation

 **CAUTION**

- Use the PC in the environment specified in the General Specifications section in this manual. Using it in an environment which does not meet the general specifications could cause electric shock, fire or malfunctions, and damage or deterioration of the module.
- Install the module by engaging the module mounting projections on the lower part of the module in the mounting holes of the base unit. Incorrect installation could result in malfunctions, failure of detachment.

Cautions on Wiring

 **CAUTION**

- Ground the AG terminal using third class grounding or higher exclusively for the PC. If you do not, the PC will malfunction.
- Before connecting wires to the PC, check the rated voltage and the terminal arrangement. Connecting power of a different voltage or wiring incorrectly will result in fire or failure.
- Tighten the terminal screws to the specified torque. Loose terminal screws will cause a short, fire or malfunctions.
- Take all possible measures to prevent chips or wire scraps from entering the module. Entry of foreign material will cause fire, failure of malfunctions.

Cautions on Start-Up and Maintenance

 **DANGER**

- Do not touch the terminals while they are live. This will cause malfunctions.
- Switch the power off before cleaning the module or retightening the terminal screws. If the power is left on, the module will break down or malfunction.

 **CAUTION**

- Do not disassemble or tamper with the module. This will cause failure, malfunctions, injuries or fire.
- Switch the power off before installing or removing the module. If the power is left on, the module will break down or malfunction.
- Inputting a voltage input to the current input range could cause unit trouble.
- 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.

Cautions on Disposal

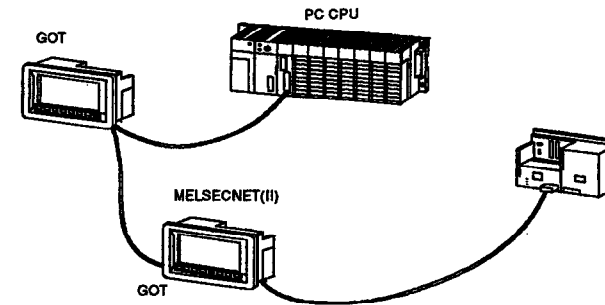
 **CAUTION**

Dispose of the module as industrial waste.

1. GENERAL DESCRIPTION

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This User's Manual gives the specifications, switch settings, and the method of installing to the A77GOT-S5/A870GOT Graphic Operation Terminal (hereinafter abbreviated to GOT) for the A7GT-J71AT23B Data Link Unit. The A7GT-J71AT23B is a data link unit which is installed to the GOT when the GOT is used as a local station in the MELSECNET/B data link system.



Make sure the following items are contained in the delivery package of the A7GT-J71AT23B.

Item	Quantity
A7GT-J71AT23B data link unit	1
MELSECNET/B connecting resistor (110 Ω, 1/2W)	1

2. PERFORMANCE SPECIFICATIONS

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Item	Optical Data Link	
Maximum number of link points used per station	Input (X)	0 point
	Output (Y)	0 point
MELSECNET mode	Max. link points per system	B 1024 points (128 bytes) W 1024 points (2048 bytes)
	Max. link points per station	$\frac{B(\text{points}) + Y(\text{points})}{8} + 2 \times W(\text{points}) \leq 1024 \text{ bytes}$
MELSECNET II mode	Max. link points per system	B 4096 points (512 bytes) W 4096 points (8192 bytes)
	Max. link points per station	$\frac{Y(\text{points}) + B(\text{points})}{8} + 2 \times W(\text{points}) \leq 1024 \text{ bytes}$ (First half of link parameters) $\frac{B(\text{points})}{8} + 2 \times W(\text{points}) \leq 1024 \text{ bytes}$ (Second half of link parameters)
MELSECNET II composite mode	Max. link points per system	B 4096 points (512 bytes) W 4096 points (8192 bytes)
	Max. link points per station	$\frac{Y(\text{points}) + B(\text{points})}{8} + 2 \times W(\text{points}) \leq 1024 \text{ bytes}$ (First half of link parameters) $\frac{B(\text{points})}{8} + 2 \times W(\text{points}) \leq 1024 \text{ bytes}$ (Second half of link parameters)
Available station numbers	01 to 31 (as local stations only)	
Link refresh timing	Refresh at 100 ms intervals	

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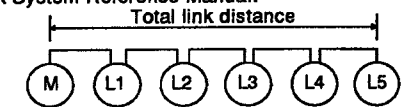
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Item	Optical Data Link
Detection of link errors	Indicated by the LEDs on the unit
Coefficient of the A7GT-J71AT23B used for calculating the transmission delay time and the link refresh time	L : 100 ms
	α 2 : 20 ms (standard value)
Transmission speed	1.25 kbps/250 kbps/500 kbps/1 Mbps *2
Transmission method	Half-duplex bit serial transmission
Synchronizing method	Frame synchronizing
Transmission line type	Bus type
Total link distance	Depends on the transmission speed *2
Modulation method	NRZ method
Transmission format	Conforms to HDLC (frame method)
Error control method	CRC (Generating polynomial $X^{16} + X^{12} + X^5 + 1$) and retries by time-out control
RAS function	Diagnosis such as line check of the self station
Connectors	Terminal block
Cables	Shielded twisted-wire pair cable (KNPFV-SB 0.5SQ x 1P)

REMARKS

*1: Coefficient used for calculation as specified in the MELSECNET, MELSECNET/B Data Link System Reference Manual.

*2: (1) Total link distance is the over all length of the data line system between the terminal stations at both ends.



(2) The relationship between the total link distance and the transmission speed is as given below

Total link distance	Transmission Speed			
	125 kbps	250 kbps	500 kbps	1 Mbps
	1,200 m	600 m	400 m	200 m