

MITSUBISHI
PROGRAMMABLE CONTROLLER
MELSEC-A
User's Manual

**32-Point Pressure-Displacement
Terminal Block Adapter
type A1S-TA32/TA32-3/TA32-7**

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.

**MITSUBISHI
ELECTRIC**

Model	A1STA32-U-E
Model Number	13JE66
IB(NA)66500-C (0507)MEE	

● SAFETY PRECAUTIONS ●

(Please read these precautions before using you serial communication module)

When using this product, thoroughly read this manual. Also pay careful attention to safety and handle the module properly. These precautions apply only to this product. Refer to the CPU module user's manual for a description of the PC system safety precautions.

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

⚠ DANGER Improper handling could cause hazardous conditions resulting in severe injury or death.

⚠ CAUTION Improper handling could cause hazardous conditions resulting in moderate or light injury, or in physical damage.

Depending on circumstances, procedures indicated by **⚠ CAUTION** may also cause serious accidents.

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

Manuals supplied with the products should be stored carefully where they can be accessed whenever necessary, and should always be passed on to the end user along with the equipment.

[Design Precautions]

⚠ CAUTION

- Do not bundle the control wires with the main circuit or power wires, or install them close to each other. They should be installed 100mm or more from each other. Not doing so could result in noise that would cause erroneous operation.

[Installation Precautions]

⚠ CAUTION

- Use the PC in an environment that meets the general specifications contained in this manual. Using this PC in an environment outside the range of the general specifications could result in electric shock, fire, erroneous operation, and damage to or deterioration of the product.
- When installing this product's I/O module, securely install it using 2 fastener screws (M2.6). If this product is not correctly installed it could fall out, the I/O module could malfunction, or problems could occur.

[Wiring Precautions]

⚠ DANGER

- Completely turn off the external power when installing or placing wiring. Not completely turning off all power could result in electric shock or damage to the product.

⚠ CAUTION

- When wiring in this product, be sure that it is done correctly by checking the terminal layout and the I/O module's rated voltage. Connecting a power supply that is different from the rating or incorrectly wiring could result in fire or damage.
- In addition to always using the correct wiring, be sure that the lever is correctly pushed in and that the wires are crimped onto the terminal conductors before using this product.
- Be sure there are no foreign substances such as sawdust or wiring debris inside this product and the I/O module. Such debris could cause fires, damage, or erroneous operation.

[Starting and Maintenance Precautions]

⚠ DANGER

- Do not push in or pull out the lever while the electricity is on. Doing so could cause a malfunction or electric shock.
- Switch off all phases of the externally supplied power used in the system when cleaning the module or retightening the terminal or module mounting screws. Not doing so could result in electric shock. Undertightening of terminal screws can cause a short circuit or malfunction. Overtightening of screws can cause damages to the screws and/or the module, resulting in fallout, short circuits, or malfunction.

[Starting and Maintenance Precautions]

⚠ CAUTION

- Do not disassemble or rebuild this product. It may cause accidents, erroneous operation, injury, or fire.
- Completely turn off the externally supplied power used in the system before mounting or removing the module. Not doing so could result in damage to the product.

[Disposal Precautions]

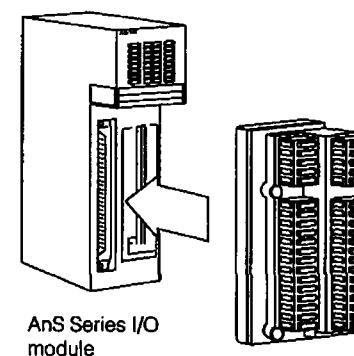
⚠ CAUTION

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

1. GENERAL DESCRIPTION

This user's manual describes the specification and handling of the A1S-TA32, A1S-TA32-3, and A1S-TA-32-7 32-point pressure-displacement terminal block adapter (hereinafter referred to as A1S-TA32).

The A1S-TA32 is an adapter for use with the connector of the A1S Series 32 point I/O module in order to convert the module connector into a pressure-displacement terminal block.



AnS Series I/O module

A1S-TA32 (For AWG20)
A1S-TA32-3 (For AWG22)
A1S-TA32-7 (For AWG18)

Upon unpacking the A1S-TA32, make sure that the following items are contained.

(1) A1S-TA32

Name of Item	Quantity
A1S-TA32 Pressure-Connection Adapter for 32 point terminal blocks	1
Puller	1

(2) A1S-TA32-3

Name of Item	Quantity
A1S-TA32-3 Pressure-Connection Adapter for 32 point terminal blocks	1
Puller	1

(3) A1S-TA32-7

Name of Item	Quantity
A1S-TA32-7 Pressure-Connection Adapter for 32 point terminal blocks	1
Puller	1

2. SPECIFICATIONS

(Performance Specifications)

Items	Specifications		
	A1S-TA32	A1S-TA32-3	A1S-TA32-7
Applicable models	A1SX41, A1SX41-S1, A1SX41-S2, A1SX71, A1SY41, A1SY71		
Applicable wire ^{*1}	Polyvinyl chloride wire (twisted wire) AWG20 (0.5mm ²) Insulation diameter : ø1.9	Polyvinyl chloride wire (twisted wire) AWG22 (0.3mm ²) Insulation diameter : ø1.7	Polyvinyl chloride wire (twisted wire) AWG18 (0.75mm ²) Insulation diameter : ø2.1
Number of connectable wires	1		
Wire holding force ²	To the left : 3.5kgf / point or over Forward : 2.0kgf / point or over Upward or downward : 5.0kgf / point or over	To the left : 3.0kgf / point or over Forward : 2.0kgf / point or over Upward or downward : 5.0kgf / point or over	To the left : 3.5kgf / point or over Forward : 2.0kgf / point or over Upward or downward : 5.0kgf / point or over
Lever insertion force	7kgf or less		
Lever pulling force	0.4 to 3kgf		
Lever life (Number of times of use)	10 times : if the lever is pulled out and removed from the terminal block 30 times : if the lever is pulled out of place, but not removed from the terminal block.		
Max. allowable voltage	250 VAC		
Max. allowable current	3 ADC		
Contact resistance	100mΩ or less		
Weight	0.1kg		

*1 Recommended cable list

Use any of UL STYLE 1007, CSA TYPE TR-64 from the below manufacturers.

• A1S-TA32

Manufacture name	Size (AWG)	Conductor		Vinyl insulation.	
		Configuration (N of wires/mm)	External diameter (mm)	Average value (mm)	Standard outside diameter (mm)
Showa electric Wire & Cable Co, Ltd	20	21/0.18	0.95	0.39	1.80
Sumitomo Wiring Systems, Ltd.	20	127/0.16	0.95	0.41	1.77
Fujikura Ltd.	20	7/0.32	0.95	0.41	1.78

• A1S-TA32-3

Manufacture name	Size (AWG)	Conductor		Vinyl insulation.	
		Configuration (N of wires/mm)	External diameter (mm)	Average value (mm)	Standard outside diameter (mm)
Showa electric Wire & Cable Co, Ltd	22	17/0.16	0.76	0.44	1.64
Sumitomo Wiring Systems, Ltd.	22	17/0.16	0.76	0.41	1.58
Fujikura Ltd.	22	7/0.254	0.76	0.41	1.60

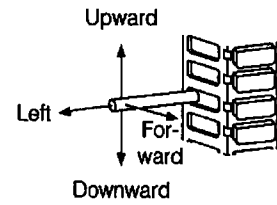
For A1S-TA32-3, although the A1S-TA32-3 can be pressure-displaced by inserting the AWG24 cable (equivalent to 0.2mm²), do not use the way.

*1 Recommended cable list (from previous page)

• A1S-TA32-7

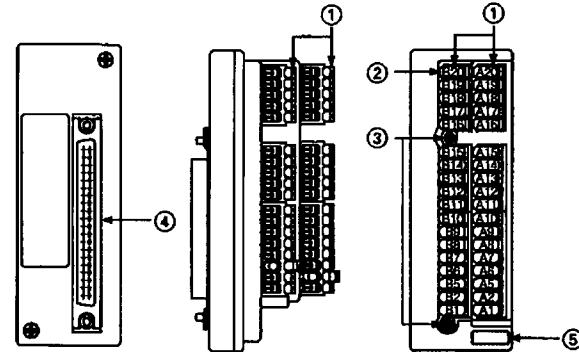
Manufacture name	Conductor			Vinyl insulation.	
	Size (AWG)	Configuration (N of wires/mm)	External diameter (mm)	Average value (mm)	Standard outside diameter (mm)
Showa electric Wire & Cable Co., Ltd	18	34/0.18	1.21	0.46	2.13
Sumitomo Wiring Systems., Ltd.	18	34/0.18	1.20	0.41	2.02
Fujikura Ltd.	18	34/0.18	1.21	0.49	2.20

*2 Directions of the wire holding power



See the user's manual for the CPU module being used for general specifications.

3. NAMES OF PARTS



Part-Number	Name	Description
①	Levers	Levers for connecting wires (After pulling out a lever, be sure to push it back in place)
②	Terminal number	Each terminal number denotes the pin number of the connector corresponding to the terminal at the lever
③	Mounting screws	Screws for mounting the A1S-TA32 on the I/O module. (M2.6 screws)
④	Connector	Connector of the I/O module.
⑤	Indication seal	Seal for indicating the model name and the applicable wire.

4. CAUTIONS ON HANDLING

- Do not drop or give intense shocks to the adapter since the body case is made of resin
- Do not take apart the body case to avoid a fault
- Take the following precautions when connecting or disconnecting a wire
 - When connecting a wire, pull the lever with the attached puller and insert an applicable wire into the hole. Then, push the lever back in place with a finger or the grip of the puller (The wire does not need to be stripped)

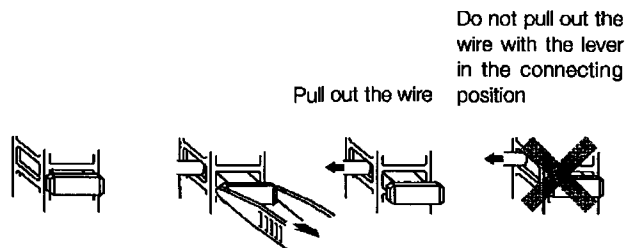


- Be sure to keep all the levers in the connecting position during operation whether or not wires are inserted in the terminal



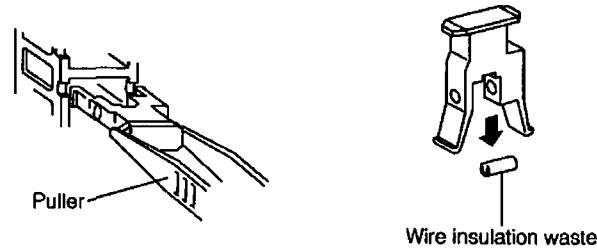
(Connecting position) (Disconnecting position)

- When disconnecting a wire, pull the lever to the disconnecting position (see the illustration under (b)) using the puller. Then, pull out the wire



Do not pull out the wire with the lever in the connecting position

- If the wire insulation waste is left in the terminal block, pull the lever out of the terminal block using the puller and remove the wire insulation waste out of the lever



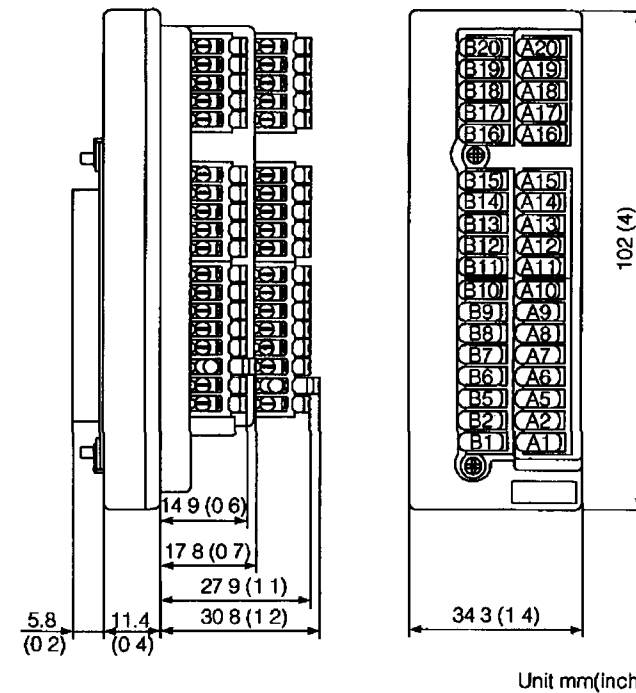
- When reconnecting a disconnected wire, first cut off its end (by approx 10mm)

5. EXTERNAL CONNECTION

The terminal numbers of A1S-TA32 correspond to the connector pin numbers of applicable I/O modules
 (The A1S-TA32 does not have A3/B3 and A4/B4 NC terminals)
 Refer to the specifications of the I/O module (external connection) described in the A1S/A2SCUP(S1) User's Manual (1B-66320) for the name of the signal corresponding to each terminal number (pin number) when external equipment is connected

- A1SJCPU User's Manual IB(NA)66446
- A1SJCPU User's Manual (Hard ware) IB(NA)66469
- A1S/A1SC24-R2/A2S/A2ASCPU(S1) User's Manual (Hard ware) IB(NA)66468
- AnS Module type I/O User's Manual IB(NA)66541

6. OUTSIDE DIMENSIONS



Unit mm (inch)

Country/Region	Sales office/Tel	Country/Region	Sales office/Tel
U.S.A.	Mitsubishi Electric Automation Inc. 500 Corporate Woods Parkway Vernon Hills, IL 60061 Tel: +1-847-478-2100	Hong Kong	Ryoden Automation Ltd. 10th Floor, Manulife Tower, 169 Electric Road, North Point, HongKong Tel: +852-2887-8870
Brazil	MELCO-TEC Rep. Com. e Assessoria Técnica Ltda. Rua Correa Dias, 194, Edifício Paraso Trade Center 8 andar Paraso, Sao Paulo, SP Brazil Tel: +55-11-5908-8331	China	Ryoden Automation Shanghai Ltd. 3F Block 5 Building Automation Instrumentation Plaza 103 Cao Bao Rd. Shanghai 200233 China Tel: +86-21-6120-0808
Germany	Mitsubishi Electric Europe B.V. German Branch Gothaer Strasse 6 D-40880 Ratingen, GERMANY Tel: +49-2102-499-0	Taiwan	Setuyo Enterprise Co., Ltd. 8F, No. 105 WuKung 3rd RD, Wu-Ku Hsiang, Taipei Hsueh, Taiwan Tel: +886-2-2299-2499
UK	Mitsubishi Electric Europe B.V. UK Branch Travellers Lane, Hatfield, Herts., AL10 2XB, UK Tel: +44-1707-278100	Korea	HAN NEUNG TECHNO CO., LTD. 1F, Dong Seo Game Channel Bldg., 880-11, Deungchon-dong Kangseo-ku, Seoul, Korea Tel: +82-2-3660-9552
Italy	Mitsubishi Electric Europe B.V. Italian Branch Centro Dir. Colleon, Pal. Perseo-Ingr 2 Via Paracelso 12, 20041 Agrate B., Milano, Italy Tel: +39-039-6053344	Singapore	Mitsubishi Electric Asia Pte. Ltd. 307 Alexandra Road #05-01/02, Mitsubishi Electric Building Singapore 159943 Tel: +65-6473-2308
Spain	Mitsubishi Electric Europe B.V. Spanish Branch Carretera de Rubi 76-80, 08190 Sant Cugat del Valles, Barcelona, Spain Tel: +34-93-565-3131	Thailand	F.A. Tech Co. Ltd. 899/28,29,30 S.V. City Building, Office Tower 2, Floor 17-18 Rama 3 Road, Bangkokpang, Yannawa, Bangkok 10120 Tel: +66-2-682-8522
France	Mitsubishi Electric Europe B.V. French Branch 25 Boulevard des Bourrets, F-92741 Nanterre Cedex, France TEL: +33-1-5568-5568	Indonesia	P.T. Autolekindo SUMBER MAKMUR Jl. Musara Karang Selatan Blok a Utara No 1 Kar. No 11 Kawasan Industri/Perdagangan Jakarta - Utara 14440 Tel: +62-21-663-0833
South Africa	Circuit Breaker Industries LTD. Tripswitch Drive, Elandsfontein Gauteng, South Africa Tel: +27-11-928-2000	India	Messung Systeme PULLID Electronic Sadan NO. 111 Unit No.15, M.I.D.C. BIKASAPUR, PUNE-411026, India Tel: +91-20-712-2807
		Australia	Mitsubishi Electric Australia Pty. Ltd. 348 Victoria Road, Postal Bag, No 2, Sycamore, N.S.W.2116, Australia Tel: +61-2-9884-7777

MITSUBISHI ELECTRIC CORPORATION
 HEAD OFFICE: 4-1-12, OFFICE TOWER 2, 1st FLOOR, HAKONISHI-KU, KAWASAKI, JAPAN
 TOKYO OFFICE: 1-1, YASU-NIBAN 5-CHOME, HIGASHI-KU, TOKYO, JAPAN

When exported from Japan, this manual does not require application to the Ministry of Economy, Trade and Industry for service transaction permission.

Specifications subject to change without notice
 Printed in Japan on recycled paper