AJ65FBTA2-16T CC-Link System Low Profile Waterproof Type Remote I/O Module User's Manual

SAFETY PRECAUTIONS •

(Read these precautions before using.)

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

These precautions apply only to this equipment. 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 "CAUTIONS" classify the safety precautions into two



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

 When a communication error occurs in the data link, the communication error station will be in the following condition. Configure an interlocking circuit in a sequence program using the communication status information so that the safety of the overall system is always maintained.

Accident may occur due to output error or malfunction.

(1) Input points from remote I/O station will be all switched off.

(2) Output points from remote I/O station will be all switched off.

 Output could be switched on or off when a problem occurs in the remote I/O modules. So build an external monitoring circuit that will monitor any output signals that could cause a serious accident.

≜CAUTION

- Use each module in an environment as specified in the "general specification" in the CPU module user's manual. Usage of the module outside the general specification range may cause electric shock, fire, malfunction, product damage or deterioration.
- Do not have control cables and communication cables bundled with or placed near by the main circuit and/or power cables. Wire those cables at least 100mm(3.94 inch) away from the main circuit and/or power cables. It may cause malfunction due to noise interference.

[INSTALLATION PRECAUTIONS]

- Do not directly touch the module's conductive parts.
- Doing so could cause malfunction or trouble in the module
- Tighten the module securely using DIN rail or installation screws within the specified torque range.

Loose terminal screws may cause a short circuit or erroneous operation. If the terminal screws are too tight, it may cause falling, short circuit or erroneous operation due to damage of the screws.

[WIRING PRECAUTIONS]

Completely turn off the externally supplied power used in the system when installing
or placing wiring. Not completely turning off all power could result in electric shock
or damage to the product.

≜CAUTION

- Be sure to ground the FG terminals to the protective ground conductor.
- Not doing so could result in electric shock or erroneous operation.
 When wiring in the PLC, be sure that it is done correctly by checking the product's
- a when wining in the PLC, be sure that it is done conectly by checking the product s rated voltage and the terminal layout.
- Fix the attachment screws of waterproof cap and communication adapter securely within the specified torque range.
- Loose attachment screws may cause a fire or erroneous operation. If the attachment screws are too tight, it may cause a short circuit or erroneous operation due to damage of the screws.
- Make sure that foreign objects do not get in side the module, such as dirt and wire chips. It may cause fire product failure or malfunction.
- IP67 is only satisfied when the waterproof plug, waterproof cap, and communication adapter are all connected.
- Do not attach the communication cable to the I/O connector, as the I/O connector, the communication connector and the power supply connector are the same in shape.

Failure to do so may cause frailer or malfunction of the PLC.

[WIRING PRECAUTIONS]

- Be sure to fix the wires or cables by ducts or clamps when connecting them to the module. Failure to do so may cause damage of the module or the cables due to accidental pull or unintentional shifting of the cables, or malfunctions due to poor contact of the cable.
- Do not install the control lines together with the communication cables, or bring them close to each other. Failure to do so may cause malfunctions due to noise.
- When disconnecting a communication or power supply cable from the module, do not pull on the cable itself.
 Disconnect cables not fitted with a connectors by holding and pulling the cable connector. Disconnect cables not fitted with a connector by remaining the account

connector. Disconnect cables not fitted with a connector by removing the screws from the part connected to the module can cause damage to the module or cable, or, malfunction due to cable connection faults.

[STARTING AND MAINTENANCE PRECAUTIONS]

DANGER

- Do not touch terminals when the power is on. Doing so could cause an 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.

- Never try to disassemble of modify module. It may cause product failure, malfunction, fire or cause injury.
- Do not drop or apply any strong impact to the module. Doing so may damage the module.
- Completely turn off the externally supplied power used in the system before mounting or removing the module to/from the panel. Not doing so could result in damage to the product.
- Always make sure to touch the grounded metal to discharge the electricity charged in the electricity charged in the body, etc., before touching the module.
 Failure to do say cause a failure or malfunctions of the module.

[DISPOSAL PRECAUTIONS]

≜CAUTION

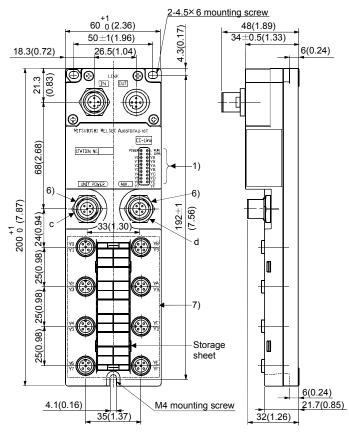
• When disposing of this product, treat it as industrial waste.

1. Specification

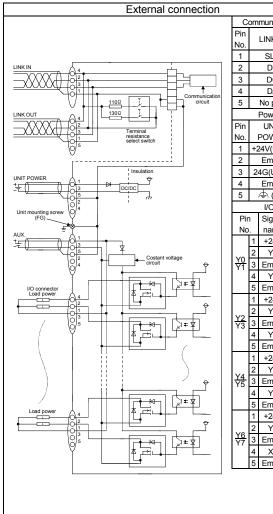
Item		Description			
Number of output points		16 points			
Isolation method		Photocoupler			
Rated load voltage		12/24 V DC			
Operating load voltage range		10.2 to 28.8 V DC (ripple ratio: within 5 %)			
Max. load current		0.5 A/point 4.0 A/common			
Max. load inrush current		1.0 A 10 ms or lower			
Leakage current at OFF		0.25 mA or lower			
Max. voltage drop at	ON	0.15 V or lower (TYP.) 1.0 A, 0.25 V or lower (MAX.) 0.5 A			
Output form		Sink type			
Protect function		Overload protection function, overheat protection function			
Response time	OFF→ON	0.5 ms or lower			
Response time	ON→OFF	1.5 ms or lower (resistive load)			
External power	Voltage	10.2 to 28.8 V DC (ripple ratio: within 5 %)			
supply for output part	Current	20 mA or lower (when 24 V DC, all points ON) Not including external load current			
Surge suppressor		Zener diode			
Wiring method for co	ommon	16 points/1 common (waterproof connector 2-wire type)			
Number of stations of	occupied	1 station 32 points assignment (use 16 points)			
I/O module power	Voltage	20.4 to 26.4 V DC (ripple ratio: within 5 %)			
supply	Current	50 mA or lower (when 24 V DC, all points ON))			
Noise durability		DC type noise voltage 500 Vp-p, noise width 1 µs, noise frequency 25 to 60 Hz (noise simulator condition)			
Withstand voltage		500 V AC for 1 minute between all DC external terminals and ground			
Insulation resistance	1	10 $M\Omega$ or higher, measured with a 500 V DC insulation resistance tester between all DC external terminals and ground			
Protection of degree		IP67			
Weight		0.40 kg			
Option		Waterproof cap: A6CAP-WP2			

For information about the connection devices necessary to use the main module, see the CC-Link System Small-Type Remote I/O Module User's Manual.

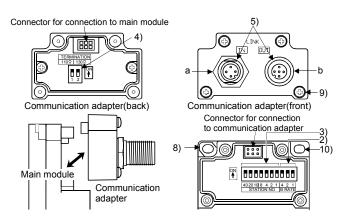
(0706)MEE



Unit: mm(inch)



0		municati	00	~		ootor		
Pin		municau	01	CC	וווכ	lector		
No.		LINK IN		LINK OUT				
1		SLD		SLD				
2		DB				DB		
3		DG		DG				
4		DA			DA			
5		No pins		Empty				
		Power c	on	٦e	cto	r		
Pin		UNIT						
No.		POWER		AUX.				
1	+2	24V(UNI	T)	+24V(I/O)				
2		Empty		Empty				
3	2	4G(UNI	Γ)		24G(I/O)			
4		Empty			Empty			
5		\land (FG)				(FG)		
		I/O cor	_		_			
Pir		Signal		Pin		Signal		
No		name	_	No		name		
	1	+24V			1	+24V		
<u>Y0</u> Y1	2	Y1	Y	<u>8</u> 9	2	Y9		
Y1	-	Empty	Y	9	3	Empty		
	4	Y0			4 5	Y8		
	5	Empty			_	Empty		
	1	+24V		A B	1	+24V		
<u>Y2</u> Y3	2	Y3	Y		2	YB		
Y3	3 4	Empty Y2	. Y		3 4	Empty YA		
	4 5				4 5			
	5 1	Empty +24V			1	Empty +24V		
	2	+24v Y5		C D	2	YD		
<u>Y4</u> Y5	2	Empty	Y		2	Empty		
Y5	4	Y4	Y		4	YC		
	4 5	Empty	ŀ		4 5	Empty		
	1	+24V	-		1	+24V		
	2	Y7		2	YF			
<u>Y6</u> Y7	2	Empty	Ē	2	Empty			
Υ/	4	X6	Y	F	4	YE		
	5	Empty	ŀ		5	Empty		
	-		-					



2. Name and Setting of Each Area

No.	Item						escript				
		_		name				mation c			
					DN: Power supply ON OFF: Power supply OFF						
Operating		L RUN ON: Normal communication OFF: Communication shut off (time expiration error					me expiration error)				
								ata error			
				lash at re	gular inte	ervals	:				
1)	1) status indicator								umber setting or switch position was		
LEDs	L ERR.										
				changed while power is ON Flash at irregular intervals:							
					When the setting of the terminal resistor is wrong						
					when the cable for the module or CC-Link is affected by noise						
				C	OFF: Normal communication						
		Y0	to F	= C	N: Outp	ut ON (OFF: (Output C	FF		
			Se	tting val	ue Se	etting sw		tatus	Transmission speed		
				0	4 OFF		_	OFF	156 kbps		
				1	OF	= Of	F	ON	625 kbps		
2)	Transmission			2	OF		N	OFF	2.5 Mbps		
<u>~)</u>	speed setting switch			3	OF		N	ON OFF	5.0 Mbps 10 Mbps		
		Bo			-	-			ne above range.		
									p part of the module to		
		set	t the	transm	ission spe	ed. (Wh			om the factory, all		
					t to OFF.						
									f the station number.		
									f the station number. e of 1 to 64. (*1)		
									etting the station num		
	Station number	È.	-	to					<u> </u>		
3)	Station number setting switch			Station		ens plac			Ones place		
	setting switch			number	10	20	10	8	4 2 1		
			32 OFF ON ON OFF OFF ON OFF Remove the communication adapter on the top part of the module to								
									p part of the module to e factory, all settings a		
				OFF.)		********	hha		o raciory, an octimys a		
	1	Th	e te	rminal re	esistor car	n be turn	ed to	the ON s	etting by using the sel		
		SW	itch								
	Terminal		DI	P switch OFF		1 DIP switch 2 OFF		Contents No terminal resistance			
4)	resistance		-	OFF		FF			e resistor ON		
	setting switch		L	OFF	-	DN			resistor ON		
								0.11	ام مناطأها ما		
				ON		N			ng prohibited		
		(W	/her	-			, all se		re set to OFF.)		
		(W	/her	shippe			, all se	ettings ar			
		(W	/her	shippe	d from the Silk	factory Conne	ctor fo	ettings ar Con or connec	e set to OFF.) tents cting the transmission		
	Waterproof	(W	/hen a	shippe	d from the	factory, Conne line fro	ctor for m the	Con Con or connect IN side	tents		
5)	connector for	(W		shippe	d from the Silk	Conne line fro (Male 4	ctor for m the 4 pins	ettings an Con or conned IN side)	e set to OFF.) tents cting the transmission (master station side).		
5)	connector for transmission	(\\		LINK	d from the Silk (IN	Conne line fro (Male 4 Conne	ctor fo m the 4 pins ctor fo	Con Con or connect IN side) or connect	e set to OFF.) tents cting the transmission		
5)	connector for	(//		LINK	d from the Silk	Conne line fro (Male 4 Conne line fro the wa	ctor for m the 4 pins ctor for m the terpro	ettings an Con or connec IN side) or connec OUT side oof cap w	e set to OFF.) tents cting the transmission (master station side). cting the transmission		
5)	connector for transmission	(//	а	LINK	d from the Silk (IN	Conne line fro (Male Conne line fro the wa Fema	ctor for m the 4 pins ctor for m the terpro- ale 5	ettings au Con or connec IN side) or connec of connec of cap w poins	e set to OFF.) tents tring the transmission (master station side). tring the transmission te. Be sure to attach then not in use.		
5)	connector for transmission	(W	а	LINK	d from the Silk (IN	Conne line fro (Male Conne line fro the wa Fema	ctor for m the 4 pins ctor for m the terpro- ale 5	ettings au Con or connec IN side) or connec of connec of cap w poins	e set to OFF.) tents cting the transmission (master station side). cting the transmission de. Be sure to attach		
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,	connector for transmission line *2 Waterproof	(///	а	LINK	d from the Silk (IN OUT	Conne line fro (Male 4 Conne line fro the wa Fema (Tighte	ctor for om the 4 pins ctor for om the terpro- ale 5 ening to ctor for	ettings an Con or connect IN side) or connect of cap w bins torque ra Con or supply	e set to OFF.) tents ting the transmission (master station side). ting the transmission le. Be sure to attach hen not in use. nge: 29 to 34 N.cm) tents ing power to the		
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*1: Duplicate station number cannot be set.

*2: Waterproof connector (based on IEC947-5-2, M12 type)