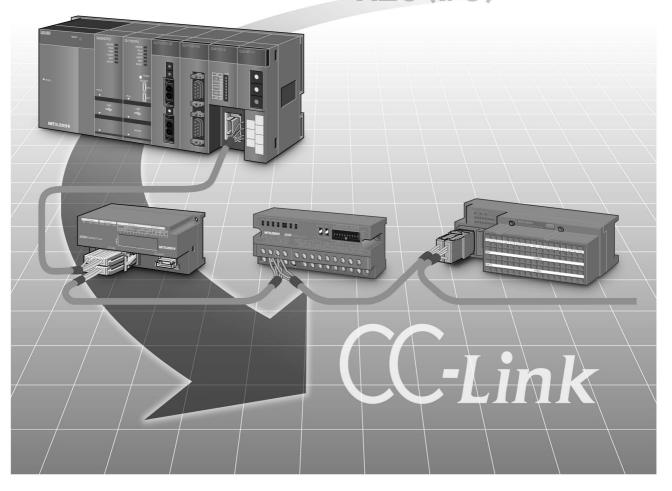


Programmable Controller

Transition from MELSECNET/MINI-S3, A2C (I/O) to CC-Link Handbook

MELSECNET/MINI-S3 A2C (I/O)



Sep. 2023 Edition

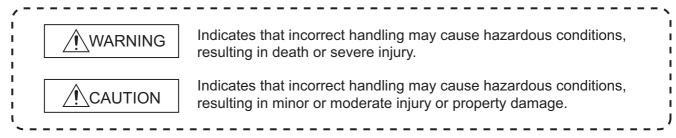
SAFETY PRECAUTIONS

(Read these precautions before using this product.)

Before using this product, please read this handbook and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

The precautions given in this handbook are concerned with this product only. For the safety precautions of the programmable controller system, refer to the user's manual for the CPU module used.

In this handbook, the safety precautions are classified into two levels: "/NWARNING" and "/NCAUTION".



Under some circumstances, failure to observe the precautions given under "____CAUTION" may lead to serious consequences. Observe the precautions of both levels because they are important for personal and system safety.

Make sure that the end users read this handbook and then keep the manual in a safe place for future reference.

■When replacing with the Q series

[Design Precautions]

WARNING

- For the operating status of each station after a communication failure in the data link, refer to the MELSEC-Q CC-Link System Master/Local Module User's Manual. Failure to do so may result in an accident due to an incorrect output or malfunction.
- When connecting a peripheral with the CPU module or connecting an external device, such as a personal computer, with an intelligent function module to modify data of a running programmable controller, configure an interlock circuit in the program to ensure that the entire system will always operate safely. For other forms of control (such as program modification or operating status change) of a running programmable controller, read the relevant manuals carefully and ensure that the operation is safe before proceeding. Especially, when a remote programmable controller is controlled by an external device, immediate action cannot be taken if a problem occurs in the programmable controller due to a communication failure. To prevent this, configure an interlock circuit in the program, and determine corrective actions to be taken between the external device and CPU module in case of a communication failure.
- Do not write any data to the "system area" of the buffer memory in the intelligent function module. Also, do not use any "use prohibited" signal as an output signal from the CPU module to the intelligent function module. Doing so may cause malfunction of the programmable controller system.
- To set a refresh device in the network parameter, select the device Y for the remote output (RY) refresh device ("Remote Output (RY)"). If a device other than Y, such as M and L, is selected, the CPU module holds the device status even after its status is changed to STOP. For how to stop data link, refer to the MELSEC-Q CC-Link System Master/Local Module User's Manual.
- If a CC-Link dedicated cable is disconnected, the network may be unstable, resulting in a communication failure of multiple stations. Configure an interlock circuit in the program to ensure that the entire system will always operate safely even if communications fail. Failure to do so may result in an accident due to an incorrect output or malfunction.

[Design Precautions]

CAUTION

 Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm or more between them. Failure to do so may result in malfunction due to noise.

[Installation Precautions]

CAUTION

- Use the programmable controller in an environment that meets the general specifications in the user's manual for the CPU module used. Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.
- To mount the module, while pressing the module mounting lever located in the lower part of the module, fully insert the module fixing projection(s) into the hole(s) in the base unit and press the module until it snaps into place. Incorrect mounting may cause malfunction, failure or drop of the module. When using the programmable controller in an environment of frequent vibrations, fix the module with a screw.
 - Tighten the screws within the specified torque range. Undertightening can cause drop of the screw, short circuit or malfunction. Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction. Shut off the external power supply (all phases) used in the system before mounting or removing the module. Failure to do so may result in damage to the product.
- Shut off the external power supply (all phases) used in the system before mounting or removing the module. Failure to do so may result in damage to the product.
- Do not directly touch any conductive parts and electronic components of the module. Doing so can cause malfunction or failure of the module.

[Wiring Precautions]

WARNING

- Shut off the external power supply (all phases) used in the system before installation and wiring.
 Failure to do so may result in electric shock or damage to the product.
- After wiring, attach the included terminal cover to the module before turning it on for operation. Failure to do so may result in electric shock.

[Wiring Precautions]

CAUTION

- Use applicable solderless terminals and tighten them within the specified torque range. If any spade solderless terminal is used, it may be disconnected when the terminal screw comes loose, resulting in failure.
- Tighten the terminal screws within the specified torque range. Undertightening can cause short circuit, fire, or malfunction. Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction.
- Do not install the control lines or communication cables together with the main circuit lines or power cables. Failure to do so may result in malfunction due to noise.
- Prevent foreign matter such as dust or wire chips from entering the module. Such foreign matter can cause a fire, failure, or malfunction.
- A protective film is attached to the top of the module to prevent foreign matter, such as wire chips, from entering the module during wiring. Do not remove the film during wiring. Remove it for heat dissipation before system operation.
- Use CC-Link dedicated cables for a CC-Link system. If not, the performance of the CC-Link system is not guaranteed. For the maximum station-to-station distance and the overall cable distance, follow the specifications in Section 2.2 and the MELSEC-Q CC-Link System Master/Local Module User's Manual. If not, normal data transmission is not guaranteed.
- Place the cables in a duct or clamp them. If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the module or cables or malfunction due to poor contact.
- When disconnecting the cable from the module, do not pull the cable by the cable part. For the cable with connector, hold the connector part of the cable. For the cable connected to the terminal block, loosen the terminal screw. Pulling the cable connected to the module may result in malfunction or damage to the module or cable.

[Startup and Maintenance Precautions]

WARNING

- Do not touch any terminal while power is on. Doing so will cause electric shock or malfunction.
- Shut off the external power supply (all phases) used in the system before cleaning the module or retightening the terminal screws or module fixing screws. Failure to do so may result in electric shock or cause the module to fail or malfunction. Undertightening can cause drop of the screw, short circuit or malfunction. Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction.

[Startup and Maintenance Precautions]

<u>^</u>CAUTION

- Do not disassemble or modify the modules. Doing so may cause failure, malfunction, injury, or a fire.
- Shut off the external power supply (all phases) used in the system before mounting or removing the module. Failure to do so may cause the module to fail or malfunction.
- After the first use of the product, do not mount/remove the module to/from the base unit, and the terminal block to/from the module more than 50 times (IEC 61131-2 compliant) respectively.
 Exceeding the limit of 50 times may cause malfunction.
- Before handling the module, touch a grounded metal object to discharge the static electricity from the human body. Failure to do so may cause the module to fail or malfunction.

[Disposal Precautions]

CAUTION

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

■When replacing with the L series

[Design Precautions]

MARNING

- For the operating status of each station after a communication failure, refer to the MELSEC-L CC-Link System Master/Local Module User's Manual in this manual.
 - Incorrect output or malfunction due to a communication failure may result in an accident.
- When connecting a peripheral with the CPU module or connecting an external device, such as a personal computer, with an intelligent function module to modify data of a running programmable controller, configure an interlock circuit in the program to ensure that the entire system will always operate safely.

For other forms of control (such as program modification or operating status change) of a running programmable controller, read the relevant manuals carefully and ensure that the operation is safe before proceeding.

Especially, when a remote programmable controller is controlled by an external device, immediate action cannot be taken if a problem occurs in the programmable controller due to a communication failure.

To prevent this, configure an interlock circuit in the program, and determine corrective actions to be taken between the external device and CPU module in case of a communication failure.

- Do not write any data to the "system area" of the buffer memory in the intelligent function module.
 Also, do not use any "use prohibited" signals as an output signal from the CPU module to the intelligent function module.
 - Doing so may cause malfunction of the programmable controller system.
- To set the auto refresh parameter, select the device Y for the remote output (RY) refresh device. If a
 device other than Y, such as M and L, is selected, the CPU module holds the device status even after
 its status is changed to STOP.
 - For how to stop a data link, refer to the MELSEC-L CC-Link System Master/Local Module User's Manual.
- If a CC-Link dedicated cable is disconnected, the network may be unstable, resulting in a communication failure of multiple stations.
 - Configure an interlock circuit in the program to ensure that the entire system will always operate safely even if communications fail.
 - Failure to do so may result in an accident due to an incorrect output or malfunction.

[Design Precautions]

ACAUTION

 Do not install the control lines or communication cables together with the main circuit lines or power cables.

Keep a distance of 100mm or more between them.

Failure to do so may result in malfunction due to noise.

[Installation Precautions]

↑ WARNING

 Shut off the external power supply (all phases) used in the system before mounting or removing a module.

Failure to do so may result in electric shock or cause the module to fail or malfunction.

[Installation Precautions]

ACAUTION

- Use the programmable controller in an environment that meets the general specifications in the Safety Guidelines provided with the CPU module or head module.
 - Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.
- To interconnect modules, engage the respective connectors and securely lock the module joint levers until they click.
 - Incorrect interconnection may cause malfunction, failure, or drop of the module.
- Do not directly touch any conductive parts and electronic components of the module.
 Doing so can cause malfunction or failure of the module.

[Wiring Precautions]

MARNING

- Shut off the external power supply (all phases) used in the system before wiring.
 Failure to do so may result in electric shock or cause the module to fail or malfunction.
- After installation and wiring, attach the included terminal cover to the module before turning it on for operation.

Failure to do so may result in electric shock.

[Wiring Precautions]

ACAUTION

- Use applicable solderless terminals and tighten them within the specified torque range.
 If any spade solderless terminal is used, it may be disconnected when a terminal block screw comes loose, resulting in failure.
- Do not install the control lines or communication cables together with the main circuit lines or power cables.

Failure to do so may result in malfunction due to noise.

- Place the cables in a duct or clamp them.
 - If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the module or cables or malfunction due to poor contact.
- Tighten the terminal block screws within the specified torque range.
 - Undertightening can cause short circuit or malfunction.
 - Overtightening can damage the screw and/or module, resulting in drop, short circuit, fire, or malfunction.
- When disconnecting the cable from the module, do not pull the cable by the cable part.
 - For the cable with connector, hold the connector part of the cable.
 - For the cable connected to the terminal block, loosen the terminal screw.
 - Pulling the cable connected to the module may result in malfunction or damage to the module or cable.
- Prevent foreign matter such as dust or wire chips from entering the module.
 - Such foreign matter can cause a fire, failure, or malfunction.
- A protective film is attached to the top of the module to prevent foreign matter, such as wire chips, from entering the module during wiring.
 - Do not remove the film during wiring.
 - Remove it for heat dissipation before system operation.
- For the CC-Link system, use dedicated cables that are specified by the manufacturer.
 - If not, the performance of the CC-Link system is not guaranteed.
 - Also, the maximum overall cable length and the station-to-station cable length must meet those specified in Section 2.2 and the MELSEC-L CC-Link System Master/Local Module User's Manual. If not, normal data transmission is not guaranteed.

[Startup and Maintenance Precautions]

MARNING

- Do not touch any terminal while power is on.
 - Doing so will cause electric shock or malfunction.
- Shut off the external power supply (all phases) used in the system before cleaning the module or retightening the terminal block screws.
 - Failure to do so may result in electric shock.

[Startup and Maintenance Precautions]

CAUTION

- Do not disassemble or modify the modules.
 Doing so may cause failure, malfunction, injury, or a fire.
- Shut off the external power supply (all phases) used in the system before mounting or removing a module.
 - Failure to do so may cause the module to fail or malfunction.
- Tighten the terminal block screws within the specified torque range.
 Undertightening can cause drop of the component or wire, short circuit, or malfunction.
 Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction.
- After the first use of the product (module and terminal block), do not connect/disconnect the product more than 50 times (in accordance with IEC 61131-2).
 Exceeding the limit may cause malfunction.
- Before handling the module, touch a conducting object such as a grounded metal to discharge the static electricity from the human body.
 Failure to do so may cause the module to fail or malfunction.

[Disposal Precautions]

ACAUTION

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

CONDITIONS OF USE FOR THE PRODUCT

- (1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;
 - i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
 - ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.
- (2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries. MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.

("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above restrictions, Mitsubishi may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTs are required. For details, please contact the Mitsubishi representative in your region.

REVISIONS

* The handbook number is given on the bottom left of the back cover.

Print Date	* Handbook Number	Revision
Dec., 2005	L(NA)08061ENG-A	First edition
Aug., 2007	L(NA)08061ENG-B	Model addition
		Addition of modules to be replaced
		AJ65DBTB1-32D, AJ65BTB1-16D, AJ65BTB2-16D, AJ65DBTB1-32R,
		AJ65DBTB1-32T1, AJ65BTB1-16T, AJ65DBTB1-32DR, AJ65DBTB1-32DT1,
		AJ65BT-R2N, A6ADP-1MC16D, A6ADP-1MC16T, A6ADP-2MC16D
		Partial correction
		SAFETY PRECAUTIONS, Section 1.1, Section 1.2, Section 5.1, Section 5.2.1,
		Section 5.2.2, Section 5.2.3, Section 5.3, Chapter 8, Section 9.2, Appendix 1.3
Mar., 2008	L(NA)08061ENG-C	Model addition
		Renewal tool for A0J2
		Partial correction
		Section 1.1, Section 1.2 to Section 1.4 → Section 1.3 to Section 1.5,
		Section 1.3, Section 5.1, Section 5.2.1 to Section 5.2.3, Section 8.2,
		Appendix 1 → Appendix 2, Appendix 2.1, Appendix 2.4, Appendix 2.5
Mar., 2013	L(NA)08061ENG-D	Deletion of the AJ65BT-R2 from the alternative models
		Addition
		CONDITIONS OF USE FOR THE PRODUCT, GENERIC TERMS AND
		ABBREVIATIONS, Specifications comparison between AX80Y10C and
		AJ65DBTB1-32DR
		Partial correction
		SAFETY PRECAUTIONS, Section 1.3.2, Section 1.5, Section 2.1, Section 2.2.1,
		Section 2.2.2, Section 8.1, Section 8.2, Section 9.2, Appendix 2, WARRANTY
Feb., 2016	L(NA)08061ENG-E	Model addition
		LJ61BT11, L26CPU-(P)BT, A2CCPU
		Addition
		Section 4.1.2
		Partial addition
		Cover, Section 1.1, 1.4, 2.1, 5.1, 5.2, WARRANTY
		Change
		Chapter 9 → Appendix 1, Appendix1 → Appendix 2, Appendix 2 → Appendix 3
		Partial correction
		SAFETY PRECAUTIONS, GENERIC TERMS AND ABBREVIATIONS, Section
		4.1, 6.1, 6.2, 7.2, 8.2

Print Date	* Handbook Number	Revision
Sep., 2018	L(NA)08061ENG-F	Partial correction
		GENERIC TERMS AND ABBREVIATIONS, Section 1.3.1, 1.4, 1.5, 2.1, 5.1, 5.3,
		Chapter 8
Sep., 2018	L(NA)08061ENG-G	Partial correction
		Front cover, back cover
Sep., 2023	L(NA)08061ENG-H	Partial correction
		Chapter 6
	I	

Japanese Handbook Version L-08057-J

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- For the products shown in handbooks for transition, catalogues, and transition examples, refer to the manuals for the relevant products and check the detailed specifications, precautions for use, and restrictions before replacement.
 - For the products manufactured by Mitsubishi Electric Engineering Co., Ltd., Mitsubishi Electric System & Service Co., Ltd., and other companies, refer to the catalogue for each product and check the detailed specifications, precautions for use, and restrictions before use.
 - The manuals and catalogues for our products, products manufactured by Mitsubishi Electric Engineering Co., Ltd., and Mitsubishi Electric System & Service Co., Ltd. are shown in Appendix of each handbook for transition.
- Products shown in this handbook are subject to change without notice.

GENERIC TERMS AND ABBREVIATIONS

Unless otherwise specified, this handbook uses the following generic terms and abbreviations.

Generic term/abbreviation	Description	
Series	An abbreviation for large types of Mitsubishi Electric MELSEC-A series programmable	
A series	controllers	
AnS series	An abbreviation for compact types of Mitsubishi Electric MELSEC-A series	
Allo selles	programmable controllers	
A/AnS series	A generic term for A series and AnS series	
An abbreviation for large types of Mitsubishi Electric MELSEC-QnA series		
QIIA SCIICS	programmable controllers	
QnAS series An abbreviation for compact types of Mitsubishi Electric MELSEC-QnA series		
QII/ CO SCIICS	programmable controllers	
QnA/QnAS series	A generic term for QnA series and QnAS series	
A/AnS/QnA/QnAS series	A generic term for A series, AnS series, QnA series, and QnAS series	
Q series	An abbreviation for Mitsubishi Electric MELSEC-Q series programmable controllers	
L series	An abbreviation for Mitsubishi Electric MELSEC-L series programmable controllers	
ICPU module type		
CPU module	A generic term for A series, AnS series, QnA series, QnAS series, Q series, and L	
	series CPU modules	
Process CPU	A generic term for the Q02PHCPU, Q06PHCPU, Q12PHCPU, and Q25PHCPU	
Redundant CPU	A generic term for the Q12PRHCPU and Q25PRHCPU	
	A generic term for the Q00UJCPU, Q00UCPU, Q01UCPU, Q02UCPU, Q03UDCPU,	
	Q03UDVCPU, Q03UDECPU, Q04UDHCPU, Q04UDVCPU, Q04UDEHCPU,	
Universal model QCPU	Q06UDHCPU, Q06UDVCPU, Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU,	
	Q13UDHCPU, Q13UDVCPU, Q13UDEHCPU, Q20UDHCPU, Q20UDEHCPU,	
	Q26UDHCPU, Q26UDVCPU, and Q26UDEHCPU	
LCPU	A generic term for the L02SCPU, L02SCPU-P, L02CPU, L02CPU-P, L06CPU,	
LOPO	L06CPU-P, L26CPU, L26CPU-P, L26CPU-BT, and L26CPU-PBT	
Built-in CC-Link function	The abbreviation for the L26CPU-BT/L26CPU-PBT built-in CC-Link system	
Built-in CC-Link function	master/local function	
ICPU module model		
ACPU	A generic term for MELSEC-A series CPU modules	
AnSCPU	A generic term for MELSEC-AnS series CPU modules	
	A generic term for the A1NCPU, A1NCPUP21/R21, A1NCPUP21-S3, A2NCPU,	
AnNCPU	A2NCPU-S1, A2NCPUP21/R21, A2NCPUP21/R21-S1, A2NCPUP21-S3(S4),	
	A3NCPU, A3NCPUP21/R21, and A3NCPUP21-S3	
A A ODL I	A generic term for the A2ACPU, A2ACPU-S1, A3ACPU, A2ACPUP21/R21,	
AnACPU	A2ACPUP21/R21-S1, and A3ACPUP21/R21	
AnUCPU	A generic term for the A2UCPU, A2UCPU-S1, A3UCPU, and A4UCPU	
AnUS(H)CPU	A generic term for the A2USCPU, A2USCPU-S1, A2USHCPU-S1	
A/AnSCPU	A generic term for MELSEC-A series and -AnS series CPU modules	
AnN/AnACPU	A generic term for the AnNCPU and AnACPU	
AnN/AnA/AnSCPU	A generic term for the AnNCPU, AnACPU, and AnSCPU	
ASCODIL	A generic term for the A2CCPU, A2CCPU-DC24V, A2CCPUP21/R21, A2CCPUC24(-	
A2CCPU	PRF), and A2CJCPU	
QnACPU	A generic term for MELSEC-QnA series CPU modules	
QnASCPU	A generic term for MELSEC-QnAS series CPU modules	
QnA/QnASCPU	A generic term for MELSEC-QnA series and -QnAS series CPU modules	
1/1×2/0×1/0×1/0×1/0×1/0×1/0×1/0×1/0×1/0×1/0×1	A generic term for MELSEC-A series, -AnS series, -QnA series, and -QnAS series CPU	
A/AnS/QnA/QnASCPU	modules	
QCPU	A generic term for MELSEC-Q series CPU modules	
LCPU	A generic term for MELSEC-L series CPU modules	

1

INTRODUCTION

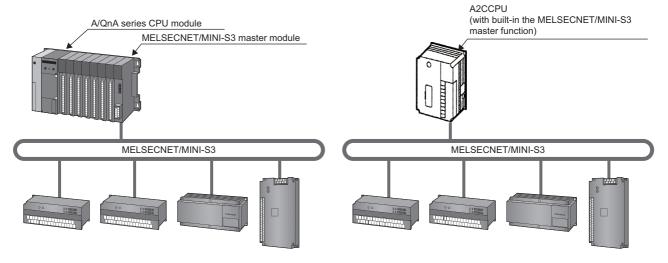
1.1 Replacing with MELSEC-Q/L series

The MELSEC-Q/L series does not have a MELSECNET/MINI-S3 master module. For this reason, it is recommended to use the CC-Link system when replacing the MELSECNET/MINI-S3 system using the MELSEC-Q/L series.

(Before replacement)

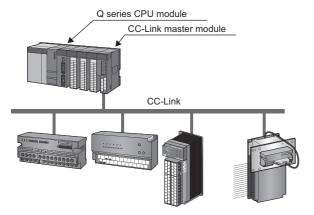
Configuration example of MELSECNET/MINI

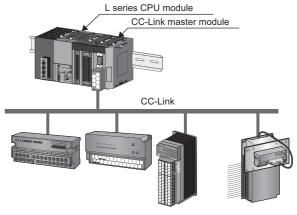
• Configuration example of A2CCPU



(After replacement)

• Configuration example of when the CPU module is replaced with the QCPU • Configuration example of when the CPU module is replaced with the LCPU

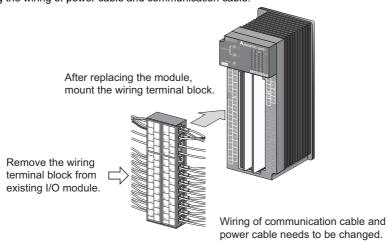




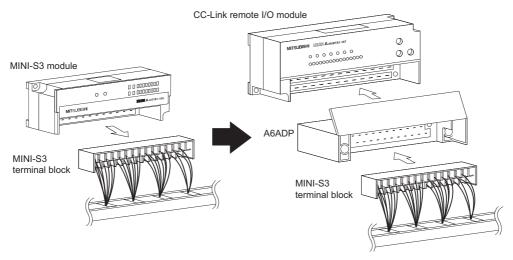
1.2 Suggestions for Replacement with the Remote I/O Module of CC-Link System

Module before		Corresponding module	
replacement (current status)	Туре	Outline	(before replacement → after replacement)
	CC-Link system compact type remote I/O module	Reconfiguration of the system is easy. Selecting the best match model from the wide selection of modules for a module before replacement is possible.	(All models)
MELSECNET/MINI-S3- compatible module (AJ35□-□) A2C (I/O) module (A□C)	CC-Link system remote I/O module (A2C shape)	Module mounting size is the same. This A2C shape CC-Link I/O module has the same shape (same mounting dimensions) with A2C (I/O) module. No processing for mounting holes is required when replacing the module. I/O signal wiring is the same. Since the terminal block of the same shape is used, I/O signal wiring is the same. Optional products are available. The A6DIN1C and A2CCOM-TB (sold separately) are available. If the A2C (I/O) is used before replacement, it can be utilized.	AX41C/AX81C → AJ65DBTB1-32D AY51C → AJ65DBTB1-32T1 AX40Y50C → AJ65DBTB1-32DT1 AY13C → AJ65DBTB1-32R AX40Y10C/AX80Y10C → AJ65DBTB1-32DR
	CC-Link system remote I/O module	Change in wiring is unnecessary. By using a wiring conversion adapter, terminal block of the module before replacement can be utilized to the module after replacement "2 (regarding communication cable and power cable, wiring change is required).	AJ35TB1-16D → AJ65BTB1-16D AJ35TB2-16D → AJ65BTB2-16D AJ35TB1-16T → AJ65BTB1-16T

*1 Man-hour taken for wiring change can be reduced since wiring to the external device can also be used by partially changing the wiring of power cable and communication cable.



*2 Image figure of replacement using wiring conversion adapter



INTRODUCTION MELSEC

1.3 Suggestions for Replacement with Renewal tool for A0J2

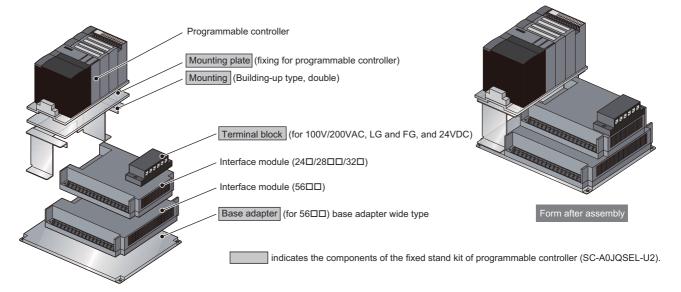
1.3.1 Advantages of using renewal tool for A0J2 (manufactured by Mitsubishi Electric System & Service Co., Ltd.)

(1) Renewal tool for A0J2

This tool is for replacing the existing MELSECNET/MINI-S3 compact type I/O module with a CC-Link module. It is composed of the interface module to which wiring terminal block of existing I/O module can be attached, components for a programmable controller, and connection cable.

Also, the interface module has the conversion function that converts AC input into DC input and DC output into relay output and triac output. The interface module can be replaced with the 40-pin connector type DC I/O module.

(a) Configuration example of Renewal tool for A0J2



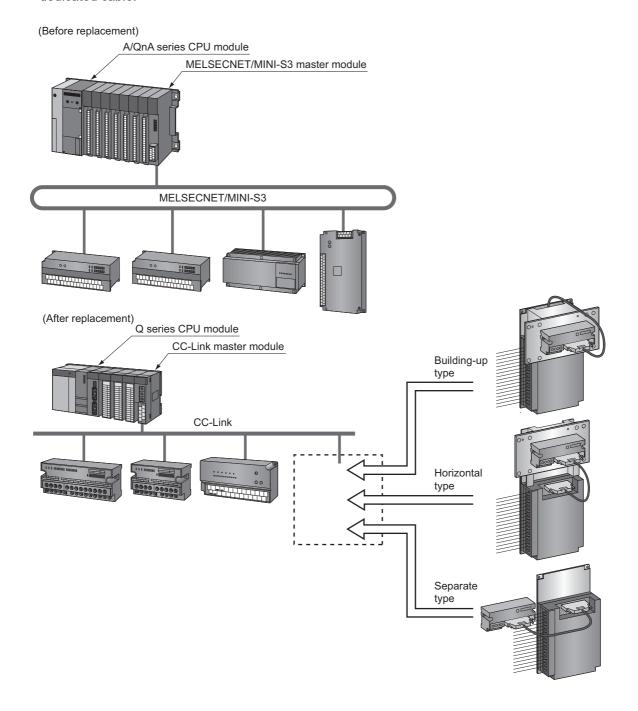
For details on the renewal tool for A0J2, interface modules, and mounting dimensions, refer to the following.

 Renewal tool for A0J2 series Transition from MELSEC-A0J2(H) series to renewal system using renewal tool (Issued by Mitsubishi Electric System & Service Co., Ltd.)

(2) Using existing cables

Although the A/QnA series CPU module is replaced with the Q series CPU module, the external wiring terminal block attached to the existing MELSECNET/MINI-S3 compact type remote I/O module can be utilized to the interface module. It allows to replace the modules without external wiring change. (The module is replaced with 40-pin connector type DC I/O module of CC-Link.)

Also, new wiring is unnecessary since the CC-Link I/O module is connected to the interface module with dedicated cable.



⊠POINT

For specifications comparison and functional comparison between the existing MELSECNET/MINI-S3 compact type remote I/O module and the renewal tool for A0J2 after replacement, refer to APPENDICES.

(3) Processing the mounting holes is unnecessary.

Mounting dimensions of the base adapter included with renewal tool for A0J2 is the same with dimensions of existing A0J2 I/O module. Replacement without processing the mounting holes is possible.

(4) I/O address change is unnecessary.

By replacing the MELSECNET/MINI-S3 compact type remote I/O module with 40-pin connector type DC input/output module of CC-Link, the I/O address assignment of the MELSECNET/MINI-S3 compact type remote I/O module can be utilized.

It eliminates I/O address change and allows substantial reduction of program correction.

(5) List of alternative models

Model to be discontinued (MELSECNET/ MINI-S3)		Alternative model (CC-Link/renewal tool for A0J2)			
Doctor Model		CC-Link		Renewal tool for A0J2 ^{*1}	
Product	Model	CC-LIIIK	Interface module	Fixed stand kit of programmable controller*2*3	
Input module	AJ35PTF-32A	AJ65SBTCF1-32D	SC-A0JQIF32A		
input module	AJ35PTF-32D	A3033B1C1 1-32D	SC-A0JQIF32D		
	AJ35PTF-24R		SC-A0JQIF24R		
Output module	AJ35PTF-24S	AJ65SBTCF1-32T	SC-A0JQIF24S	SC-A0JQSES-U1 (Building-up type, single)	
	AJ35PTF-24T		SC-A0JQIF24T	SC-A0JQSES-F (Horizontal type, single)	
	AJ35PTF-28AR		SC-A0JQIF28AR	SC-A0JQBSS (Separate type, single)	
	AJ35PTF-28AS		SC-A0JQIF28AS	30-A00QB33 (Separate type, sirigle)	
	AJ35PTF-28DR		SC-A0JQIF28DR		
	AJ35PTF-28DS		SC-A0JQIF28DS		
1/0	AJ35PTF-28DT	AJ65SBTCF1-32D+	SC-A0JQIF28DT		
I/O module	AJ35PTF-56AR	AJ65SBTCF1-32T	SC-A0JQIF56AR	CO AO IOCEL LIA (Desilatione en tempo pinale)	
	AJ35PTF-56AS		SC-A0JQIF56AS	SC-A0JQSEL-U1 (Building-up type, single)	
	AJ35PTF-56DR		SC-A0JQIF56DR	SC-A0JQSEL-U2 (Building-up type, double)	
	AJ35PTF-56DS		SC-A0JQIF56DS	SC-A0JQSEL-F (Horizontal type, single/double) SC-A0JQBSL (Separate type, single/double)	
	AJ35PTF-56DT		SC-A0JQIF56DT	_ GO-AGGEDGE (Geparate type, Strigte/double)	

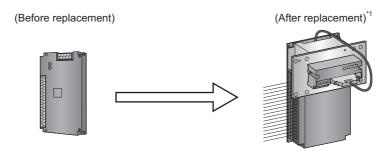
- *1 The renewal tool for A0J2 series Interface module and the cable for connecting the CC-Link I/O module (SC-A0JQCDDM) are also required.
- *2 The fixed stand of programmable controller is equipped with a Q33B mounting plate as standard equipment. A separately-sold mounting plate (SC-A0JQPT2) is required to use CC-Link modules.
- *3 To use fixed stands of programmable controller for double stack, arrange the CC-Link module for the second stand on a location different from the installation surface of the existing panel. (Up to two CC-Link modules can be mounted on the existing space.)

For details, refer to the related catalogs and manuals issued by Mitsubishi Electric System & Service Co., Ltd.

1.3.2 Proposal of replacement with renewal tool for A0J2

(1) Building-up type

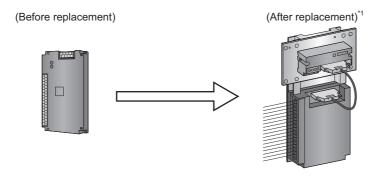
The CC-Link I/O module can be built up to the existing panel if there is room for depth in front of existing module, and can be installed on the installation surface of the existing panel.



^{*1:} Up to two CC-Link I/O modules can be used for a renewal tool for A0J2. Install the third CC-Link I/O module or later separately.

(2) Horizontal type

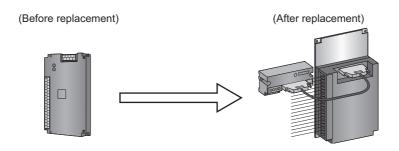
The CC-Link I/O module can be installed horizontally, if there is room above the existing module.



^{*1:} Up to two CC-Link I/O modules can be used for a renewal tool for A0J2. Install the third CC-Link I/O module or later separately.

(3) Separate type

When CC-Link I/O modules cannot be stacked or installed horizontally, install them separately.



Remark

Other than CC-Link, replacement to the QCPU or AnSCPU is possible. For details, contact your local Mitsubishi sales representative. (refer to Section 1.5).

1.4 Precautions for Replacement

- (a) Before replacing MELSECNET/MINI-S3 with CC-Link, be sure to refer to the manuals for each of the CC-Link modules, and confirm the functions, specifications, grounding method and methods of use of the modules.
- (b) For replacement using renewal tool for A0J2, always refer to the following manual. Select correct products after checking the functions, specifications, and usage. (Reference manual)
 - Renewal tool for A0J2 series transition from MELSEC-A0J2(H) series to renewal system using renewal tool (Refer to Appendix 2.5.)
- (c) When stations installing a MELSECNET/MINI-S3 CC-Link module wiring conversion adapter to the CC-Link remote I/O module (AJ65BTB1-16D, AJ65BTB2-16D or AJ65BTB1-16T) is mixed, the maximum number of connected modules is 32 with the use of a version 1.10 compatible CC-Link dedicated cable. (No restrictions when using cables other than a version 1.10 compatible CC-Link dedicated cable.)
- (d) After replacing MELSECNET/MINI-S3 with CC-Link, be sure to check operation of the entire system before starting actual operation.

⊠POINT

Before replacement, make sure again that the frame ground of the programmable controller system is securely grounded.

The noise tolerance of programmable controllers is secured by diverting noise to ground via the frame ground as an EMC measure.

For this reason, the system might be affected by noise according to reconfiguring the system if grounding is insufficient.

Also, consider the following as a provisional measure when checking grounding status is difficult.

- (1) Change the ground of the system into an exclusive ground.
- (2) Add on a ferrite core between the ground wire and the module FG terminal.

1.5 Contact of the Relevant Products

Renewal tool manufactured by Mitsubishi Electric Engineering Co., Ltd.

For products manufactured by Mitsubishi Electric Engineering Co., Ltd., contact your local sales representative.

Introduction of "replacement of MELSEC-A series, system renewal service, and renewal tool for A0J2"

For replacement of MELSEC-A series and system renewal service, contact your local sales representative.

PERFORMANCE SPECIFICATIONS **COMPARISONS**

2.1 Performance Specifications Comparisons between MELSECNET/MINI-S3 and CC-Link

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

	Specifications			Compatibility	Precautions for	
	item	MELSECNET/MINI-S3	A2CCPU	CC-Link	Compatibility	replacement
Per master	Max. number of link stations	64 stations (8 points/station)		64 stations (32 points/ station)	0	
station	Maximum control I/O points	1024 points *1	512 points	4096 points + 512 words	0	
Number o modules r		Max. 64 modules (according to the specifications for the CPU module used.)	The CPU has specifications equivalent to those of a master module.	When setting parameters with GX Works2/GX Developer: Max. 8 modules *2*3 When setting parameters with dedicated instructions: Max. 64 modules*3 (according to the specifications for the CPU module used.)	0	
Communi	cation speed	1.51	1.5Mbps		0	
Transmiss	sion method	Ri	ng	Bus	×	New cable must be laid.
Overall ca	able distance	No restriction		1200m (at 156kbps)	×	When the transmission distance exceeds 1200m, use a CC-Link repeater module.
Max. trans distance b stations		Optical data link: 50m (35m)*4 Twisted pair data link: 100m (50m)*5	Twisted pair data link: 100m (50m)*5	1200m (at 156kbps)	0	
	of occupied I/ oer stations	In I/O dedicated mode: 32 points In extended mode: 48 points		32 points	Δ	For the extended mode, the number of occupied points changes.



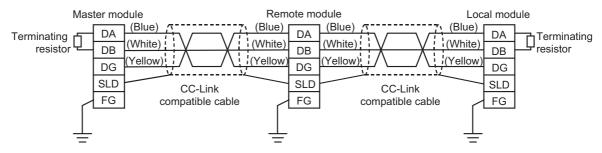
- *1: When 16 separate refresh type remote I/O modules AJ35PTF-128DT (number of occupied stations: 4) are connected, 1024 I/O points each can be controlled.
- *2: The following CPU modules have the restriction of the number of modules mounted.
 - Q00UJ/Q00U/Q01UCPU: 2
 - Q02UCPU: 4
 - L02S/L02CPU(-P): 2
 - L06/L26CPU(-P): 4
 - L26CPU-(P)BT: Built-in CC-Link function + 3
- *3: Total number of CC-Link master stations and local stations.
- *4: When a 2VTPE-1 optical combined vinyl-insulated sheath cable (manufactured by Mitsubishi Cable Industries, Ltd.) is used, the max. transmission distance between stations is 35m.
- *5: The max. transmission distance between stations varies according to the size of the twisted pair cable. 0.2mm² or more to less than 0.5mm² ... 50m, 0.5mm² or more ... 100m

2.2 Wiring in CC-Link

New cables must be laid when replacing MELSECNET/MINI-S3 with CC-Link as the two systems differ in the applicable cable types.

2.2.1 CC-Link Ver.1.00 cable specifications

(1) Connection method

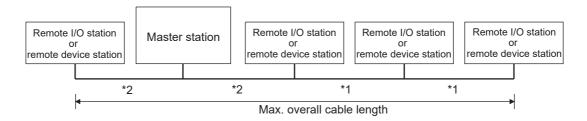


In the CC-Link system, the terminal resistor to be connected varies according to the cable to be used.

Cable type	Terminal resistor	
CC-Link dedicated cable	110 Ω 1/2 W (brown/brown)	
CC-Link dedicated high-performance cable	130 Ω 1/2 W (brown/orange/brown)	

(2) Cable length between stations, max. overall cable length

1) When the system is composed of only remote I/O stations and remote device stations



^{*1:} Cable length between remote I/O stations or remote device stations

CC-Link dedicated cable (110 Ω used as terminal resistor)

Transmission speed	Cable length be	Max. overall cable length	
mansimssion speed	*1	*2	wax. Overall cable length
156kbps			1200m
625kbps	30cm or more		600m
2.5Mbps			200m
5Mbps	30cm to 59cm*	1m or more	110m
Simple	60cm or more	ini oi more	150m
	30cm to 59cm*		50m
10Mbps	60cm to 99cm*		80m
	1m or more		100m

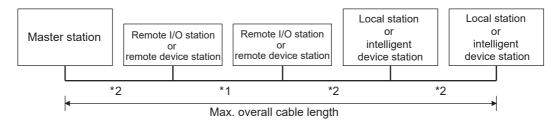
CC-Link dedicated high-performance cable (130 Ω used as terminal resistor)

Transmission speed		Cable length between stations		Max. overall cable length
ITAIISIIIIS	Sion Speed	*1	*2	
156	Skbps			1200m
625	ikbps			900m
2.5	Mbps			400m
5M	1bps	30cm or more		150m
10Mbps	Number of connected modules :1 to 32 Number of connected modules	30cm to 39cm* 40cm or more	1m or more	100m 80m 100m
	:33 to 48 Number of connected	30cm to 39cm* 40cm to 69cm*		20m 30m
	modules :49 to 64	70cm or more		100m

^{*} When an actual cable length between remote I/O stations or remote device stations is in this range at even one location, the above max. overall cable length applies.

^{*2:} Cable length between master station and next stations

2) When the system is composed of remote I/O stations, remote device stations, local stations, and intelligent device stations



^{*1:} Cable length between remote I/O stations or remote device stations

CC-Link dedicated cable (110 $\!\Omega$ used as terminal resistor)

Transmission speed	Cable length be	Max. overall cable length		
ITalisillissioil speed	*1	*2	Max. Overall cable leffgtil	
156kbps			1200m	
625kbps	30cm or more		600m	
2.5Mbps			200m	
5Mbps	30cm to 59cm*	2m or more	110m	
Sylvips	60cm or more	ZIII OI IIIOIE	150m	
	30cm to 59cm*		50m	
10Mbps	60cm to 99cm*		80m	
	1m or more		100m	

CC-Link dedicated high-performance cable (130 Ω used as terminal resistor)

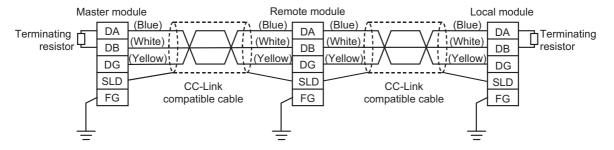
Transmission speed	Cable length be	Max. overall cable length	
rransinission speed	*1	*2	Max. Overall cable length
156kbps			1200m
625kbps	30cm or more		600m
2.5Mbps			200m
EMbpo	30cm to 59cm*	2m or more	110m
5Mbps	60cm or more	60cm or more	
10Mbps	70cm to 99cm*		50m
Tolvibps	1m or more		80m

^{*} When an actual cable length between remote I/O stations or remote device stations is in this range at even one location, the above max. overall cable length applies.

^{*2:} Cable length between master/local stations or intelligent device stations and next stations

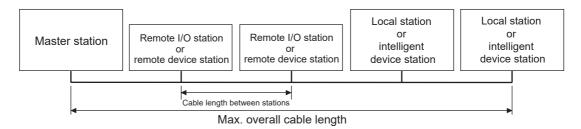
2.2.2 CC-Link Ver.1.10 cable specifications

(1) Connection method



Cable type	Terminal resistor
Ver1.10-compatible CC-Link dedicated cable	110 Ω 1/2 W (brown/brown)

(2) Cable length between stations, max. overall cable length



Ver.1.10-compatible CC-Link dedicated cable (110 Ω used as terminal resistor)

Transmission speed	Cable length between stations	Max. overall cable length
156kbps		1200m
625kbps		900m
2.5Mbps	20cm or more	400m
5Mbps		160m
10Mbps	1	100m

3

FUNCTIONAL COMPARISONS

3.1 Functional Comparisons between MELSECNET/MINI-S3 and CC-Link

O: Compatible, △: Partial change required, ×: Not compatible

Item					Precautions for replacement
		MELSECNET/MINI-S3	NI-S3 CC-Link		Precautions for replacement
Commur with rema		Communication with batch refresh type remote I/O modules, separate refresh type remote I/O modules and remote terminal modules is possible.	Communication with remote I/O stations, remote device stations, local stations, and intelligent device stations is possible.	×	Create new programs as the two systems are not compatible in the program.
RAS function	Communication / line error detection	Communications with all stations sometimes is discontinued when an error occurs on even one station. The faulty station is detected on the master station and is stored to buffer memory.	Only the faulty station is disconnected, and communication with other stations is continued normally. The faulty station is detected on the master station and is stored to buffer memory.	Δ	The method of confirmation is different. Review the program.
RA9		Breakage of the optical cables and twisted pair cables can be checked by changing the operation mode of the master station.	Breakage of twisted pair cables can be checked by changing the operation mode of the master station.	Δ	program.
Others	Monitor station function	The I/O status of the remote I/O module can be monitored by the LEDs on the master station.	None	×	Connect the programming tool and check by the device monitor.

4

REPLACING MASTER MODULE/REMOTE MODULE

4.1 Replacing Master Module

4.1.1 List of alternative master module models

MELSECNET/MINI-S3 models to be discontinued		Alternative model for CC-Link		
Product name	Model name	Model name	Remarks (restrictions)	
Master module	AJ71PT32-S3	QJ61BT11N/LJ61BT11/ L26CPU-(P)BT	Examine replacement with CC-Link. For details, refer to the User's Manual for the respective	
	AJ71T32-S3			
	A1SJ71PT32-S3	(Built-in CC-Link function)	module.	
	A1SJ71T32-S3	(Built-III CG-LINK TUNCTION)	module.	

4.1.2 List of alternative models for the A2CCPU

MELSECNET/MINI-S3 models to be discontinued		Alternative model for CC-Link		
Product name Model name		Model name	Remarks (restrictions)	
	A2CCPU	QJ61BT11N/LJ61BT11/ L26CPU-(P)BT (Built-in CC-Link function)		
	A2CCPUP21		The A2CCPU is a CPU that has a built-in master	
	A2CCPUR21		function of the MELSECNET/MINI-S3. Examine replacement of the built-in master function with	
CPU module	A2CCPU-DC24			
CPO module	A2CCPUC24		CC-Link.	
	A2CCPUC24-		Separately select CPU modules and other functions	
	PRF		depending on the existing control contents.	
	A2CJCPU			

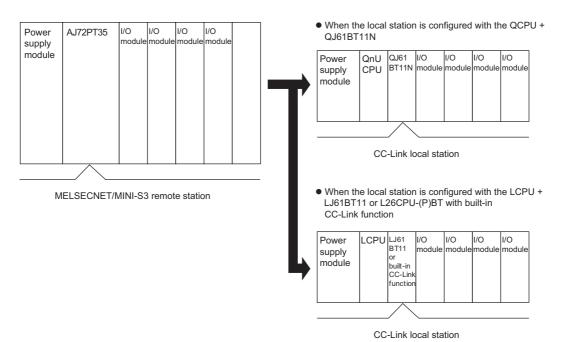
4.2 Replacing Remote Module

CC-Link does not have a remote module that uses a building block type I/O module. When replacing a remote module, consider replacing it with each CC-Link remote module or a local station.

4.2.1 List of alternative remote module models

MELSECNET/MINI-S3 models to be discontinued		Alternative models for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)
Remote module	AJ72PT35	None	Consider replacing it with each CC-Link remote module
Nemote module	AJ72T35	None	or a local station ^{*1} .

^{*1:} A program is required for a CC-Link local station as it cannot directly control I/O modules. For this reason, the following system changes are required.



5

REPLACING I/O MODULE

5.1 List of Alternative I/O Module Models

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative model for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)
	AX11C	AJ65SBTB2N-16A	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 6mA → Approx. 7mA) Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Required Change in input resistance: Required 5) Change in functions: Required (2-wire type for inputs)
Input module	AX21C	None	No alternative model Please consider using the FA goods FA- TH16X200A31L. (The FA goods are manufactured by Mitsubishi Electric Engineering Co., Ltd.) The 24VDC input module for CC-Link (AJ65SBTCF1-32D) is required to use the FA goods.
	AX31C	AJ65SBTB1-32D	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Required (12/24VAC, 12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in input response time: Required (35/30ms→ 1.5ms) 5) Change in functions: Required (12/24VAC, 12VDC not allowed)

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative model for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)
			1) Change in external wiring: Required
			2) Change in number of modules (2 modules necessary)
			3) Change in program
			Change in number of occupied I/O points: Required
			4) Change in specifications
	AJ35PTF-32A ^{*1}	AJ65SBTB2N-16A	Change in rated input voltage: Not required
			Change in rated input current: Required (Approx.
			10mA → Approx. 7mA)
			Change in ON voltage/ON current: Required
			Change in OFF voltage/OFF current: Required
			Change in input resistance: Required
			5) Change in functions: Required (2-wire type for inputs)
Input module			1) Change in external wiring: Required
			2) Change in number of modules: Not required
			3) Change in program
			Change in number of occupied I/O points: Not required
			4) Change in specifications
			Change in rated input voltage: Required (12VDC not
	AX41C	AJ65SBTB1-32D	allowed)
			Change in rated input current: Not required
			Change in ON voltage/ON current: Required
			Change in OFF voltage/OFF current: Required
			Change in input resistance: Not required
			Change in input response time: Required
			(10ms → 1.5ms)
			5) Change in functions: Required (12VDC not allowed)

	I-S3, A2C models to be ontinued		Alternative models for CC-Link
Product name	Model name	Model name	Remarks (restrictions)
	AX41C	AJ65DBTB1-32D	 Change in external wiring: Required (Communication cable and power cable only) Change in number of modules: Not required Change in program Change in number of occupied I/O points: Not required Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Required (Approx. 7mA → Approx. 5mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in input response time: Not required
Input module	1.010	AJ65SBTB1-32D	 5) Change in functions: Required (12VDC not allowed) 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) 5) Change in functions: Required (12VDC not allowed)
	AX81C AJ65DBTB1-32D	 Change in external wiring: Required (Communication cable and power cable only) Change in number of modules: Not required Change in program Change in number of occupied I/O points: Not required Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Required (Approx. 7mA → Approx. 5mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in input response time: Not required Change in functions: Required (12VDC not allowed) 	

	I-S3, A2C models to be ontinued		Alternative models for CC-Link
Product name	Model name	Model name	Remarks (restrictions)
	AJ35PTF-32D ^{*1}	AJ65SBTB1-32D	 Change in external wiring: Required Change in number of modules: Not required Change in program Change in number of occupied I/O points: Not required Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in functions: Required
Input module	AJ35TB1-16A	AJ65SBTB2N-16A	 (12VDC not allowed, no optics) 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program
	AJ35TB2-8D	AJ65SBTB3-8D	 Change in external wiring: Required Change in number of modules: Not required Change in program Change in number of occupied I/O points: Required Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in functions: Required (2-wire type → 3-wire type)
	AJ35TB3-8D	AJ65SBTB3-8D	 Change in external wiring: Required Change in number of modules: Not required Change in program Change in number of occupied I/O points: Required Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in functions: Not required

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)
Product name	Model name AJ35TB1-16D	Model name AJ65SBTB1-16D	Remarks (restrictions) 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required
			Change in input response time: Required
			(10ms → 1.5ms)
			5) Change in functions: Not required

	MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)	
	AJ35TB1-16D	AJ65BTB1-16D	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Not required 5) Change in functions: Not required	
	AJ35TB2-16D	AJ65SBTB3-16D	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) 5) Change in functions: Required (2-wire type → 3-wire type)	
Input module		AJ65BTB2-16D	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Not required 5) Change in functions: Not required	
	AJ35TC1-32D	AJ65SBTCF1-32D	 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) 5) Change in functions: Not required 	

	MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)	
	AY13C	AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for outputs)	
		AJ65DBTB1-32R	1) Change in external wiring: Required (Communication cable and power cable only) 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Not required	
Output module	AY15CEU	AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required (Note that a connect life is half.) 5) Change in functions: Required (2-wire type for outputs)	
		AJ65DBTB1-32R	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: : Not required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Not required	
	AY23C	AJ65SBTB2N-16S	 Change in external wiring: Required Change in number of modules (2 modules necessary) Change in program Change in number of occupied I/O points: Required Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.3A → Approx. 0.6A) Change in functions: Required (2-wire type for outputs) 	

	MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)	
	AY51C	AJ65SBTB1-32T1	 Change in external wiring: Required Change in number of modules: Not required Change in program Change in number of occupied I/O points: Not required Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.3A → Approx. 0.5A) Change in functions: Not required 	
Output module	AY51C	AJ65DBTB1-32T1	1) Change in external wiring: Required (Communication cable and power cable only) 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.3A → Approx. 0.5A) 5) Change in functions: Not required	
Output module		AJ65SBTB1-16TE	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Required (5VDC not allowed) Change in rated output current: Required (Approx. 2A → Approx. 0.1A) 5) Change in functions: Required (5VDC not allowed)	
	AY61CE	AJ65SBTB1-32TE1	 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated output voltage: Required (5VDC not allowed) Change in rated output current: Required (Approx. 2A → Approx. 0.5A) 5) Change in functions: Required (5VDC not allowed) 	

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)
Output module	AY81C	AJ65SBTB1-16TE	 Change in external wiring: Required Change in number of modules (2 modules necessary) Change in program Change in number of occupied I/O points: Required Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.5A → Approx. 0.1A) Change in functions: Not required
		AJ65SBTB1-32TE1	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Not required
	AJ35PTF-24S* ¹	AJ65SBTB2N-16S	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for outputs, no high-speed type fuse, no optics)

	MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link
Product name	Model name	Model name	Remarks (restrictions)
Output module	AJ35PTF-24T ^{*1}	AJ65SBTB1-32T1	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (no optics)
	AJ35TB1A-8R	AJ65SBTB2N-8R	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (Change to 16 points per common (2-wire type))
	AJ35TB2-8R	AJ65SBTB2N-8R	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Not required
	AJ35TB1-16R	AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for outputs)
	AJ35TB1A-8T	AJ65SBTB1-8T1	 Change in external wiring: Required Change in number of modules: Not required Change in program Change in number of occupied I/O points: Required Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.3A → Approx. 0.5A) Change in functions: Required (Change to 16 points per common (2-wire type))
	AJ35TB2-8T	AJ65SBTB2-8T1	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (5VDC not allowed) Change in rated output current: Not required 5) Change in functions: Required (5VDC not allowed)

	MELSECNET/MINI-S3, A2C models to be discontinued		Alternative model for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)	
Output module	AJ35TB1-16T	AJ65SBTB1-16T1	 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.1A → Approx. 0.5A) 5) Change in functions: Not required 	
		AJ65BTB1-16T	 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.1A → Approx. 0.5A) 5) Change in functions: Not required 	
	AJ35TB2-16T	AJ65SBTB2-16T1	 Change in external wiring: Required Change in number of modules: Not required Change in program Change in number of occupied I/O points: Required Change in specifications Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.1A → Approx. 0.5A) Change in functions: Not required 	
	AJ35TC1-32T	AJ65SBTCF1-32T	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Not required 6) Others: External wiring connectors not attached	
	AJ35PTF-24R ^{*1}	AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules: Required (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for outputs, no optics)	

^{*1:} Replacement using renewal tool for A0J2 is possible (refer to Appendix 2).

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative model for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)
	AX10Y10C	AJ65SBTB2N-16A + AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 6mA → Approx. 7mA) Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for I/Os)
I/O module	AX10Y22C	AJ65SBTB2N-16A + AJ65SBTB2N-16S	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 6mA → Approx. 7mA) Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.3A → Approx. 0.6A) 5) Change in functions: Required (2-wire type for I/Os)

	IINI-S3, A2C models iscontinued		Alternative models for CC-Link
Product name	Model name	Model name	Remarks (restrictions)
			1) Change in external wiring: Required
			2) Change in number of modules (2 modules necessary)
			3) Change in program
			Change in number of occupied I/O points: Required
			4) Change in specifications
			Change in rated input voltage: Required
			(12VDC not allowed)
		AJ65SBTB1-16D	Change in rated input current: Not required
		+	Change in ON voltage/ON current: Required
		AJ65SBTB2N-16R	Change in OFF voltage/OFF current: Required
			Change in input resistance: Not required
			Change in input response time: Required
			(10ms → 1.5ms)
			Change in rated output voltage: Not required
			Change in rated output current: Not required
			5) Change in functions: Required
	AX40Y10C		(2-wire type for outputs, 12VDC not allowed)
			Change in external wiring: Required
		AJ65SBTB32-16DR	2) Change in number of modules: Required (2 modules
			necessary)
			3) Change in program
			Change in number of occupied I/O points: Required
			4) Change in specifications
			Change in rated input voltage: Required
I/O module			(12VDC not allowed)
i/O module			Change in rated input current: Not required
			·
			Change in ON voltage/ON current: Required
			Change in OFF voltage/OFF current: Required
			Change in input resistance: Not required
			Change in rated output voltage: Not required
			Change in rated output current: Not required
			5) Change in functions: Required (12VDC not allowed)
			1) Change in external wiring: Required (Communication
			cable and power cable only)
			2) Change in number of modules: Not required
			3) Change in program
			Change in number of occupied I/O points: Not
			required
			4) Change in specifications
	43/403/400	4 105DDTD4 00DD	Change in rated input voltage: Required
	AX40Y10C	AJ65DBTB1-32DR	(12VDC not allowed)
			Change in rated input current: Required (Approx. 7mA
			→ Approx. 5mA)
			Change in ON voltage/ON current: Required
			Change in OFF voltage/OFF current: Required
			Change in input resistance: Required
			Change in rated output voltage: Not required
			Change in rated output current: Not required
			5) Change in functions: Required (12VDC not allowed)

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link			
Product name	Model name	Model name	Remarks (restrictions)		
		AJ65SBTB1-32DT2	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Required (12VDC not allowed) Change in rated output current: Required (Approx. 0.3A → Approx. 0.5A)		
I/O module	AX40Y50C	AJ65DBTB1-32DT1	 5) Change in functions: Required (12VDC not allowed) 1) Change in external wiring: Required (Communication cable and power cable only) 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Required (Approx. 7mA → Approx. 5mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in input response time: Not required Change in rated output voltage: Not required Change in rated output current: Required (Approx. 0.3A → Approx. 0.5A) 5) Change in functions: Required (12VDC not allowed) 		

MELSECNET/MINI-S3, A2C models		Alternative models for CC-Link		
to be d	iscontinued			
Product name	Model name	Model name	Remarks (restrictions)	
I/O module	AX80Y10C	AJ65SBTB1-16D + AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required Change in functions: Required (2-wire type for outputs, 12VDC not allowed) 1) Change in external wiring: Required (Communication cable and power cable only) 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Required (Approx. 7mA	
			→ Approx. 5mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (12VDC not allowed) 1) Change in external wiring: Required	
	AX80Y14CEU	AJ65SBTB1-16D + AJ65SBTB2N-16R	2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in rated output voltage: Not required Change in rated output current: Not required (Note that a connect life is half.) 5) Change in functions: Required (2-wire type for outputs, 12VDC not allowed)	

	IINI-S3, A2C models iscontinued	Alternative models for CC-Link		
Product name	Model name	Model name	Remarks (restrictions)	
	AX80Y80C	AJ65SBTB1-16D + AJ65SBTB1-16TE	 Change in external wiring: Required Change in number of modules (2 modules necessary) Change in program Change in number of occupied I/O points: Required Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Required Change in rated output current: Required (Approx. 0.5A → Approx. 0.1A) Change in functions: Required (12VDC not allowed) 	
I/O module	AX80Y80C	AJ65SBTB1-32DTE1	1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required	
	AJ35PTF-28AR ^{*1}	AJ65SBTB2N-16A + AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary: AJ65SBTB2N-16A × 1 module AJ65SBTB2N-16R × 1 module) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 10mA → Approx. 7mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Not required Change in rated output current: Not required (Note that a contact life is half.) 5) Change in functions: Required (2-wire type for I/Os, no optics)	

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link		
Product name	Model name	Model name	Remarks (restrictions)	
I/O module	AJ35PTF-56AR ^{*1}	AJ65SBTB2N-16A + AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules: Required (4 modules necessary: AJ65SBTB2N-16A × 2 modules AJ65SBTB2N-16R × 2 modules) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 10mA → Approx. 7mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Not required (Note that a connect life is half.) 5) Change in functions: Required (2-wire type for I/Os, no optics)	

^{*1:} Replacement using renewal tool for A0J2 is possible (refer to Appendix 2).

	IINI-S3, A2C models liscontinued	Alternative models for CC-Link		
Product name	Model name	Model name	Remarks (restrictions)	
	AJ35PTF-28AS ^{*1}	AJ65SBTB2N-16A + AJ65SBTB2N-16S	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary: AJ65SBTB2N-16A × 1 module, AJ65SBTB2N-16S × 1 module) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 10mA → Approx. 7mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for I/Os, no high-speed fuse, no optics)	
I/O module	AJ35PTF-56AS*1	AJ65SBTB2N-16A + AJ65SBTB2N-16S	1) Change in external wiring: Required 2) Change in number of modules: Required (4 modules necessary: AJ65SBTB2N-16A× 2 modules AJ65SBTB2N-16S× 2 modules) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 10mA → Approx. 7mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for I/Os, no high-speed fuse, no optics)	
	AJ35PTF-28DS ^{*1}	AJ65SBTB1-16D + AJ65SBTB2N-16S	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required Change in rated output current: Not required Change in functions: Required (2-wire type for outputs, no optics, 12VDC not allowed)	

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link		
Product name	Model name	Model name	Remarks (restrictions)	
I/O module	AJ35PTF-56DS ^{*1}	AJ65SBTB1-32D + AJ65SBTB2N-16S	1) Change in external wiring: Required 2) Change in number of modules: Required (3 modules necessary: AJ65SBTB1-32D × 1 module AJ65SBTB2N-16S × 2 modules) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required 5) Change in functions: Required (2-wire type for outputs, no optics, 12VDC not allowed)	

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link		
Product name	Model name	Model name	Remarks (restrictions)	
	AJ35PTF-28DR ^{*1}	AJ65SBTB1-16D + AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules: Required (2 modules necessary: AJ65SBTB1-16D × 1 module AJ65SBTB2N-16R × 1 modules) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Required Change in rated output current: Not required (Note that a connect life is half.) 5) Change in functions: Required (2-wire type for outputs, no optics, 12VDC not allowed)	
I/O module	AJ35PTF-56DR ^{*1}	AJ65SBTB1-32D + AJ65SBTB2N-16R	1) Change in external wiring: Required 2) Change in number of modules: Required (3 modules necessary: AJ65SBTB1-32D × 1 module AJ65SBTB2N-16R × 2 modules) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required (Note that a connect life is half.) 5) Change in functions: Required (2-wire type for outputs, no optics, 12VDC not allowed)	

^{*1:} Replacement using renewal tool for A0J2 is possible (refer to Appendix 2).

	MINI-S3, A2C models	Alternative models for CC-Link			
Product name	Model name	Model name Remarks (restrictions)			
	AJ35PTF-28DT ^{*1}	AJ65SBTB1-32DT2	 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program		
I/O module	AJ35PTF-56DT ^{*1}	AJ65SBTB1-32D + AJ65SBTB1-32T1	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required Change in rated output current: Not required 5) Change in functions: Required (no optics, 12VDC not allowed)		
	AJ35TB1-16AR	AJ65SBTB2N-8A + AJ65SBTB2N-8R	1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Required (Approx. 6mA → Approx. 7mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in rated output voltage: Not required Change in rated output current: Not required (Note that a connect life is half.) 5) Change in functions: Required (2-wire type for I/Os)		

^{*1:} Replacement using renewal tool for A0J2 is possible (refer to Appendix 2).

	MINI-S3, A2C models	Alternative models for CC-Link		
	iscontinued	Madalmana		
Product name	Model name AJ35TB1-16DR	Model name AJ65SBTB1-8D + AJ65SBTB2N-8R	Remarks (restrictions) 1) Change in external wiring: Required 2) Change in number of modules (2 modules necessary) 3) Change in program Change in number of occupied I/O points: Required 4) Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Not required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required (Note that a connect life is half.) 5) Change in functions: Required	
I/O module	AJ35TB1-16DT	AJ65SBTB1-16DT2	 (2-wire type for outputs) 1) Change in external wiring: Required 2) Change in number of modules: Not required 3) Change in program	
	AJ35TC1-32DT	AJ65SBTCF1-32DT	 Change in external wiring: Required Change in number of modules: Not required Change in program Change in number of occupied I/O points: Not required Change in specifications Change in rated input voltage: Not required Change in rated input current: Not required Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Not required Change in input resistance: Not required Change in input response time: Required (10ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required Change in functions: Not required Change in functions: Not required Others: External wiring connectors not attached 	

MELSECNET/MINI-S3, A2C models to be discontinued Alternative models for CC-Link				
Product name	Model name	Model name	Remarks (restrictions)	
	AJ35PJ-8A			
	AJ35PJ-8D			
Stand-alone I/O module (for optical data link)	AJ35PJ-8R			
	AJ35PJ-8S1	None		
	AJ35PJ-8T1	None		
	AJ35PJ-8T2		No alternative model	
	AJ35PJ-8T3		Consider the following mounting methods.	
	AJ35PJ-8S2		Select a CC-Link I/O module and mount it inside a panel	
	AJ35TJ-8A		or prepare a dedicated mounting box.	
	AJ35TJ-8D		Replace the existing module with a CC-Link water-proof	
Stand-alone	AJ35TJ-8R		module.	
I/O module (for twisted pair data link)	AJ35TJ-8S1	None		
	AJ35TJ-8T1	None		
	AJ35TJ-8T2			
	AJ35TJ-8T3			
	AJ35TJ-8S2			
Separate refresh type remote I/O module	AJ35PTF-128DT	AJ65SBTCF1-32D + AJ65SBTCF1-32T	1) Change in external wiring: Required 2) Change in number of modules (4 modules necessary: AJ65SBTCF1-32D × 2 modules AJ65SBTCF1-32T × 2 modules) 3) Change in program Change in number of occupied I/O points: Not required 4) Change in specifications Change in rated input voltage: Required (12VDC not allowed) Change in rated input current: Required (Approx. 9mA → Approx. 5mA) Change in ON voltage/ON current: Required Change in OFF voltage/OFF current: Required Change in input resistance: Required Change in input response time: Required (107ms → 1.5ms) Change in rated output voltage: Not required Change in rated output current: Not required Change in rated output current: Not required 5) Change in functions: Required (no optics) (64 points are divided into four groups and I/O refresh is performed to each of the four groups. → Batch refresh by units)	

5.2 I/O Module Specifications Comparison

5.2.1 Input module specifications comparison

(1) Specifications comparison between AX11C and AJ65SBTB2N-16A

Number of input points 32 points 16 points	Specif	fications	AX11C	AJ65SBTB2N-16A	Compatibility	hange required, × : Not compatible Precautions for replacement
Number of input points 32 points 16 points X points are used, use two AJ65SBT82N-16A modules. Insulation method Photocoupler Photo	Speci	lications	AXTIC	A3033B1B2N-10A	Compatibility	
Insulation method Photocoupler Photocoupler O Rated input voitage 100-120VAC, 5060Hz 100-120VAC, 5060Hz O O O O O O O O O	Number of input points		32 points	16 points	×	points are used, use two
Rated input voltage 100-120VAC, 50/60Hz 100-120VAC, 50/60Hz ○ Rated input current Approx. 6mA (100VAC, 60Hz) Approx. 7mA (100VAC, 60Hz) ○ Operating voltage range 85 to 132VAC (50/60Hz ± 3%, distribution rate filts) 65 to 132VAC (50/60Hz ± 3%, distribution rate filts) ○ Maximum number of simultaneous input points 75% simultaneously ON (at 110VAC) 00% simultaneously ON (at 110VAC) ○ Max 200mA, within 1ms (with 132VAC) (with 132VAC) 00% simultaneously ON (at 132VAC) ○ ON voltage/0NF current 80V or more/5mA or more 00% within 1ms (with 132VAC) ○ ○ OFF voltage/0FF current 30V or less/1mA or less 30V or less/1/mA or less ○ ○ Input impedance Approx. 18k0 (60Hz), Appro			Dhetecounler	Dhotocounlar		AJ65SBTB2N-16A modules.
Rated input current			'			
See 132VAC (50/60Hz ± 5%) See 132VAC	•			· ·		
Set of 192/AC (50/60Hz ± 5%) (50	Rated input of	current	Approx. 6mA (100VAC, 60Hz)		0	
(50/60Hz ± 5%) distortion rate 5% within)			85 to 132VAC			
Maximum number of simultaneously ON (at 110VAC)	Operating vo	Itage range	(50/60Hz ± 5%)	,	0	
Maximum number of simultaneously ON (at 110VAC)			(00,001.2=0.0)			
Simultaneous input points (at 110VAC) 60% simultaneously ON (at 132VAC) O				_		
Agricultural ecous input points (at 110 VAL) (at 132 VAC) (with 1			,	, , , ,	0	
Max. 200mA, within 1ms	simultaneous	input points	(at 110VAC)			
Inrush current (with 132VAC) (with 132						
ON voltage/ON current 80V or more/SmA or more 80V or more/SmA or more 0	Inrush curren	it	· ·	· ·	0	
OFF voltage/OFF current 30V or less/1mA or less 30V or less/1.7mA or less ○ Input impedance Approx. 18k Q (60Hz), Approx. 18k Q (60Hz), Approx. 18k Q (60Hz), Approx. 18k Q (60Hz) ○ ○ Response time OFF→ON 15ms or less (100VAC, 60Hz) 20ms or less (100VAC, 60Hz) ○ Common terminal arrangement 16 points/common 16 points/common (2-wire type) ○ Common terminal arrangement 4 stations 1 station (1 station x 32 points x 2 modules) x Number of occupied stations (number of occupied points) (4 stations x 8 points) 1 station (1 station x 32 points x 2 modules) x Operation indication ON indication (LED) ON indication (LED) ○ Operation indication ON indication (LED) ON indication (LED) ○ External connection method (M3.5 x 7 screws) Transmission circuit part included Transmission/module power supply parts: 7-point terminal block (M3 x 5.2 screws) (M3 x 5.2 screws) X Change in wiring is required. Applicable wire size 0.75 to 2mm² 0.3 to 2mm² ○ Change in wiring is required. Applicable wire size 0.75 to 2mm² 0.3 to 2mm² ○ Change			·			
Input impedance						
Approx. 21k ((50Hz) Approx. 18k Ω (50Hz) Approx. 18k Ω (50Hz) O	OFF voltage/	OFF current	30V or less/1mA or less	30V or less/1.7mA or less	0	
Approx. 21k Ω (50Hz) Approx. 19k Ω (50Hz) Approx. 19k Ω (50Hz)	Input impoda	nco	Approx. 18k Ω (60Hz),	Approx. 15k Ω (60Hz),		
time ON→OFF 30ms or less (100VAC, 60Hz) 20ms or less (100VAC, 60Hz) ○ Common terminal arrangement 16 points/common (2-wire type) ○ The number of occupied stations (number of occupied points) 4 stations (4 stations × 8 points) 2 points × 2 modules) × increases. The assignment of the entire system needs to be reconsidered. Operation indication ON indication (LED) ON indication (LED) ○ Transmission/module power supply parts: 7-point terminal block (M3.5 × 7 screws) Transmission circuit part included (M3.5 × 7 screws) Transmission circuit part included (M3.5 × 2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3.5 × 5.2 screws) I/O part: 34	iliput illipeda	iice	Approx. 21k Ω (50Hz)	Approx. 18k Ω (50Hz)		
time ON→OFF 30ms or less (100VAC, 60Hz) 20ms or less (100VAC, 60Hz) ○ Common terminal arrangement 16 points/common (2-wire type) ○ The number of occupied stations (number of occupied points) 4 stations (4 stations × 8 points) 2 points × 2 modules) × increases. The assignment of the entire system needs to be reconsidered. Operation indication ON indication (LED) ON indication (LED) ○ Transmission/module power supply parts: 7-point terminal block (M3.5 × 7 screws) Transmission circuit part included (M3.5 × 7 screws) Transmission circuit part included (M3.5 × 2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3.5 × 5.2 screws) I/O part: 34	Response	OFF→ ON	15ms or less (100VAC, 60Hz)	20ms or less (100VAC, 60Hz)	0	
Common terminal arrangement 16 points/common (2-wire type) O The number of occupied points (A stations (A stations (4 stations × 8 points) Operation indication ON indication (LED) ON indication (LED) ON indication (LED) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3.5 × 7 screws) Transmission circuit part included Applicable wire size O.75 to 2mm² Applicable solderless RAV1.25-3.5, RAV2-3.5 RAV1.25-3.5, RAV2-3.5 Voltage 15.6 to 31.2VDC Transmission are only of the points are ON) The operating voltage range differs. The overall size differs. Pay attention to the mounting dimensions. The number of occupied points increases. The assignment of the entire system needs to be reconsidered. The number of occupied points increases. The assignment of the entire system needs to be reconsidered. Change in wiring is required. The overall size differs. The current consumption increases by using two AJ65SBT82N-16As. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	time		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
Applicable wire size Operation of the content of t	Common terr		, , , , , , , , , , , , , , , , , , , ,	16 points/common		
Number of occupied stations (number of occupied points) 4 stations			16 points/common	· ·	0	
(4 stations × 8 points) (4 stations × 8 points) (5 points × 2 modules) (6 points × 2 modules) (7 point servinal block (M3.5 × 7 screws)						The number of occupied points
(A stations × 8 points) Operation indication ON indication (LED) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3.5 × 7 screws) Transmission circuit part included Applicable wire size O.75 to 2mm² Applicable solderless terminal Voltage Voltage Ts.6 to 31.2VDC Current Sema (at 24V TYP.) External dimensions ON indication (LED) On indi	Number of oc	cupied stations	4 stations	1 station (1 station × 32	×	increases. The assignment of
Operation indication ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3.5 × 7 screws) Transmission circuit part included (M3 × 5.2 screws) Applicable wire size O.75 to 2mm² O.3 to 2mm² ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) Applicable wire size O.75 to 2mm² O.3 to 2mm² ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) To supply parts: 7-point terminal block (M3 × 5.2 screws) ON indication (LED) To supply parts: 7-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal block (M3 × 5.2 screws) No part: 34-point terminal	(number of o	ccupied points)	(4 stations × 8 points)	points × 2 modules)		the entire system needs to be
External connection method So-point terminal block (M3.5 × 7 screws) Transmission circuit part included Supply parts: 7-point terminal block (M3 × 5.2 screws) X Change in wiring is required.						reconsidered.
External connection method So-point terminal block (M3.5 × 7 screws) Transmission circuit part included Supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2	Operation inc	dication	ON indication (LED)	ON indication (LED)	0	
External connection method So-point terminal block (M3.5 × 7 screws) Transmission circuit part included So-point terminal block (M3 × 5.2 screws) X Change in wiring is required.				Transmission/module power		
External connection method (M3.5 × 7 screws) Transmission circuit part included Applicable wire size 0.75 to 2mm² Applicable solderless terminal Voltage Voltage Voltage Voltage 15.6 to 31.2VDC Apply Current 56mA (at 24V TYP.) External dimensions (M3. × 5.2 screws) 1/O part: 34-point terminal block (M3 × 5.2 screws) RAV1.25-3 (RAV1.25-3 (Conforming to JIS C 2805) v2-MS3, RAP2-3SL, TGV2-3N V2-MS3, RAP2-3SL, TGV2-3N ADMA or less (24VDC when all points are ON) Applicable solderless terminal Voltage 15.6 to 31.2VDC 15.6 to 31.2VDC ADMA or less (24VDC when all points are ON) AJ65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D)mm A Office A Office A Difference of the mounting dimensions.			50-point terminal block	supply parts:		
Transmission circuit part included A4-point terminal block (M3 × 5.2 screws) O Applicable wire size O Applicable solderless terminal R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5 Transmission circuit part included Transmission circuit part included A4-point terminal block (M3 × 5.2 screws) O Applicable wire size O ANALY 25-3.5, R2-3.5 RAV1.25-3.5 RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N The operating voltage range differs. The current consumption increases by using two AJ65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D)mm A OCCUR.			•	7-point terminal block		
included I/O part: 34-point terminal block	External con	nection method	,	(M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wire size 0.75 to 2mm² 0.3 to 2mm² 0 Applicable solderless terminal			·	I/O part:		
Applicable wire size O.75 to 2mm² ORAV1.25-3 Applicable solderless terminal R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5 RAV1.25-3.5, RAV2-3.5 RAV1.25-3.5, RAV2-3.5 Voltage Voltage Voltage Voltage 15.6 to 31.2VDC 15.6 to 31.2VDC ADMA or less (24VDC when all points are ON) External dimensions 170(H) × 64(W) × 80(D) mm Voltage 0.3 to 2mm² Change in wiring is required. Change in wiring is required. A Change in wiring is required. The operating voltage range differs. A J65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.			included	34-point terminal block		
Applicable solderless terminal R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5 RAV1.25-3.5 RAV1.25-3.5 RAV1.25-3.5 RAV1.25-3.5 RAV1.25-3.5 RAV1.25-3 RAV1.25-3 Conforming to JIS C 2805) V2-MS3 , RAP2-3SL, TGV2-3N The operating voltage range differs. The current consumption increases by using two AJ65SBTB2N-16As. The current capacity needs to be reconsidered. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D)mm × Pay attention to the mounting dimensions.				(M3 × 5.2 screws)		
Applicable solderless terminal R1.25-3.5, R2-3.5 (Conforming to JIS C 2805) × Change in wiring is required. Voltage 15.6 to 31.2VDC 20.4 to 26.4VDC (ripple ratio within 5%) Δ The operating voltage range differs. I/O module power supply Current 56mA (at 24V TYP.) 40mA or less (24VDC when all points are ON) Δ AJ65SBTB2N-16As. The current capacity needs to be reconsidered. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D)mm × Pay attention to the mounting dimensions.	Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
The operating voltage range differs. Voltage Voltage Voltage Voltage Voltage 15.6 to 31.2VDC Voltage 15.6 to 31.2VDC Voltage 15.6 to 31.2VDC Voltage 15.6 to 31.2VDC (ripple ratio within 5%) V2-MS3 , RAP2-3SL, TGV2-3N Z0.4 to 26.4VDC (ripple ratio within 5%) A The operating voltage range differs. The current consumption increases by using two AJ65SBTB2N-16As. The current capacity needs to be reconsidered. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D)mm X Change in wiring is required. A The operating voltage range differs. The current capsumption increases by using two AJ65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	A 11 11		D4 05 0 5 D0 0 5	RAV1.25-3		
Voltage 15.6 to 31.2VDC Voltage 15.6 to 31.2VDC 15.			,	(Conforming to JIS C 2805)	×	Change in wiring is required.
Voltage 15.6 to 31.2VDC (ripple ratio within 5%) A differs. The current consumption increases by using two AJ65SBTB2N-16As. The current capacity needs to be reconsidered. External dimensions 170(H) × 64(W) × 80(D) mm (ripple ratio within 5%) 40mA or less (24VDC when all points are ON) A J65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	terminai		RAV1.25-3.5, RAV2-3.5	V2-MS3 , RAP2-3SL, TGV2-3N		
(ripple ratio within 5%) I/O module power supply Current 56mA (at 24V TYP.) Current 56mA (at 24V TYP.) 40mA or less (24VDC when all points are ON) A J65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.		Valtage	45.6 to 24.2\/DC	20.4 to 26.4VDC		The operating voltage range
power supply Current 56mA (at 24V TYP.) 40mA or less (24VDC when all points are ON) Δ increases by using two AJ65SBTB2N-16As. The current capacity needs to be reconsidered. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D)mm × The overall size differs. Pay attention to the mounting dimensions.		voltage	10.0 to 31.20DC	(ripple ratio within 5%)		differs.
Supply Current 56mA (at 24V TYP.) Current 56mA (at 24V TYP.) Current 56mA (at 24V TYP.) AJ65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	I/O module					The current consumption
Supply Current 56mA (at 24V TYP.) (24VDC when all points are ON) A J65SBTB2N-16As. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	power			40mA or less		increases by using two
External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D)mm × Current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	supply	Current	56mA (at 24V TYP.)		Δ	AJ65SBTB2N-16As. The
External dimensions $170(H) \times 64(W) \times 80(D) \text{ mm}$ $54(H) \times 179(W) \times 40(D) \text{mm}$ \times Pay attention to the mounting dimensions.				(27 V DO WHEIT All POINTS ARE ON)		current capacity needs to be
External dimensions $170(H) \times 64(W) \times 80(D) \text{ mm}$ $54(H) \times 179(W) \times 40(D) \text{mm}$ × Pay attention to the mounting dimensions.						
dimensions.						The overall size differs.
O COLUM	External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D)mm	×	Pay attention to the mounting
Weight 0.62kg 0.25kg △						dimensions.
	Weight		0.62kg	0.25kg	Δ	

(2) Specifications comparison between AX31C and AJ65SBTB1-32D

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specifications		AX31C		AJ65SBTB1-32D	Compatibility	Precautions for replacement
Number of in	put points	32 p	ooints	32 points	0	
Insulation me	ethod	Photocoupler		Photocoupler	0	
Rated input v	/oltage	12/24VDC 12/24VAC 50/60Hz		24VDC	Δ	12/24VAC, 12VDC cannot be used.*1
Rated input of	current		VAC/DC), 24VAC/DC)	Approx. 7mA	Δ	Rated input current is smaller.*2
Operating voltage range		10.2 to 26.4VDC 10.2 to 26.4VAC (ripple ratio (50/60Hz±5%) within 5%)		19.2 to 26.4VDC (ripple ratio within 5%)	Δ	12/24VAC, 12VDC cannot be used.*1
Maximum nu simultaneous			aneously ON 6.4VAC)	100% simultaneously ON	0	
ON voltage/0	ON current	7V or more/	/2mA or more	14V or more/3.5mA or more	Δ	12/24VAC, 12VDC cannot be used.*1
OFF voltage	OFF current		or more A or less	6V or less/1.7mA or less	Δ	12/24VAC, 12VDC cannot be used.*1
Input resistar impedance)	nce (Input	Approx	x 2.7k Ω	Approx. 3.3k Ω	Δ	Input resistance is increased.*2
Response	OFF→ON	30ms or less (12/24VDC)	35ms or less (12/24VAC, 60Hz)	1.5ms or less (at 24VDC)	Δ	The second different
time	ON→OFF	30ms or less (12/24VDC)	35ms or less (12/24VAC, 60Hz)	1.5ms or less (at 24VDC)	Δ	The response times differ.
Common terminal arrangement		16 points/common		32 points/common	Δ	As common terminal arrangement changes from 16 points/common to 32 points/ common, wiring with a different voltage per common is not possible.
Number of or stations (num occupied poi	nber of	4 stations (4 stations × 8 points)		1 station (1 station × 32 points)	0	
Operation inc	dication	ON indication (LED)		ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included		Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	Applicable wire size		o 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3	.5, R2-3.5 .5, RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3 , RAP2-3SL ,TGV2-3N	×	Change in wiring is required.
I/O module Voltage power		15.6 to	31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	56mA (at 2	24VDC TYP.)	45mA or less (24VDC when all points are ON)	0	
External dim	ensions	. , ,	W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.62kg		0.25kg △		

^{*1:} To use at 24VAC, convert to direct current externally before inputting.

^{*2:} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTB1-32D.

(3) Specifications comparison between AJ35PTF-32A and AJ65SBTB2N-16A

 \bigcirc : Compatible, $\ _{\bigtriangleup}$: Partial change required, $\ \times$: Not compatible

Specific	ations	AJ35PTF-32A	AJ65SBTB2N-16A	Compat- ibility	Precautions for replacement
Number of in	put points	32 points	16 points	×	When seventeen or more points are used, use two AJ65SBTB2N-16A modules.
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input v	/oltage	100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input of	current	10mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	Δ	Rated input current is smaller.* 1
Maximum nu simultaneous points		100% simultaneously ON	100% simultaneously ON (at 110VAC) 60% simultaneously ON (at 132VAC)	Δ	Use within specification range.
Inrush currer	nt	Max. 300mA, within 0.3ms (132VAC)	Max. 200mA, within 1ms (132VAC)	0	
ON voltage/0		80V or more/6mA or more	80V or more/5mA or more	0	
OFF voltage, current	OFF	40V or less/4mA or less	30V or less/1.7mA or less	Δ	OFF current has been reduced.* 1
Input impeda	ince	Approx. 10k Ω (60Hz), Approx. 12k Ω (50Hz)	Approx. 15k Ω (60Hz), Approx. 18k Ω (50Hz)	Δ	Input impedance has increased.*1
Response	OFF → ON	15ms or less (6ms TYP.)	20ms or less (100VAC, 60Hz)	0	
time	ON → OFF	35ms or less (16ms TYP.)	20ms or less (100VAC, 60Hz)	0	
Common ter		16 points/common	16 points/common (2-wire type)	0	
Number of or stations (nun occupied poi	nber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External con method	nection	Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N,	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	110mA or less	40mA or less (24VDC when all points are ON)	0	
External dim	ensions	254(H) × 132(W) × 41(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.75kg	0.25kg	Δ	

^{*1} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTB2N-16A.

(4) Specifications comparison between AX41C and AJ65SBTB1-32D

Specif	ications	AX41C	AJ65SBTB1-32D	Compatibility	nange required, × : Not compatible Precautions for replacement
Number of in		32 points	32 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input voltage		12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of		Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
		10.2 to 31.2VDC	19.2 to 26.4VDC		
Operating vo	tage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu	mber of	100% simultaneously ON (at	1000/ simultane qualy ON	0	
simultaneous	input points	26.4VDC)	100% simultaneously ON	0	
ON voltage/C	N current	8V or more/2mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	ice	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
Input method		Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
time		10ms or less (at 24VDC)	1.5ms or less (at 24VDC)		
	ON→OFF	TOTALS OF TESS (at 24VDC)	1.5ms or less (at 24VDC)	0	As common terminal
Common terr arrangement		16 points/common	32 points/common	Δ	arrangement changes from 16 points/common to 32 points/ common, wiring with a different voltage per common is not possible.
Number of o	•	4 stations	1 station		
stations (num		(4 stations × 8 points)	(1 station × 32 points)	0	
Operation inc	•	ON indication (LED)	ON indication (LED)	0	
	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3 , RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	55mA (at 24VDC TYP.)	45mA or less (24VDC when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.6kg	0.25kg	Δ	

(5) Specifications comparison between AX41C and AJ65DBTB1-32D

Specif	ications	AX41C	AJ65DBTB1-32D	Compatibility	Precautions for replacement
Number of in	put points	32 points	32 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	urrent	Approx. 3mA/Approx. 7mA	Approx. 5mA	Δ	Rated input current is smaller. *1
Operating vo	tage range	10.2 to 31.2VDC (ripple ratio within 5%)	20.4 to 31.2VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu	mber of	100% simultaneously ON	100%	0	
simultaneous	input points	(at 26.4VDC)	(at 26.4VDC)	0	
ON voltage/C	N current	8V or more/2mA or more	15V or more/3mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	5V or less/1.5mA or less	Δ	12VDC cannot be used.
Input resistar	ıce	Approx. 3.3k Ω	Approx. 4.7k Ω	Δ	Input resistance becomes higher.*1
Input method		Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
Common terr	ninal	16 points/common	16 points/common (2 points) (terminal block 1-wire type)	0	
Number of oc stations (num occupied poin	ber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit parts included	50-point terminal block (M3.5 × 7 screws) Transmission circuit parts included	0	The number of applicable solderless terminals inserted is within two.
Applicable wi	re size	0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable so	lderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3.5 (Conforming to JIS C 2805) RAV2-3.5	0	
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	55mA (at 24VDC TYP.)	45mA or less (24VDC, when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0	
Weight		0.6kg	0.6kg	0	

^{*1:} Check the specifications of the sensors or switches to be connected to the AJ65DBTB1-32D.

(6) Specifications comparison between AX81C and AJ65SBTB1-32D

Specif	ications	AX81C	AJ65SBTB1-32D	Compatibility	nange required, × : Not compatible Precautions for replacement
Number of in		32 points	32 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input voltage		12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of		Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
		10.2 to 31.2VDC	19.2 to 26.4VDC	Ü	
Operating vol	tage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu	mber of	100% simultaneously ON	1000/ simultane quali ON	0	
simultaneous	input points	(at 26.4VDC)	100% simultaneously ON	0	
ON voltage/C	N current	8V or more/2mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	ice	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
		Positive/negative common	Positive/negative common		
Input method		shared type	shared type	0	
		(sink/source shared type)	(sink/source shared type)		
Response	OFF→ ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Common terr arrangement	ninal	16 points/common	32 points/common	Δ	As common terminal arrangement changes from 16 points/common to 32 points/ common, wiring with a different voltage per common is not possible.
Number of oc	cupied	4 stations	1 station		
stations (num		(4 stations × 8 points)	(1 station × 32 points)	0	
occupied poir	•			_	
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External conr	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so terminal	Iderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	55mA (at 24VDC TYP.)	45mA or less (24VDC when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.6kg	0.25kg	Δ	

(7) Specifications comparison between AX81C and AJ65DBTB1-32D

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specif	ications	AX81C	AJ65DBTB1-32D	Compatibility	Precautions for replacement
Number of in	put points	32 points	32 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input o	urrent	Approx. 3mA/Approx. 7mA	Approx. 5mA	Δ	Rated input current is smaller. *1
Operating vo	Itage range	10.2 to 31.2VDC (ripple ratio within 5%)	20.4 to 31.2VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu	mber of	100% simultaneously ON	100%	0	
simultaneous	input points	(at 26.4VDC)	(at 26.4VDC)	0	
ON voltage/C	N current	8V or more/2mA or more	15V or more/3mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	5V or less/1.5mA or less	Δ	12VDC cannot be used.
l					Input resistance becomes
Input resistar	ice	Approx. 3.3k Ω	Approx. 4.7k Ω	Δ	higher. *1
Input method		Positive/negative common shared type (sink/source shared type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
Common terr	minal	16 points/common	16 points/common (2 points) (terminal block 1-wire type)	0	
Number of oc stations (num occupied poin	ber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External conn	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit parts included	50-point terminal block (M3.5 × 7 screws) Transmission circuit parts included	0	The number of applicable solderless terminals inserted is within two.
Applicable wi	re size	0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3.5 (Conforming to JIS C 2805) RAV2-3.5	0	
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	55mA (at 24VDC TYP.)	45mA or less (24VDC, when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0	
Weight		0.6kg	0.6kg	0	

^{*1:} Check the specifications of the sensors or switches to be connected to the AJ65DBTB1-32D.

(8) Specifications comparison between AJ35PTF-32D and AJ65SBTB1-32D

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specif	ications	AJ35PTF-32D	AJ65SBTB1-32D	Compatibility	nange required, × : Not compatible Precautions for replacement
Number of in		32 points	32 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input v	oltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input current		Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
		10.2 to 31.2VDC	19.2 to 26.4VDC		
Operating vol	tage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nur		75% simultaneously ON	100% simultaneously ON	0	
ON voltage/O	N current	9.5V or more/2.6mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	6.0V or less/1.0mA or less	6.0V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistan	ce	Approx. 3.4k Ω	Approx. 3.3k Ω	0	
Input method		Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (at 6ms TYP.)	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 7.5ms TYP.)	1.5ms or less (at 24VDC)	0	
Common terminal arrangement		16 points/common	32 points/common	Δ	As common terminal arrangement changes from 16 points/common to 32 points/ common, wiring with a different voltage per common is not possible.
Number of oc	cupied stations	4 stations	1 station	_	
(number of oc	cupied points)	(4 stations × 8 points)	(1 station × 32 points)	0	
Operation ind	ication	ON indication (LED)	ON indication (LED)	0	
External connection method		Transmission/module power supply parts: 8-point terminal block (M3 screw) I/O part: 36-point terminal block (M3 × 6 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	110mA	45mA or less (24VDC when all points are ON)	0	
External dime	ensions	254(H) × 132(W) × 41(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.7kg	0.25kg	Δ	

(9) Specifications comparison between AJ35TB1-16A and AJ65SBTB2N-16A

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Speci	ications	AJ35TB1-16A	AJ65SBTB2N-16A	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input of	urrent	Approx. 6mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	0	
		85 to 132VAC	85 to 132VAC		
Operating vo	Itage range		(50/60Hz±3%,	0	
		(50/60Hz ± 5%)	distortion rate 5% within)		
			100% simultaneously ON		
Maximum nu	mber of	100% simultaneously ON	(at 110VAC)	Δ	Use within specification range.
simultaneous	input points	10070 0	60% simultaneously ON	Δ	cos main spesineausi range.
			(at 132VAC)		
ON voltage/C		80V or more/5mA or more	80V or more/5mA or more	0	
OFF voltage/	OFF current	30V or less/1mA or less	30V or less/1.7mA or less	0	
Input impeda	nce	Approx. 18k Ω (60Hz),	Approx. 15k Ω (60Hz),	0	
		Approx. 21k Ω (50Hz)	Approx. 18k Ω (50Hz)	0	
Response	OFF→ ON	15ms or less (100VAC, 60Hz)	20ms or less (100VAC, 60Hz)	0	
time	ON→ OFF	30ms or less (100VAC, 60Hz)	20ms or less (100VAC, 60Hz)	0	
Common terr	ninal	16 mainta/aamman	16 points/common		
arrangement		16 points/common	(2-wire type)	0	
					The number of occupied points
Number of oc	cupied stations	ons 2 stations	1 station	×	increases. The assignment of
(number of o	ccupied points)	(2 stations × 8 points)	(1 station × 32 points)	^	the entire system needs to be
					reconsidered.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
			Transmission/module power		
			supply parts:		
		34-point terminal block	7-point terminal block		
External coni	nection method	(M3 screw)	(M3 × 5.2 screws)	×	Change in wiring is required.
		Transmission circuit part included	I/O part: 34-point terminal block		
			(M3 × 5.2 screws)		
Applicable wi	ro cizo	0.75 to 2mm ²	,	0	
Applicable wi	16 5126	0.75 to 2mm ⁻	0.3 to 2mm ² RAV1.25-3	0	
Applicable so	lderless	R1.25-3, R2-3	(Conforming to JIS C 2805)		In some cases, the solderless
terminal		RAV1.25-3, RAV2-3	V2-MS3, RAP2-3SL, TGV2-3N	Δ	terminal must be changed.
I/O module power supply		15.6 to 31.2VDC	20.4 to 26.4VDC		The operating voltage range
	Voltage	(peak voltage 31.2VDC)	(ripple ratio within 5%)	Δ	differs.
			40mA or less	_	
	Current	50mA (at 24VDC)	(24VDC when all points are ON)	0	
					The overall size differs.
External dime	ensions	55(H) × 166(W) × 50(D) mm	$54(H) \times 179(W) \times 40(D) \text{ mm}$	×	Pay attention to the mounting
					dimensions.
Weight		0.35kg	0.25kg	Δ	

(10) Specifications comparison between AJ35TB2-8D and AJ65SBTB3-8D

 \bigcirc : Compatible, $\, \underline{\wedge} \, :$ Partial change required, $\, \, \times \, :$ Not compatible

Specific	ations	AJ35TB2-8D	AJ65SBTB3-8D	Compat- ibility	Precautions for replacement
Number of in	put points	8 points	8 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	24VDC	24VDC	0	
Rated input of	urrent	Approx. 7mA	Approx. 7mA	0	
0 "		19.2 to 26.4VDC	19.2 to 26.4VDC		
Operating vo	itage range	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum nu simultaneous points		100% simultaneously ON	100% simultaneously ON	0	
ON voltage/C	N current	14V or more/3.5mA or more	14V or more/3.5mA or more	0	
OFF voltage/ current	OFF	6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0	
Input resistar	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
		Positive/negative common	Positive/negative common		
Input method		shared type	shared type	0	
		(sink/source shared type)	(sink/source shared type)		
Response	OFF → ON	10ms or less	1.5ms or less (at 24VDC)	0	
time	ON → OFF	10ms or less	1.5ms or less (at 24VDC)	0	
Common terr arrangement		8 points/common (2-wire type)	8 points/common (3-wire type)	0	
Number of od stations (num occupied poin	ber of	1 station (1 station × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External connection method		26-point terminal block (M3 screw) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N,	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	69mA (at 24VDC TYP.)	40mA or less (24VDC when all points are ON)	0	
External dime	ensions	55(H) × 135(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.3kg	0.18kg	Δ	

(11) Specifications comparison between AJ35TB3-8D and AJ65SBTB3-8D

Specif	ications	AJ35TB3-8D	AJ65SBTB3-8D	Compatibility	hange required, × : Not compatible Precautions for replacement
Number of in	put points	8 points	8 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input v		24VDC	24VDC	0	
Rated input o		Approx. 7mA	Approx. 7mA	0	
		19.2 to 26.4VDC	19.2 to 26.4VDC	- U	
Operating vo	tage range	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum nu simultaneous		100% simultaneously ON	100% simultaneously ON	0	
ON voltage/C	N current	14V or more/3.5mA or more	14V or more/3.5mA or more	0	
OFF voltage/	OFF current	6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0	
Input resistar	ice	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
Input method		Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less	1.5ms or less (at 24VDC)	0	
Common terr		8 points/common (3-wire type)	8 points/common (3-wire type)	0	
Number of oc stations (num occupied poir	ber of	1 station (1 station × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External conr	nection method	26-point terminal block (M3 screw) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	69mA (at 24VDC)	40mA or less (24VDC when all points are ON)	0	
External dimensions		55(H) × 135(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.3kg	0.18kg	Δ	

(12) Specifications comparison between AJ35TB1-16D and AJ65SBTB1-16D

-Caacif	ications	AJ35TB1-16D	AJ65SBTB1-16D		hange required, ×: Not compatible
				Compatibility	Precautions for replacement
Number of inp	•	16 points	16 points	0	
Insulation me		Photocoupler	Photocoupler	0	
Rated input v	oltage	24VDC	24VDC	0	
Rated input c	urrent	Approx. 7mA	Approx. 7mA	0	
Operating vol	tage range	19.2 to 26.4VDC	19.2 to 26.4VDC	0	
Operating voi	tage range	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum nur	mber of	70% simultaneously ON	100% simultaneously ON	0	
simultaneous	input points	(at 26.4VDC)	100 % Simultaneously Olv	0	
ON voltage/O	N current	14V or more/3.5mA or more	14V or more/3.5mA or more	0	
OFF voltage/	OFF current	6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0	
Input resistan	ice	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
•		Positive/negative common	Positive/negative common		
Input method		shared type	shared type	0	
mpat motriou		(sink/source shared type)	(sink/source shared type)	O	
	OFF ON	10ms or less	1.5ms or less (at 24VDC)	0	
Response	OFF→ON	-	, ,	0	
time	ON→ OFF	10ms or less	1.5ms or less (at 24VDC)	0	
Common tern	ninal	16 points/common	16 points/common	0	
arrangement		(2 terminals)	To points/common	0	
					The number of occupied points
Number of oc	cupied stations	2 stations	1 station		increases. The assignment of
(number of o	ccupied points)	(2 stations × 8 points)	(1 station × 32 points)	×	the entire system needs to be
					reconsidered.
Operation ind	lication	ON indication (LED)	ON indication (LED)	0	
			Transmission/module power		
			supply parts:		
		26-point terminal block	7-point terminal block		
External conn	nection method	(M3 screw)	$(M3 \times 5.2 \text{ screws})$	×	Change in wiring is required.
External com	icolion metriod	Transmission circuit part included	I/O part:	^	Change in wining to required.
		Transmission of our part moladed	18-point terminal block		
			·		
			(M3 × 5.2 screws)		
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so	Iderless	R1.25-3, R2-3	RAV1.25-3		In some cases, the solderless
terminal		RAV1.25-3, RAV2-3	(Conforming to JIS C 2805)	Δ	terminal must be changed.
terriiriai		10 (0 1.20-0, 10 (02-0	V2-MS3, RAP2-3SL, TGV2-3N		terminar must be onlyinged.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC		The operating voltage range
	- Voltage	(peak voltage 31.2VDC)	(ripple ratio within 5%)	Δ	differs.
supply	Current	45mA or less (at 24VDC)	35mA or less	0	
supply	Current	43IIIA OI less (at 24VDC)	(24VDC when all points are ON)	0	
					The overall size differs.
External dime	ensions	55(H) × 135(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	Pay attention to the mounting
				dimensions.	dimensions.
Weight		0.3kg	0.18kg	Δ	

(13) Specifications comparison between AJ35TB1-16D and AJ65BTB1-16D

Specii	fications	AJ35TB1-16D	AJ65BTB1-16D	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input v	voltage	24VDC	24VDC	0	
Rated input of	current	Approx. 7mA	Approx. 7mA	0	
Operating vo	Itage range	19.2 to 26.4VDC (ripple ratio within 5%)	19.2 to 28.8VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
Maximum nu		70% simultaneously ON (at 26.4VDC)	100%	0	
ON voltage/0	ON current	14V or more/3.5mA or more	14V or more/3.5mA or more	0	
OFF voltage/	OFF current	6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0	
Input resistar	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
Input method	ı	Positive/negative common shared type (sink/source shared type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF → ON	10ms or less	10ms or less	0	
time	ON→OFF	10ms or less	10ms or less	0	
Common terr	minal	16 points/common (2 terminals)	16 points/common (terminal block 1-wire type)	0	
Number of or stations (num occupied poi	nber of	2 stations (2 stations × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	dication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	26 point terminal block (M3 screws) Transmission circuit part included	27 point terminal block (M3.5 screws) Transmission circuit and module power supply terminal included	Δ	The existing terminal block of the AJ35TB1-16D can be used by using wiring conversion adapter *1.
Applicable w	ire size	0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable so	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3.5 (Conforming to JIS C 2805) RAV2-3.5	Δ	The existing terminal block of the AJ35TB1-16D can be used by using wiring conversion adapter *1.
	Voltage	15.6 to 31.2VDC	15.6 to 28.8VDC		The operating voltage range
I/O module	voilage	(peak voltage 31.2VDC)	(ripple ratio within 5%)	Δ	differs.
power supply	Current	45mA or less (at 24VDC)	60mA or less (at 24VDC TYP.)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dime	ensions	55(H) × 135(W) × 50(D) mm	65(H) × 151.9(W) × 46(D) mm *2	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.3kg	0.32kg	Δ	

^{*1:} The A6ADP-1MC16D, MELSECNET/MINI-S3 - CC-Link module wiring conversion adapter can be used. For the mounting image, refer to *2 of Section 1.2.

^{*2:} When using the A6ADP-1MC16D, MELSECNET/MINI-S3 - CC-Link module wiring conversion adapter, the external dimensions are increased by 5.1mm (height) and 28.5mm (depth).

(14) Specifications comparison between AJ35TB2-16D and AJ65SBTB3-16D

Speci	fications	AJ35TB2-16D	AJ65SBTB3-16D	Compatibility	hange required, ×: Not compatible Precautions for replacement
Number of in		16 points	16 points	0	
Insulation me	<u> </u>	Photocoupler	Photocoupler	0	
Rated input v		24VDC	24VDC	0	
Rated input of		Approx. 7mA	Approx. 7mA	0	
		19.2 to 26.4VDC	19.2 to 26.4VDC		
Operating vo	Itage range	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum nu		100% simultaneously ON (at 26.4VDC)	100% simultaneously ON	0	
ON voltage/0		14V or more/3.5mA or more	14V or more/3.5mA or more	0	
OFF voltage		6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0	
Input resistar		Approx. 3.3k Ω	Approx. 3.3k Ω	0	
•		Positive/negative common	Positive/negative common		
Input method		shared type	shared type	0	
	1	(sink/source shared type)	(sink/source shared type)		
Response	OFF→ON	10ms or less	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less	1.5ms or less (at 24VDC)	0	
Common ter	minal	16 points/common	16 points/common	0	
arrangement		(terminal block 2-wire type)	(3-wire type)	U	
Number of or stations (nun occupied poi	nber of	2 stations (2 stations × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	34-point terminal block (M3 screw) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	45mA or less (at 24VDC)	45mA or less (24VDC when all points are ON)	0	
External dimensions		55(H) × 166(W) × 50(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.35kg	0.25kg	Δ	

(15) Specifications comparison between AJ35TB2-16D and AJ65BTB2-16D

Specifications		AJ35TB2-16D	AJ65BTB2-16D	Compatibility	Precautions for replacement	
Number of input points		16 points	16 points	0		
Insulation method		Photocoupler	Photocoupler	0		
Rated input voltage		24VDC	24VDC	0		
Rated input of		Approx. 7mA	Approx. 7mA	0		
Operating vo	ltage range	19.2 to 26.4VDC (ripple ratio within 5%)	19.2 to 28.8VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.	
Maximum nu		100% simultaneously ON (at 26.4VDC)	100%	0		
ON voltage/0	ON current	14V or more/3.5mA or more	14V or more/3.5mA or more	0		
OFF voltage/	OFF current	6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0		
Input resistar	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0		
Input method		Positive/negative common shared type (sink/source shared type)	Positive/negative common shared type (sink/source shared type)	0		
Response	OFF→ON	10ms or less	10ms or less	0		
time	ON→OFF	10ms or less	10ms or less	0		
Common terminal arrangement		16 points/common (terminal block 2-wire type)	16 points/common (terminal block 2-wire type)	0		
Number of occupied stations (number of occupied points)		2 stations (2 stations × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.	
Operation inc	dication	ON indication (LED)	ON indication (LED)	0		
External con	nection method	34 point terminal block (M3 screws) Transmission circuit part included	37 point terminal block (M3.5 screws) Transmission circuit and module power supply terminal included	Δ	The existing terminal block of the AJ35TB2-16D can be used by using wiring conversion adapter *1.	
Applicable w	ire size	0.75 to 2mm ²	0.75 to 2mm ²	0		
Applicable so	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3.5 (Conforming to JIS C 2805) RAV2-3.5	Δ	The existing terminal block of the AJ35TB2-16D can be used by using wiring conversion adapter *1.	
	Voltage	15.6 to 31.2VDC	15.6 to 28.8VDC		The operating voltage range	
I/O module	vollage	(peak voltage 31.2VDC)	(ripple ratio within 5%)	Δ	differs.	
power supply	Current	45mA or less (at 24VDC)	60mA or less (at 24VDC TYP.)	Δ	The current consumption increases. The current capacity needs to be reconsidered.	
External dime	ensions	55(H) × 166(W) × 50(D) mm	65(H) × 197.4(W) × 46(D) mm *2	×	The overall size differs. Pay attention to the mounting dimensions.	
Weight		0.35kg	0.4kg	Δ		

^{*1:} The A6ADP-2MC16D, MELSECNET/MINI-S3 - CC-Link module wiring conversion adapter can be used. For the mounting image, refer to *2 of Section 1.2.

^{*2:} When using the A6ADP-2MC16D, MELSECNET/MINI-S3 - CC-Link module wiring conversion adapter, the external dimensions are increased by 5.1mm (height) and 28.5mm (depth).

(16) Specifications comparison between AJ35TC1-32D and AJ65SBTCF1-32D

		○: Compatible, △: Partial change required, ×: Not compatible					
	ications	AJ35TC1-32D	AJ65SBTCF1-32D	Compatibility	Precautions for replacement		
Number of in	put points	32 points	32 points	0			
Insulation method		Photocoupler	Photocoupler	0			
Rated input v	oltage	24VDC	24VDC	0			
Rated input of	urrent	Approx. 5mA	Approx. 5mA	0			
Operating vo	Itage range	19.2 to 26.4VDC	19.2 to 26.4VDC	0			
		(ripple ratio within 5%)	(ripple ratio within 5%)	Ů			
Maximum nu		85% simultaneously ON	100% simultaneously ON	0			
simultaneous		(at 26.4VDC)	107				
ON voltage/C		17.5V or more/3.5mA or more	14V or more/3.5mA or more	0			
OFF voltage/		6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0			
Input resistar	ice	Approx. 4.7k Ω	Approx. 4.7k Ω	0			
		Positive/negative common	Positive/negative common				
Input method		shared type	shared type	0			
	Г	(sink/source shared type)	(sink/source shared type)				
Response	OFF→ON	10ms or less	1.5ms or less (at 24VDC)	0			
time	ON→OFF	10ms or less	1.5ms or less (at 24VDC)	0			
Common terr	ninal	32 points/common	32 points/common	0			
arrangement		32 points/common	32 points/common	0			
Number of o	ccupied	4 stations	1 station				
stations (num	ber of	(4 stations × 8 points)	(1 station × 32 points)	0			
occupied points)		(4 stations × 0 points)					
Operation inc	lication	ON indication (LED)	ON indication (LED)	0			
External connection method		Transmission circuit: 8-point terminal block	Transmission/module power supply parts:	×	Change in wiring is required.		
		(M3 screws)	7-point terminal block (M3 × 5.2 screws)				
		I/O part: 40-pin connector	I/O part: 40-pin connector	0	The existing connector can be attached without change.		
			Terminal block: 0.3 to 2mm ²				
			40-pin connector: 0.3mm ² or less				
			(for A6CON1, A6CON4)				
Applicable wi	Terminal block: 0.75 to 2mm ²		0.2 to 0.08mm ²	0			
7 ipplioable III	10 0.20	40-pin connector: 0.3mm ²	(for A6CON2)				
			Twisted cable of 0.08mm ² ,				
			φ 0.25mm (for A6CON3)				
Accessory		1 external wiring connector	None	×	40-pin connectors for external wiring are sold separately.		
Applicable so	olderless	R1.25-3, R2-3	RAV1.25-3 (Conforming to JIS C 2805)	Δ	In some cases, the solderless		
terminal		RAV1.25-3, RAV2-3	V2-MS3, RAP2-3SL, TGV2-3N		terminal must be changed.		
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.		
power supply	Current	55mA (at 24VDC)	45mA or less (24VDC when all points are ON)	0			
External dime	ensions	55(H) × 166(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.		
Weight		0.25kg	0.15kg	Δ			
J		· ·÷··•		Δ	<u> </u>		

Specifications

5.2.2 Output module specifications comparisons

AY13C

(1) Specifications comparison between AY13C and AJ65SBTB2N-16R

 $\bigcirc : Compatible, \ \underline{\wedge} : Partial \ change \ required, \ \times : Not \ compatible$ Compatibility Precautions for replacement

Number of output points		32 points	16 points	×	When seventeen or more points are used, use two AJ65SBTB2N-16R modules.
Insulation method		Photocoupler	Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
	oltage/current	24VDC 2A (resistance load)/ point 240VAC 2A (COS ϕ =1)/point 4A/common (2A/1 terminal)	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 8A/common	0	
Minimum sw	itching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw	vitching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical I	ife	20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	0	
Maximum sw frequency	vitching	3,600 times/hr	3,600 times/hr	0	
External power	Voltage	24VDC±10% Ripple voltage 4Vp-p or less	None	-	
supply	Current	184mA (24VDC, all points ON)	None	-	
Common terminal arrangement		8 points/common	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so		R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specifications		AY13C	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC		The operating voltage range
I/O module	, and the second	15.6 to 31.2VDC	(ripple ratio within 5%)	Δ	differs.
., •					The current consumption
power	Current	90mA (at 24VDC TYP.)	120mA or less		increases. the current
supply	Current		(24VDC when all points are ON)	Δ	capacity needs to be
					reconsidered.
		170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs.
External dime	ensions				Pay attention to the mounting
					dimensions.
Weight		0.7kg	0.35kg	Δ	

(2) Specifications comparison between AY13C and AJ65DBTB1-32R

Specifications		○: Compatible, △: Partial change required, ×: Not AY13C AJ65DBTB1-32R Compatibility Precautions for repl					
		32 points	32 points		Frecautions for replacement		
Number of output points Insulation method		Photocoupler	Photocoupler	0			
IIISUIAUOII III	etilod	24VDC 2A (resistance load)/	Filotocoupiei	U			
Rated load voltage/current		point	24VDC 2A (resistance load)/point				
		240VAC 2A (COS ϕ =1)/point	240VAC 2A (COS ϕ =1)/point	0			
		4A/common (2A/1 terminal)	4A/common (2A/1 terminal)				
Minimum switching load		5VDC 1mA	5VDC 1mA	0			
Maximum switching voltage		250VAC, 110VDC	264VAC, 125VDC	0			
Response	OFF→ON	10ms or less	10ms or less	0			
time	ON→ OFF	12ms or less	12ms or less	0			
Mechanical I		20 million times or more	20 million times or more	0			
Woonamour		Rated switching voltage/current	-	U			
		load	Rated switching voltage/current				
		100,000 times or more	load				
		200VAC 1.5A, 240VAC 1A	100,000 times or more				
		(COS ϕ =0.7) 100,000 times or	200VAC 1.5A, 240VAC 1A				
E1 11 1116		more	(COS ϕ =0.7) 100,000 times or	_			
Electrical life	•	200VAC 1A, 240VAC 0.5A	more	0			
		$(\cos \phi = 0.35) 100,000 \text{times}$	200VAC 1A, 240VAC 0.5A				
		or more	(COS $\phi = 0.35$) 100,000 times or				
		24VDC 1A, 100VDC 0.1A	more				
		(L/R=7 ms) 100,000 times or	24VDC 1A, 100VDC 0.1A				
		more	(L/R=7 ms) 100,000 times or more				
Maximum switching		3,600 times/hr	3,600 times/hr	0			
frequency	1	.,	-,	Ü			
External	Voltage	24VDC± 10%	24VDC ± 10%	0			
power		Ripple voltage 4Vp-p or less	Ripple ratio 4Vp-p or less	Ŭ			
supply	Current	184mA (24VDC, all points ON)	180mA or less (24VDC, when all	0			
Camman tar	main al		points are ON)	_			
Common ter		8 points/common	8 points/common (terminal block 1-	Δ			
Arrangement Number of o			wire type)				
stations (nur		4 stations	1 station	0			
occupied poi		(4 stations × 8 points)	(1 station × 32 points)				
Operation in		ON indication (LED)	ON indication (LED)	0			
		50-point terminal block	50 point torminal black		The mount of 10 11		
External con	nection	(M3.5 × 7 screws)	50-point terminal block		The number of applicable		
method		Transmission circuit part	(M3.5 × 7 screws)	0	solderless terminals inserted is within two.		
		included	Transmission circuit part included		is within two.		
Applicable w	ire size	0.75 to 2mm ²	0.75 to 2mm ²	0			
Applicable so	olderless	R1.25-3.5, R2-3.5	RAV1.25-3.5				
terminal	Dideness	RAV1.25-3.5, RAV2-3.5	(Conforming to JIS C 2805)	0			
terrimai		10.001.20-0.0, 10.002-0.0	RAV2-3.5				
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC	Δ	The operating voltage range		
power			(ripple ratio within 5%)	Δ	differs.		
supply	Current	90mA (at 24VDC TYP.)	80mA or less	0			
		,	(24VDC when all points are ON)				
External dim	ensions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0			
Weight		0.7kg	0.7kg	0			

(3) Specifications comparison between AY15CEU and AJ65SBTB2N-16R

Number of output points	more e two modules.
Number of output points	e two modules. ion
A J6SSBTB2N-16R m	modules. ion
Insulation method Photocoupler Relay isolation \triangle methods differ, the performance of the in is the same.	
Rated load voltage/current Rated load voltage/current Rated load voltage/current 24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 4A/common Minimum switching load 5VDC 10mA 5VDC 1mA O Maximum switching voltage 264VAC 125VDC Response 10ms or less 10ms or less 10ms or less O Mechanical life 20 million times or more 200VAC 2A, 240VAC 1.8A (COS ϕ =0.7) 200,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.35) 200,000 times or more 24VDC 1.1A, 240VAC 0.9A (L/R=7ms) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more Maximum switching 3.600 times/hr 3.600 times/hr 3.600 times/hr 3.600 times/hr 3.600 times/hr	insulation
Rated load voltage/current 24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 4A/common Minimum switching load 5VDC 10mA 5VDC 10mA 5VDC 1mA Maximum switching voltage 264VAC 125VDC 70N - OFF 12ms or less 10ms or less 0 Mechanical life 20 million times or more 200VAC 12A, 240VAC 18A (COS ϕ =0.7) 200,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.35) 100,000 times or more 200VAC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more Maximum switching 3.600 times/hr 3.600 times/hr 3.600 times/hr 3.600 times/hr 3.600 times/hr 3.600 times/hr	insulation
Rated load voltage/current	
Rated load voltage/current 240VAC 2A (COS ϕ =1)/point 240VAC 2A (COS ϕ =1)/point 3A/common	
Rated load voltage/current 240VAC 2A (COS ϕ =1)/point 4A/common Minimum switching load 5VDC 10mA 5VDC 1mA O Maximum switching voltage 264VAC 125VDC Response time ON \rightarrow OFF 12ms or less 10ms or less 12ms or less ON \rightarrow OFF Rated switching voltage/current load 200,000 times or more 200VAC 2A, 240VAC 1.8A (COS ϕ =0.7) 200,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS ϕ =0.35) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more 3,600 times/hr 3,600 times/hr	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
Minimum switching load 5VDC 10mA 5VDC 1mA \bigcirc	
Maximum switching voltage 264VAC 125VDC 264VAC, 125VDC O Response time OFF → ON 10ms or less 10ms or less O Mechanical life 20 million times or more 20 million times or more O Mechanical life 20 million times or more 20 million times or more O Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS φ = 0.7) 200,000 times or more 200VAC 1.5A, 240VAC 1A (COS φ = 0.7) 100,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS φ = 0.35) 200,000 times or more (COS φ = 0.35) 100,000 times or more A 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more COS Φ = 0.35) 100,000 times or more Maximum switching 3,600 times/hr 3,600 times/hr 3,600 times/hr O	
Response time $OFF \rightarrow ON$ 10ms or less 10ms or less 0 0 12ms or less 12ms or less 0 0 12ms or less 12ms or less 0 0 12ms or less 12ms or less 0 0 12ms or less 0 0 12ms or less 12ms or less 0 0 12ms or less 0 0 12ms or less 12ms	
time ON → OFF 12ms or less 12ms or less O Mechanical life 20 million times or more 20 million times or more O Rated switching voltage/current load Rated switching voltage/current load 100,000 times or more 200,000 times or more 200VAC 1.5A, 240VAC 1A 200VAC 1.5A, 240VAC 1A (COS $φ = 0.7$) 200,000 times or more 200VAC 1.5A, 240VAC 0.5A Reduce the exchange intervals of the module Mechanical/Electrical cut to about half. COS $φ = 0.35$) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more COS $φ = 0.35$) 100,000 times or more Maximum switching 3.600 times/hr 3.600 times/hr	
Mechanical life20 million times or more20 million times or moreComparison of moreRated switching voltage/current load 200,000 times or more 200VAC 2A, 240VAC 1.8A (COS ϕ =0.7) 200,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS ϕ =0.35) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or moreRated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ =0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or moreReduce the exchange intervals of the modulation of the modulat	
Rated switching voltage/current load 200,000 times or more 200VAC 2A, 240VAC 1.8A (COS ϕ =0.7) 200,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS ϕ =0.35) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 3.600 times/hr 3.600 times/hr	
Rated switching voltage/current load 100,000 times or more 200,000 times or more 200VAC 2A, 240VAC 1.8A (COS ϕ =0.7) 200,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS ϕ =0.35) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 3,600 times/hr 3,600 times/hr	
Electrical life $ \begin{pmatrix} 200 \text{VAC } 2A, 240 \text{VAC } 1.8\text{A} \\ (\text{COS } \phi = 0.7) \ 200,000 \ \text{times or more} \\ 200 \text{VAC } 1.1\text{A}, 240 \text{VAC } 0.9\text{A} \\ (\text{COS } \phi = 0.35) \ 200,000 \ \text{times or more} \\ 24 \text{VDC } 1.1\text{A}, 100 \text{VDC } 0.1\text{A} \\ (\text{L/R=7ms}) \ 200,000 \ \text{times or more} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ 200 \text{VAC } 1A, 240 \text{VAC } 0.5\text{A} \\ (\text{COS } \phi = 0.35) \ 100,000 \ \text{times} \\ \text{or more} \\ 24 \text{VDC } 1.4, 100 \text{VDC } 0.1\text{A} \\ (\text{L/R=7 ms}) \ 100,000 \ \text{times or more} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.7) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $ $ \begin{pmatrix} (\text{COS } \phi = 0.35) \ 100,000 \ \text{times or more} \\ \text{Maximum switching} \end{pmatrix} $	
Electrical life $ \begin{array}{c} (COS \phi = 0.7)\ 200,000\ times\ or \\ more \\ 200VAC\ 1.1A,\ 240VAC\ 0.9A \\ (COS \phi = 0.35)\ 200,000\ times\ or \\ more \\ 24VDC\ 1.1A,\ 100VDC\ 0.1A \\ (L/R=7ms)\ 200,000\ times\ or\ more \\ \end{array} \begin{array}{c} (COS \phi = 0.35)\ 100,000\ times \\ or\ more \\ 24VDC\ 1.1A,\ 100VDC\ 0.1A \\ (L/R=7ms)\ 100,000\ times\ or\ more \\ \end{array} $	
Electrical life $\frac{\text{more}}{200\text{VAC }1.1\text{A}, 240\text{VAC }0.9\text{A}}$ (COS ϕ = 0.35) 200,000 times or more $\frac{24\text{VDC }1.1\text{A}, 100\text{VDC }0.1\text{A}}{(\text{L/R=7ms}) 200,000 \text{ times or more}}$ $\frac{24\text{VDC }1.1\text{A}, 100\text{VDC }0.1\text{A}}{(\text{L/R=7ms}) 400,000 \text{ times or more}}$ $\frac{24\text{VDC }1.1\text{A}, 100\text{VDC }0.1\text{A}}{(\text{L/R=7ms}) 400,000 \text{ times or more}}$ $\frac{24\text{VDC }1.1\text{A}, 100\text{VDC }0.1\text{A}}{(\text{L/R=7ms}) 400,000 \text{ times or more}}$ $\frac{24\text{VDC }1.1\text{A}, 100\text{VDC }0.1\text{A}}{(\text{L/R=7ms}) 400,000 \text{ times or more}}$	-
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
(COS φ = 0.35) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more Maximum switching (COS φ = 0.35) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more Maximum switching 3,600 times/hr	II LIIC IS
Maximum switching 3,600 times/hr 24VDC 1.1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more (L/R=7 ms) 100,000 times or mo	
24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more (L/R=7 ms) 100,000 times or more Maximum switching 3,600 times/hr 3,600 times/hr	
(L/R=7ms) 200,000 times or more more Maximum switching 3,600 times/hr 3,600 times/hr	
3,600 times/hr 3,600 times/hr 0	
fraguency	
frequency	
External Voltage 24VDC ± 10% None –	
power Ripple voltage 4Vp-p or less	
supply Current 230mA (24VDC all points ON) None –	
As common terminal	
Common terminal 8 points/common 16 points/common points/common to 16	
arrangement 4 points/common (2-wire type)	-
different voltage per of	
is not possible.	
AC external	
batch-Relay 2,830VAC rms/3 cycle Between AC rms/3 cycle 2,830VAC rms/3 cycle	
drive power external batch elevation	
supply, internal 2,000m) and ground 2,000m)	
Dielectric withstand voltage 5V circuit	
Relay drive power supply- 500VDC Between DC 500VDC	
internal 5V 1 minute external batch 1 minute	
internal of Triminate Triminate	
circuit and ground	
circuit and ground Between AC external batch and	
circuit	
Between AC external batch and	
Between AC external batch and ground 500VDC with the insulation resistance tester 10M Ω or more with the insulation 10M Ω or more	
Between AC external batch and ground 500VDC with the insulation resistance tester	
Between AC external batch and ground 500VDC with the insulation resistance 10M Ω or more with the insulation resistance tester 10M Ω or more with the insulation ground 500VDC with the Between DC external batch and ground 500VDC with the	
Between AC external batch and ground 500VDC with the insulation resistance tester 10M Ω or more with the insulation resistance tester Between DC external batch and	

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Speci	fications	AY15CEU	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation indication		ON indication (LED)	ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wire size		0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		RAV1.25-3.5,RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	94mA (at 24VDC TYP.)	120mA or less (24VDC when all points are ON)	Δ	The current consumption increases, the current capacity needs to be reconsidered.
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.75kg	0.35kg	Δ	



(4) Specifications comparison between AY15CEU and AJ65DBTB1-32R

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specifications		AY15	5CEU	AJ65DBTB1-32R	Compatibility	Precautions for replacement
Number of output points			oints	32 points	0	
Insulation me		·	coupler	Photocoupler	0	
		24VDC 2A (re	sistance load)/	24)/DC 24 (registered lead)/point		
Poted lead v	oltogo/ourront	ро	oint	24VDC 2A (resistance load)/point		
Rated load voltage/current		240VAC 2A (C	OS ϕ =1)/point	240VAC 2A (COS ϕ =1)/point	0	
		4A/co	mmon	4A/common (2A/1 terminal)		
Minimum sw	itching load	5VDC	10mA	5VDC 1mA	0	
Maximum sw	vitching voltage	264VAC,	110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms	or less	10ms or less	0	
time	ON→OFF	12ms	or less	12ms or less	0	
Mechanical I	ife	20 million tir	mes or more	20 million times or more	0	
		Rated switching	voltage/current			
			ad	Rated switching voltage/current load		
		,	nes or more	100,000 times or more		
			A, 240VAC 1A	200VAC 1.5A, 240VAC 1A		
			00,000 times or	(COS ϕ =0.7) 100,000 times or		The service life is reduced to
Electrical life			ore	more 200VAC 1A, 240VAC 0.5A	Δ	almost half. Shorten the
			240VAC 0.5A	,		exchange intervals of the module.
		•	6) 200,000 times nore	$(\cos \phi = 0.35) 100,000 \text{times or}$		module.
			100VDC 0.1A	more 24VDC 1A, 100VDC 0.1A		
		·	10,000 times or	(L/R=7 ms) 100,000 times or more		
			ore	(E/TC 7 ma) 100,000 times of mere		
Maximum switching		2 600 +	ina a a /h r	2 COO times /hr		
frequency		3,000 t	imes/hr	3,600 times/hr	0	
External	Voltage	24VDC	± 10%	24VDC ± 10%	0	
power	voltage	Ripple voltage	e 4Vp-p or less	Ripple ratio 4Vp-p or less	U	
supply	Current	230mA (24VDC	C, all points ON)	180mA or less	0	
				(24VDC, when all points are ON)	Ŭ	
	Common terminal		common	8 points/common (terminal block 1-	0	
arrangement		AC external	common	wire type)		
		batch - Relay	2,830VAC			
		drive power	rms/e cycle	Between AC external terminal batch		
		supply,	(elevation	and ground	Δ	
Diele steieit		internal 5V	2000m)	1500VAC 1 minute Between DC external terminal batch		
Dielectric wit	hstand voltage	circuit				
		Relay drive		and ground		
		power supply	500VDC	500VAC 1 minute	0	
		- internal 5V	1 minute		O	
		circuit		Between AC external terminal batch		
				and ground		
				500VDC with the insulation		
				resistance tester		
		10M ○ or m	nore with the	10M Ω or more		
Insulation re	sistance		istance tester	Between DC external terminal batch	0	
				and ground		
				500VDC with the insulation		
				resistance tester		
				10M Ω or more		
Number of o	ccupied	4 sta	itions	1 station		
stations (nun			× 8 points)	(1 station × 32 points)	0	
occupied poi	-				_	
Operation in	dication		tion (LED)	ON indication (LED)	0	
External	nootion	•	minal block	50-point terminal block		
External con method	HECHON	•	7 screws)	(M3.5 × 7 screws)	×	Change in wiring is required.
memou			n circuit part	Transmission circuit part included		
		included				

 $\bigcirc \colon \mathsf{Compatible}, \ \ \triangle \colon \mathsf{Partial} \ \mathsf{change} \ \mathsf{required}, \ \ \mathsf{x} : \mathsf{Not} \ \mathsf{compatible}$

Specifications		AY15CEU	AJ65DBTB1-32R	Compatibility	Precautions for replacement
Applicable wire size		0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable solderless terminal		RAV1.25-3.5, RAV2-3.5	RAV1.25-3.5 (Conforming to JIS C 2805) RAV2-3.5	0	Change in wiring is required.
I/O module Voltage		15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	94mA (at 24VDC TYP.)	80mA or less (24VDC when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0	
Weight		0.75kg	0.7kg	Δ	

(5) Specifications comparison between AY23C and AJ65SBTB2N-16S^{*1}

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specifications		AY23C	AJ65SBTB2N-16S	hange required, × : Not compatible Precautions for replacement	
		ATZOO	AUUUUBTEEN	Compatibility	When seventeen or more
Number of output points		32 points	16 points	×	points are used, use two
		oz pome	ro pointe	^	AJ65SBTB2N-16S modules.
Insulation method		Photocoupler	Photocoupler	0	7.000007.000.000.000.000.000.000.000.00
Rated load vo	oltage	100-240VAC, 40 to 70Hz	100-240VAC, 50/60Hz±5%	0	
Maximum loa		264VAC	264VAC	0	
	ronago	0.3A/point 60% simultaneously	201710		
Maximum loa	d current	ON	0.6A/point, 4.8A/common	0	
		18VAC 10mA,	50VAC 100mA,		
Minimum load	d voitage/	100VAC 10mA,	100VAC 10mA,	0	
current		240VAC 10mA	240VAC 10mA		
Maximum inr	ush current	20A 10ms or less	25A 10ms or less	0	
		Approx. 1.5mA			
Leakage current at OFF		(120VAC, 60Hz)	1.5mA (100VAC, 60Hz)	_	
		Approx. 3.0mA	3.0mA (200VAC, 60Hz)	0	
		(240VAC, 60Hz)			
Maximum val	taga drap at	1.5V or less (100 to 300mA)			
Maximum voltage drop at ON		1.8V or less (50 to 100mA)	1.5V or less (at 0.6A)	0	
		2.5V or less (10 to 50mA)			
Response	OFF→ON	1ms or less	1ms or less	0	
time	ON→ OFF	0.5Hz+1ms or less	1/2 cycle + 1ms or less	0	
Surge suppressor		CR absorber (0.01 μF+68 Ω)	CR absorber (0.01 μF+47 Ω)	0	
					As common terminal
Common terminal arrangement					arrangement changes from 8
		8 points/common	16 points/common		points/common to 16 points/
			(2-wire type)	Δ	common, wiring with a different
					voltage per common is not
					possible.
Number of oc	cupied stations	4 stations	1 station		The number of points assigned
(number of o	ccupied points)	(4 stations × 8 points)	(1 station × 32 points)	×	per module is not changed.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
			Transmission/module power		
			supply parts:		
		50-point terminal block	7-point terminal block		
External conr	nection method	(M3.5 × 7 screws)	(M3 × 5.2 screws)	×	Change in wiring is required.
		Transmission circuit part included	I/O part:		
			34-point terminal block		
			(M3 × 5.2 screws)		
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
			RAV1.25-3		
Applicable so	iueriess	R1.25-3.5, R2-3.5	(Conforming to JIS C 2805)	×	Change in wiring is required.
terminal		RAV1.25-3.5, RAV2-3.5	V2-MS3, RAP2-3SL, TGV2-3N		
I/O madula	Valtage	15 6 to 21 21/DC	20.4 to 26.4VDC		The operating voltage range
I/O module	Voltage	15.6 to 31.2VDC	(ripple ratio within 5%)	Δ	differs.
power	Current	180mA (at 24VDC TVP)	85mA or less	0	
supply	Current	180mA (at 24VDC TYP.)	(24VDC when all points are ON)	0	
					The overall size differs.
External dimensions					•
External dime	ensions	170(H) × 64(W) × 80(D) mm	$54(H) \times 179(W) \times 40(D) \text{ mm}$	×	Pay attention to the mounting
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	Pay attention to the mounting dimensions.

^{*1:} Consider the characteristics of the triac and observe the necessary precautions by referring to Section 5.3 (5) before replacing the modules.

(6) Specifications comparison between AY51C and AJ65SBTB1-32T1

Number of output points 32 points Analyzer Derating load voltage 102 to 31 2VDC Derating load voltage range 0.3Alpoint 75% simultaneously ON (7 2A/1 common (2A/1 terminal) Maximum load current 1.2A 10ms or less 1.0A 10ms or less 1.0A 10ms or less Derating load voltage range Maximum voltage drop at Derating load voltage range 1.2A 10ms or less 1.0A 10ms or less Derating load voltage range Inhibition of the operating current of the selection of the load used. The imaximum load current per common differs. Pay attention to the selection of the load used. The imaximum load current value differs. Pay attention to the selection of the load used. The imaximum load current value differs. Pay attention to the selection of the load used. The imaximum load current value differs. Pay attention to the selection of the load used. The imaximum load current per common differs. Pay attention to the selection of the load used. The imaximum load current value differs. Pay attention to the selection of the load used. The imaximum load current per common differs. Pay attention to the selection of the load used. The imaximum load current per common differs. Pay attention to the selection of the load used. The imaximum load current per common differs. The number of occupied used. The imaximum load current per common differs. The number of occupied points increases. The assignment of the entire system needs to be reconsidered. The number of occupied points increases. The assignment of the entire system needs to be reconsidered. The number of occupied points increases. The assignment of the entire system needs to be reconsidered. The number of occupied points increases. The assignment of the entire system needs to be reconsidered. The number of occupied points increases. The assignment of the e	Coocifi	iostions	AY51C	O : Comp AJ65SBTB1-32T1		hange required, ×: Not compatible
Insulation method Photocoupler					Compatibility	Precautions for replacement
Rated load voltage 12/24/DC 12/24/DC 10/2 to 28/4/DC (ipple ratio within 5%) (inple ratio within 5%) (increases. The assignment of the tenter system needs to be reconsidered. (increase. The assignment of the enter system needs to be reconsidered. (increase. The assignment of the tenter system needs to be reconsidered. (increase. The assignment of the tenter system needs to be reconsidered. (increase. The assignment of the tenter system needs to be reconside			'	,		
Operating load voltage range 10.2 to 31 2VDC (ripple ratio within 5%) 0.3Alpoint 75% simultaneously ON (7.2A/1 common (2A/1 terminal) Maximum load current 1.2A 10ms or less 1.0A 10ms or less 4. Differ sold used. 1.2A 10ms or less 1.0A 10ms or less 1.0A 10ms or less 4. Differ sold used. 1.2A 10ms or less 1.0A 10ms or less 4. Differ sold used. 1.2A 10ms or less 1.0A 10ms or less 4. Differ sold used. 1.2A 10ms or less 1.0A 10ms or less				'		
Operating load voltage range 10.2 to 31 2VDC (ripple ratio within 5%) O The maximum load current per common differs. Pay attention to the operating current of the entire module. Maximum inrush current 1.2A 10ms or less 1.0A 10ms or less 1.0A 10ms or less 1.0A 10ms or less O. 1mA or less ON ON 1.5VDC or less (MAX) 0.3A 0.8VDC or less (MAX) 0.5A ON 1.5VDC or less (MAX) 0.3A 0.8VDC or less (MAX) 0.5A ON ON ON ON ON OFF 2ms or less ON OFF 2ms or less ON OFF ON ON OFF 2ms or less ON OFF ON OFF ON OFF ON ON ON	Rated load vo	ilage	12/24 VDC		0	
Maximum load current 0.3Appoint 75% simultaneously ON 0.5A/point, 4.8Acommon ∆	Operating load	d voltage range	10.2 to 31.2VDC		0	
Maximum inrush current 1.2A 10ms or less △ differs. Pay attention to the selection of the load used. Leakage current at OFF 0.1mA or less ○ 0.1mA or less ○ differs. Pay attention to the selection of the load used. Maximum voltage drop at Oncompanion of the load used. 0.9VDC or less (TYP) 0.3A 0.6VDC or less (MAX) 0.5A 0.6VDC or less (MAX)	Maximum load	d current	ON	0.5A/point, 4.8A/common	Δ	common differs. Pay attention to the operating current of the
Maximum voltage drop at ON 0.9VDC or less (TYP) 0.3A 0.0FVDC or less (MAX) 0.5A 0.0FVDC or less 0.0FVDC	Maximum inru	ish current	1.2A 10ms or less	1.0A 10ms or less	Δ	differs. Pay attention to the
ON 1.5VDC or less (MAX.) 0.3A 0.6VDC or less (MAX.) 0.5A O Response Itime OFF → ON 2ms or less 0.5ms or less ○ No → OFF 2ms or less (resistance load) 1.5ms or less (resistance load) ○ External power supply Voltage 10.2 to 31.2VDC (fipple ratio within 5%) ○ Surge suppressor Zener diode Zener diode ○ Common terminal arrangement 32 points/common 32 points/common ○ Number of occupied stations (number of occupied points) 4 stations (4 stations × 8 points) 1 station (1 station × 32 points × 2 modules) ○ The number of occupied points increases. The assignment of the entire system needs to be reconsidered. Operation indication ON indication (LED) ON indication (LED) ON indication (LED) ON indication (LED) ON recent within 50 on the entire system needs to be reconsidered. External connection method (M3.5 × 7 screws) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) Change in wiring is required. Applicable wire size 0.75 to 2mm² 0.3 to 2mm² O Applicable solderless R1.25-3.5, R2-3.5 RAV2-3.5 RAV1.	Leakage curre	ent at OFF	0.1mA or less	0.1mA or less	0	
Output method sink type sink type O Response time OFF → ON 2ms or less 0.5ms or less O ON → OFF 2ms or less 1.5ms or less O (resistance load) 0 Current 10.2 to 2.6 4VDC O Surge suppressor Zener diode Zener diode O Common terminal arrangement 32 points/common 32 points/common O Number of occupied stations (number of occupied points) 4 stations 1 station The number of occupied points increases. The assignment of the entire system needs to be reconsidered. Operation indication ON indication (LED) ON indication (LED) O Transmission/module power supply parts: 50-point terminal block (M3.5 × 7 screws) Transmission circuit part included (M3.5 × 7 screws) (M3.5 × 5 screws) X Change in wiring is required. Applicable wire size 0.75 to 2mm² 0.3 to 2mm² O Applicable solderless terminal R1.25-3.5, R2-3.5 RAV1.25-3.5 Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N X Change in wiring is required. I/O module power supply Voltage 15.6 to 31.2VDC </td <td></td> <td>age drop at</td> <td>` ,</td> <td>` '</td> <td>0</td> <td></td>		age drop at	` ,	` '	0	
Septemble ON→OFF 2ms or less (resistance load)	Output method	d	sink type	sink type	0	
1.5ms or less 1.5ms or less (resistance load) 1.5ms or less (resistance load) 1.2 to 26.4VDC 10.2 to 31.2VDC 10.2 to 26.4VDC (repple ratio within 5%) 1.5ms or less (resistance load) 1.5ms or less (resistance load 1.5ms	D	OFF→ON	2ms or less	0.5ms or less		
Solution Current Courrent Station Common terminal arrangement Supply Current Stations Common terminal arrangement Supply Surge suppressor Zener diode Zener diode Common terminal arrangement Supply Surge suppressor Zener diode Common terminal arrangement Supply Surge suppressor Zener diode Common terminal arrangement Supply	time	ON→OFF	2ms or less (resistance load)		0	
Surge suppressor Zener diode Zener diede Zener diode		Voltage	10.2 to 31.2VDC		0	
Surge suppressor Zener diode Zener diode O Common terminal arrangement 32 points/common 32 points/common O Number of occupied stations (number of occupied points) 4 stations 1 station The number of occupied points increases. The assignment of the entire system needs to be reconsidered. Operation indication ON indication (LED) ON indication (LED) O Transmission/module power supply parts: 7-point terminal block (M3.5 × 7 screws) Transmission circuit part included Transmission circuit part included Was 5.2 screws) X Change in wiring is required. Applicable wire size 0.75 to 2mm² 0.3 to 2mm² O Change in wiring is required. Applicable solderless terminal R1.25-3.5, R2-3.5 (Conforming to J15 c 2805) X Change in wiring is required. I/O module power supply Voltage 15.6 to 31.2VDC 20.4 to 26.4VDC (ripple ratio within 5%) ∆ The operating voltage range differs. I/O module power supply 93mA (at 24VDC TYP.) 65mA or less (24VDC when all points are ON) O The overall size differs. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D) mm X The overall size differs.	supply Current		64mA (24VDC)	, , ,	0	
A stations (A stat	Surge suppres	ssor	Zener diode	Zener diode		
Number of occupied stations (number of occupied points) 4 stations (1 station × 32 points × 2 modules) Operation indication ON indication (LED) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3.5 × 7 screws) Transmission circuit part included Applicable wire size O.75 to 2mm² Applicable solderless terminal Voltage Voltage Voltage Current Pama (at 24VDC TYP.) A station 1 station (1 station × 32 points × 2 modules) ON indication (LED) ON indication (LED) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws) O.3 to 2mm² O.3 to 2mm² O.4 Change in wiring is required. The operating voltage range differs. Pay attention to the mounting dimensions.			32 points/common	32 points/common	0	
External connection method So-point terminal block (M3.5 × 7 screws) Transmission circuit part included So-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws) I/O	Number of occupied stations			(1 station × 32 points × 2	0	increases. The assignment of the entire system needs to be
External connection method So-point terminal block (M3.5 × 7 screws) Transmission circuit part included Supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2	Operation indi	ication	ON indication (LED)	ON indication (LED)	0	
Applicable solderless terminal R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5 RAV1.25-3.5 RAV1.25-3 RA			(M3.5 × 7 screws) Transmission circuit part	supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block	×	Change in wiring is required.
Applicable solderless terminal R1.25-3.5, R2-3.5 RAV1.25-3.5 RAV1.25-3.5 RAV1.25-3.5 RAV2-3.5 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N Change in wiring is required. I/O module power supply Current 93mA (at 24VDC TYP.) (24VDC when all points are ON) The operating voltage range differs. External dimensions 170(H) × 64(W) × 80(D) mm 54(H) × 179(W) × 40(D) mm × Pay attention to the mounting dimensions.	Applicable wir	e size	0.75 to 2mm ²	0.3 to 2mm ²	0	
I/O module power supply Current 93mA (at 24VDC TYP.) External dimensions 170(H) × 64(W) × 80(D) mm (ripple ratio within 5%) 65mA or less (24VDC when all points are ON) The overall size differs. Pay attention to the mounting dimensions.	Applicable wire size Applicable solderless terminal		·	(Conforming to JIS C 2805)		Change in wiring is required.
Supply Current 93mA (at 24VDC TYP.) 65mA or less (24VDC when all points are ON) The overall size differs. Pay attention to the mounting dimensions.		Voltage	15.6 to 31.2VDC		Δ	, , ,
External dimensions $170(H) \times 64(W) \times 80(D) \text{ mm}$ $54(H) \times 179(W) \times 40(D) \text{ mm}$ × Pay attention to the mounting dimensions.	supply	Current	93mA (at 24VDC TYP.)		0	
Weight 0.7kg 0.25kg △	External dime	nsions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	Pay attention to the mounting
	Weight		0.7kg	0.25kg	Δ	

(7) Specifications comparison between AY51C and AJ65DBTB1-32T1

Specifi	cations	AY51C	AJ65DBTB1-32T1	Compatibility	ange required, ×: Not compatib Precautions for replacement
Number of output points		32 points	32 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated load voltage		12/24VDC	12/24VDC	0	
Operating load	d voltage range	10.2 to 31.2VDC	10.2 to 31.2VDC (ripple ratio within 5%)	0	
Maximum load current		0.3A/point 75% simultaneously ON (7.2A/1 common (2A/1 terminal))	0.5A/point, 8A/common (2A/1 terminal)	0	
Maximum inru	sh current	1.2A 10ms or less	1.2A 10ms or less	0	
Leakage curre	nt at OFF	0.1mA or less	0.1mA or less	0	
Maximum voltage drop at ON		0.9VDC or less (TYP.) 0.3A 1.5VDC or less (MAX.) 0.3A	0.3VDC or less (TYP.) 0.5A 0.6VDC or less (MAX.) 0.5A	0	
Output method	d	sink type	sink type	0	
Daananaa	OFF→ON	2ms or less	0.5ms or less	0	
Response time ON→OFF		2ms or less (resistance load)	1.5ms or less (resistance load)	0	
External	Voltage	10.2 to 31.2VDC	10.2 to 31.2VDC (ripple ratio within 5%)	0	
power supply Current		64mA (24VDC)	50mA or less (24VDC, when all points are ON) External load current not included	0	
Surge suppressor		Zener diode	Zener diode	0	
Common terminal arrangement		32 points/common	32 points/common (4 points) (terminal block 1-wire type)	0	
Number of occ	•	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation indi	cation	ON indication (LED)	ON indication (LED)	0	
External conne	ection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	0	The number of applicable solderless terminals inserted is within two.
Applicable wire	e size	0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable sole terminal	derless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3.5 (Conforming to JIS C 2805) RAV2-3.5	0	
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	93mA (at 24VDC TYP.)	65mA or less (24VDC when all points are ON)	0	
External dimer	nsions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0	
Weight		0.7kg	0.7kg	0	

(8) Specifications comparison between AY61CE and AJ65SBTB1-16TE

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specif	ications	AY61CE	AJ65SBTB1-16TE	Compatibility	Precautions for replacement
Speci	ications	ATOTOL		Compatibility	When seventeen or more
Number of or	itput points	32 points	16 points	×	points are used, use two AJ65SBTB1-16TE modules.
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load v	oltage	5/12/24VDC	12/24VDC	Δ	5VDC cannot be used.
Operating loa	nd voltage	4.5 to 26.4VDC	10.2 to 26.4VDC		5VDC cannot be used.
range		4.5 to 20.4 VDC	(ripple ratio within 5%)	Δ	3VDC carriot be used.
Maximum loa	d current	2.0A/point (Condition: τ =L/R \leq 2.5ms) 5A/common	0.1A/point 1.6A/common	×	The maximum load current per point becomes lower. Pay attention to the selection of the load to be used. The maximum load current per common differs. Pay attention to the operating current of the entire module.
Maximum inr	ush current	8A 10ms or less	1A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load used.
Leakage curi	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	tage drop at	0.25V or less (TYP.) 2.0A	0.1V or less (TYP.) 0.1A	0	
ON		0.4V or less (MAX.) 2.0A	0.2V or less (MAX.) 0.1A	0	
Output metho	od	Source type	Source type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time	ON→OFF	10ms or less (resistance load)	1.5ms or less (resistance load)	0	
External power	Voltage	None	10.2 to 26.4VDC (ripple ratio within 5%)	×	Wiring of the power supply for driving the output transistor is required.
supply	Current	None	30mA or less (24VDC)	×	Wiring of the power supply for driving the output transistor is required.
Surge suppre	essor	Zener diode	Zener diode	0	
Common terr	ninal	8 points/common	16 points/common	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.
Number of oc stations (num occupied poi	ber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wire size		0.75 to 2mm ²	0.3 to 2mm ²	0	
			RAV1.25-3	_	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	(Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power	Current	150mA (at 24VDC TYP.)	50mA or less (24VDC when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.7kg	0.18kg	Δ	
		·			

(9) Specifications comparison between AY61CE and AJ65SBTB1-32TE1

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Speci	fications	AY61CE	AJ65SBTB1-32TE1	Compatibility	Precautions for replacement
Number of or	utput points	32 points	32 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated load voltage		5/12/24VDC	12/24VDC	Δ	5VDC cannot be used.
Operating loa	ad voltage	4.5 to 26.4VDC	10.2 to 26.4VDC (ripple ratio within 5%)	Δ	5VDC cannot be used.
Maximum loa	ad current	2.0A/point (Condition: τ =L/R \leq 2.5ms) 5A/common	0.5A/point 4.8A/common	×	The maximum load current per point becomes lower. Pay attention to the selection of the load to be used. The maximum load current per common differs. Pay attention to the operating current of the entire module.
Maximum inr	ush current	8A 10ms or less	1A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load used.
Leakage curi	rent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	Itage drop at	0.25V or less (TYP.) 2.0A	0.5V or less (TYP.) 0.1A	×	The value of maximum voltage
ON		0.4V or less (MAX.) 2.0A	0.8V or less (MAX.) 0.1A		drop at ON becomes higher.
Output metho	od	Source type	Source type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time	ON→OFF	10ms or less (resistance load)	1.5ms or less (resistance load)	0	
External	Voltage	None	10.2 to 26.4VDC (ripple ratio within 5%)	×	Wiring of the power supply for driving the output transistor is required.
power supply	Current	None	15mA or less (TYP.DC24V, per common) External load current not included	×	Wiring of the power supply for driving the output transistor is required.
Surge suppre	essor	Zener diode	Zener diode	0	
Common teri arrangement		8 points/common	32 points/common (terminal block 1-wire type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.
Number of or stations (num occupied poi	nber of	4 stations (4 stations × 8 points)	1 station (1 station \times 32 points)	0	
Operation inc	dication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required. The number of applicable solderless terminals inserted is within two.
Applicable wire size		0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power		i	60mA or less		
power supply	Current	150mA (at 24VDC TYP.)	(24VDC when all points are ON)	0	
•		150mA (at 24VDC TYP.) 170(H) × 64(W) × 80(D) mm	(24VDC when all points are ON) 54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
supply		, ,			Pay attention to the mounting

(10) Specifications comparison between AY81C and AJ65SBTB1-16TE

Specif	ications	AY81C	O : Comp AJ65SBTB1-16TE	atible, ∆∶Partial o	change required, × : Not compatible Precautions for replacement
Ороси				,	When seventeen or more
Number of ou	tput points	32 points	16 points	×	points are used, use two AJ65SBTB1-16TE.
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load vo	oltage	24VDC	12/24VDC	0	
Operating loa	id voltage	21.6 to 26.4VDC	10.2 to 26.4VDC	0	
range		21.0 to 20.4 VDC	(ripple ratio within 5%)	0	
Maximum loa	d current	0.5A/point 60% simultaneously ON	0.1A/point 1.6A/common	×	The maximum load current per point becomes lower. Pay attention to the selection of the load to be used. The maximum load current per common differs. Pay attention to the operating current of the entire module.
Maximum inru	ush current	2A 10ms or less	1A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load used.
Leakage curr	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vol	tage drop at	0.9V or less (TYP.) 0.5A	0.1V or less (TYP.) 0.1A	0	
ON		1.5V or less (MAX.) 0.5A	0.2V or less (MAX.) 0.1A		
Output metho	od I	Source type	Source type	0	
Response	OFF→ ON	2ms or less	0.5ms or less	0	
time	ON→OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
External	Voltage	21.6 to 26.4VDC	10.2 to 26.4VDC (ripple ratio within 5%)	0	
power supply	Current	17mA (24VDC)	30mA or less (24VDC)	Δ	The current consumption increases, the current capacity needs to be reconsidered.
Surge suppre	essor	Zener diode	Zener diode	0	
Common tern	ninal	32 points/common	16 points/common	0	
	cupied stations	4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation ind	lication	ON indication (LED)	ON indication (LED)	0	
External conr	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3 RAP2-3SL TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	100mA (at 24VDC TYP.)	50mA or less (24VDC when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.7kg	0.18kg	Δ	
			-		1

(11) Specifications comparison between AY81C and AJ65SBTB1-32TE1

Specif	ications	AY81C	AJ65SBTB1-32TE1	Compatibility	Precautions for replacement
Number of ou	tput points	32 points	32 points	0	
Insulation met	thod	Photocoupler	Photocoupler	0	
Rated load vo	ltage	24VDC	12/24VDC	0	
			10.2 to 26.4VDC		
Operating load	d voltage range	21.6 to 26.4VDC	(ripple ratio within 5%)	0	
Maximum load	d current	0.5A/point 60% simultaneously ON	0.5A/point 4.8A/common	Δ	The maximum load current per common differs. Pay attention to the operating current of the entire module.
Maximum inru	ısh current	2A 10ms or less	1A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load to used.
Leakage curre	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum valt	rage drop at ON	0.9V or less (TYP.) 0.5A	0.5V or less (TYP.) 0.5A	0	
IVIAXIITIUITI VOII	age drop at ON	1.5V or less (MAX.) 0.5A	0.8V or less (MAX.) 0.5A	0	
Output metho	d	Source type	Source type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time	ON→ OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
	Voltage	21.6 to 26.4VDC	10.2 to 26.4VDC (ripple ratio within 5%)	0	
External power supply	Current	17mA (24VDC)	15mA or less (TYP.24VDC, per common) External load current not included	0	
Surge suppre	ssor	Zener diode	Zener diode	0	
Common term	ninal	32 points/common	32 points/common (terminal block 1-wire type)	0	
Number of oc	cupied stations	4 stations	1 station		
	ccupied points)	(4 stations × 8 points)	(1 station × 32 points)	0	
Operation ind	ication	ON indication (LED)	ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required. The number of applicable solderless terminals inserted is within two.
Applicable wir	e size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable sol	derless terminal	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3 RAP2-3SL TGV2-3N	×	Change in wiring is required.
I/O module power	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	100mA (at 24VDC TYP.)	60mA or less (24VDC when all points are ON)	0	
External dime	nsions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.7kg	0.26kg	Δ	

(12) Specifications comparison between AJ35PTF-24S and AJ65SBTB2N-16S^{*1}

Specif	ications	AJ35PTF-24S	AJ65SBTB2N-16S	Compatibility	Precautions for replacement
<u> </u>				, , , , , , , , , , , , , , , , , , ,	When seventeen or more
Number of ou	tput points	24 points	16 points	×	points are used, use two AJ65SBTB2N-16S modules.
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load vo	oltage	100-240VAC,40 to 70Hz	100-240VAC, 50/60Hz±5%	0	
Maximum loa	d voltage	264VAC	264VAC	0	
Maximum loa	d current	0.6A/point, 2.4A/common	0.6A/point, 4.8A/common	0	
Minimum loo	d voltage/	24VAC 100mA,	50VAC 100mA,		
Minimum load current	u voitage/	100VAC 10mA,	100VAC 10mA,	0	
Current		240VAC 10mA	240VAC 10mA		
Maximum inru	ush current	20A 10ms or less, 8A 100ms or less	25A 10ms or less	0	
Leakage curr	ent at OFF	1.5mA (120VAC, 60Hz)	1.5mA (100VAC, 60Hz)	0	
Leakage our	chi at Of f	3.0mA (240VAC, 60Hz)	3.0mA (200VAC, 60Hz)	0	
Maximum vol	tage drop at	1.5V or less (0.1 to 0.6A)			
ON		1.8V or less (50 to 100mA)	1.5V or less (at 0.6A)	0	
		2.0V or less (10 to 50mA)			
Response	OFF→ON	1ms or less	1ms or less	0	
time	ON→ OFF	0.5Hz+1ms or less	1/2 cycle + 1ms or less	0	
Surge suppre	ssor	CR absorber (0.022 μ F+47 Ω)	CR absorber (0.01 μ F+47 Ω)	0	
Fuse rating		High speed type fuse 3.2A (one fuse/common) HP-32	None	×	The fuse is not built in.*2
Fuse blown ir	dication	Available	None		-
i use blowii ii	Idication	Available	None	×	As common terminal
Common term arrangement	ninal	8 points/common	16 points/common (2-wire type)	Δ	arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.
	cupied stations ccupied points)	4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation ind	ication	ON indication (LED)	ON indication (LED)	0	
External connection method		Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	200mA	85mA or less (24VDC when all points are ON)	0	
External dime	ensions	254(H) × 132(W) × 41(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.83kg	0.35kg		

^{1:} Consider the characteristics of the triac and observe the necessary precautions by referring to Section 5.3 (5) before replacing the modules.

^{*2:} Install a fuse for each external terminal point to prevent the burnout of the external devices and modules during load shorts.

In addition, when a fuse blown indication is necessary, configure an external circuit.

(13) Specifications comparison between AJ35PTF-24T and AJ65SBTB1-32T1

Specif	ications	AJ35PTF-24T	AJ65SBTB1-32T1	Compatibility	nange required, × : Not compatible Precautions for replacement
Number of ou		24 points	32 points	O	r resultions for replacement
Insulation method		Photocoupler	Photocoupler	0	
Rated load vo		12/24VDC	12/24VDC	0	
Operating loa		12/2 1 4 2 3	10.2 to 26.4VDC		Voltages exceeding 26.4VDC
range	a voltago	10.2 to 31.2VDC	(ripple ratio within 5%)	Δ	cannot be applied.
Maximum loa	d current	0.5A/point, 3.2A/common	0.5A/point, 4.8A/common	Δ	The maximum load current per common differs. Pay attention to the operating current of the entire module.
Maximum inru	ush current	4A 10ms or less	1.0A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load used.
Leaking curre	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vol	tage drop at	0.9VDC or less (TYP.) 0.5A	0.3VDC or less (TYP.) 0.5A	0	
ON		1.5VDC or less (MAX.) 0.5A	0.6VDC or less (MAX.) 0.5A	0	
Output metho	od	sink type	sink type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time	ON→OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
Fortament.	Voltage	10.2 to 31.2VDC	10.2 to 26.4VDC (ripple ratio within 5%)	Δ	Voltages exceeding 26.4VDC cannot be applied.
External power supply	Current	23mA (24VDC TYP./common)	50mA or less (24VDC)	×	The current consumption increases. The current capacity needs to be reconsidered.
Surge suppre	essor	Varistor (52 to 62V)	Zener diode	0	
Common tern arrangement	ninal	8 points/common	32 points/common	Δ	As common terminal arrangement changes from 8 points/common to 32 points/common, wiring with a different voltage per common is not possible.
Number of oc	cupied stations	4 stations	1 station	_	
(number of oc	ccupied points)	(4 stations × 8 points)	(1 station × 32 points)	0	
Operation ind	lication	ON indication (LED)	ON indication (LED)	0	
External connection method		Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (Conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases the solderless terminal must be changed.
I/O module Power	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	130mA	65mA or less (24VDC when all points are ON)	0	
External dimensions		254(H) × 132(W) × 41(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.73kg	0.25kg	Δ	

(14) Specifications comparison between AJ35TB1A-8R and AJ65SBTB2N-8R

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Response Photocoupler Relay	Specif	ications	AJ35TB1A-8R	AJ65SBTB2N-8R	Compatibility	Precautions for replacement
Photocoupler Roley	Number of ou	itput points	8 points	8 points	0	
Part	Insulation me	thod	Photocoupler	Relay	Δ	methods differ, the performance of the insulation
Response OFF - ON	Rated load vo	oltage/current	(resistance load)/point	(resistance load)/point 240VAC 2A (COS ϕ =1)/point	Δ	common differs. Pay attention to the operating current of the
Response OPF - ON 10ms or less 10ms or less 0	Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Machanical life	Maximum sw	itching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Mechanical life	Response	OFF→ON	10ms or less	10ms or less	0	
Rated switching Voltage Current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS \$\phi = 0.7)\$ 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS \$\phi = 0.7)\$ 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS \$\phi = 0.7)\$ 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS \$\phi = 0.7)\$ 100,000 times or more 200VAC 1.5A, 240VAC 0.5A (COS \$\phi = 0.35)\$ 100,000 times or more 24VDC 1A, 100VDC 0.1A (LIR=7 ms) 100,000 times or more 24VDC 1A, 100VDC 0.1A (LIR=7 ms) 100,000 times or more 24VDC 1A 100VDC	time	ON→OFF	12ms or less	12ms or less	0	
Voltage Current Cand 100,000 times or more 200VAC 15A, 240VAC 1A (COS ≠ 0.7) 100,000 times or more 200VAC 15A, 240VAC 1A (COS ≠ 0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ≠ 0.35) 100,000 times or more 200VAC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more 24VDC 1-0% Ripple vallage 4Vp-por less Supply Current 45mA (24VDC, all points ON) None -	Mechanical li	fe	20 million times or more	20 million times or more	0	
Sectional power supply Voltage 24VDC ± 10% Ripple voltage 4Vp-p or less supply Voltage 45mA (24VDC, all points ON) None -	Electrical life		voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or	voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A ($\cos \phi = 0.7$) 100,000 times or more 200VAC 1A, 240VAC 0.5A ($\cos \phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A ($\cos \phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A	0	
Power supply Correct Common terminal atranspersent Independent common S points/common (2-wire type) X Becomes a shared common.		itching	3,600 times/hr	3,600 times/hr	0	
December of cocupied stations (number of occupied points) Secure of cocupied points		Voltage		None	-	
Applicable wire size Applicable solderless terminal Voltage Vo	supply	Current	45mA (24VDC, all points ON)	None	-	
Number of occupied stations (number of occupied points) Operation indication ON indication (LED) ON indication (LED) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 x 5.2 screws) Applicable wire size O.75 to 2mm² Applicable solderless terminal Voltage Voltage Voltage Voltage Voltage Voltage Voltage Voltage TomA (at 24VDC) Tom occupied 1 station (1 station × 32 points) ON indication (LED) On increases. The assignment of the entire system needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.		ninal	Independent common	8 points/common (2-wire type)	×	Becomes a shared common.
External connection method Comparison C	stations (num	ber of			×	increases. The assignment of the entire system needs to be
External connection method Change in wiring is required.	Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
Applicable wire size 0.75 to 2mm² 0.3 to 2mm² RAV1.25-3 RAV1.25-3, R2-3 RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N Voltage Voltage Voltage Voltage Voltage 15.6 to 31.2VDC (peak voltage 31.2VDC) (peak voltage 31.2VDC) 85mA or less (24VDC when all points are ON) External dimensions 55(H) × 135(W) × 50(D) mm V3 to 2mm² RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N 20.4 to 26.4VDC (ripple ratio within 5%) A The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	External conr	nection method	(M3 screw)	supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block	×	Change in wiring is required.
Applicable solderless terminal R1.25-3, R2-3 RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 RAV2-3S1, TGV2-3N Voltage Voltage Voltage Voltage Voltage Voltage The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. External dimensions S5(H) × 135(W) × 50(D) mm RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N Z0.4 to 26.4VDC (ripple ratio within 5%) A The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	Applicable wi	re size	0.75 to 2mm ²		0	
I/O module power supply Current The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. External dimensions 55(H) × 135(W) × 50(D) mm 54(H) × 118(W) × 40(D) mm × Pay attention to the mounting dimensions.	Applicable solderless		R1.25-3, R2-3	RAV1.25-3 (conforming to JIS C 2805)		· · · · · · · · · · · · · · · · · · ·
Power supply Current 70mA (at 24VDC) 85mA or less (24VDC when all points are ON) △ The current consumption increases. The current capacity needs to be reconsidered. External dimensions 55(H) × 135(W) × 50(D) mm 54(H) × 118(W) × 40(D) mm × Pay attention to the mounting dimensions.	I/O madula	Voltage			Δ	
External dimensions $55(H) \times 135(W) \times 50(D) \text{ mm}$ $54(H) \times 118(W) \times 40(D) \text{ mm}$ × Pay attention to the mounting dimensions.	power	Current	70mA (at 24VDC)		Δ	increases. The current capacity needs to be
Weight 0.3kg 0.25kg △	External dime	ensions	55(H) × 135(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	Pay attention to the mounting
	Weight		0.3kg	0.25kg	Δ	

(15) Specifications comparison between AJ35TB2-8R and AJ65SBTB2N-8R

 $\bigcirc : Compatible, \ \underline{\wedge} : Partial \ change \ required, \ \times : Not \ compatible$

Specific			AJ65SBTB2N-8R	Compatibility	Precautions for replacement
Number of our	put points	AJ35TB2-8R 8 points	8 points	O	Trecautions for replacement
Insulation met	<u> </u>	Photocoupler	Relay	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated load vol	Itage/current	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 5A/common	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 4A/common	Δ	The maximum load current per common differs. Pay attention to the operating current of the entire module.
Minimum switch	ching load	5VDC 1mA	5VDC 1mA	0	
Maximum swit		250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical life		20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A ($\cos \phi = 0.7$) 100,000 times or more 200VAC 1A, 240VAC 0.5A ($\cos \phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A ($\cos \phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A ($\cos \phi = 0.35$) 100,000 times or more	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A ($\cos \phi = 0.7$) 100,000 times or more 200VAC 1A, 240VAC 0.5A ($\cos \phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A ($\cos \phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A ($\cos \phi = 0.35$) 100,000 times or more	0	
Common term	inal	3,600 times/hr	3,600 times/hr	0	
arrangement		5,000 a65,1		Ŭ .	
External power	Voltage	24VDC± 10% Ripple voltage 4Vp-p or less	None	-	
supply	Current	45mA (24VDC all points ON)	None	_	
Common term arrangement	inal	8 points/common (2-wire type)	8 points/common (2-wire type)	0	
Number of occ stations (numb occupied point	ber of	1 station (1 station × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation indic	cation	ON indication (LED)	ON indication (LED)	0	
External connection method		26-point terminal block (M3 screw) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wire	e size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL,TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	70mA (at 24VDC)	85mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dimensions		55(H) × 135(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
		0.3kg	0.25kg	Δ	1

(16) Specifications comparison between AJ35TB1-16R and AJ65SBTB2N-16R

Number of Couple parks 15 pa	Specifications		AJ35TB1-16R	AJ65SBTB2N-16R	Precautions for replacement	
Protocoupler Prot	<u> </u>				Compatibility	Precaditions for replacement
Common defenses			·	·		differ, the performance of the
Response OFF → ON	Rated load v	oltage/current	(resistance load)/point 240VAC 2A (COS ϕ =1)/point	(resistance load)/point 240VAC 2A (COS ϕ =1)/point	Δ	common differs. Pay attention to the operating current of the
Response OFF − ON 10ms or loss 10ms or loss 0	Minimum sw	ritching load	5VDC 1mA	5VDC 1mA	0	
Machanical III	Maximum sv	vitching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Mechanical life	Response	OFF→ ON	10ms or less	10ms or less	0	
Rated switching voltage current load 100,000 times or more 2001/AC 1.5A, 240VAC 1.A (COS \$\phi = 0.7) 100,000 times or more 2001/AC 1.5A, 240VAC 0.5A (COS \$\phi = 0.7) 100,000 times or more 2001/AC 1.5A, 240VAC 0.5A (COS \$\phi = 0.7) 100,000 times or more 2001/AC 1.5A, 240VAC 0.5A (COS \$\phi = 0.7) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 24VDC 1.A (LIR-7 ms) 100,000 times or more 24VDC 1.A 100VDC 0.1A (LIR-7 ms) 100,000 times or more 2	time	ON→OFF	12ms or less	12ms or less	0	
load	Mechanical I	life	20 million times or more	20 million times or more	0	
Voltage Ripple voltage 4/p-p or less None	Maximum sv frequency		load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more 3,600 times/hr	load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more		
Supply Current 90mA (24VDC all points ON) None — As common terminal arrangement 8 points/common (2-wire type)		Voltage		None	-	
Common terminal arrangement 8 points/common (2-wire type) A common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible. Number of occupied stations (number of occupied points) 1 station (2 stations × 8 points) (2 stations × 8 points) Operation indication ON indication (LED) ON indication (LED) ON indication (LED) Transmission/module power supply parts: 7-point terminal block (M3 × 52 screws) I/O part: 18-point terminal block (M3 × 52 screws) Applicable wire size O.75 to 2mm² O.3 to 2mm² O.4 In some cases, the solderless terminal must be changed. I/O module power supply parts: RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. The operating voltage range differs. The overall size differs. Pay attention to the mounting dimensions.	-	Current		None	_	
Number of occupied stations (number of occupied points) Castations	Common ter	minal	, , , , ,	16 points/common		arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not
External connection method Applicable wire size Applicable solderless terminal I/O module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws) Applicable wire size O.75 to 2mm² Applicable solderless terminal RAV1.25-3, R2-3 RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 In some cases, the solderless terminal must be changed. Voltage Voltage Voltage Voltage Voltage 15.6 to 31.2VDC (peak voltage 31.2VDC) (peak voltage 31.2VDC) The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. External dimensions 55(H) × 166(W) × 50(D) mm Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) RAV1.25-3 crews) O RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N Z out to 26.4VDC (ripple ratio within 5%) A The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	stations (nur	mber of			×	increases. The assignment of the entire system needs to be
External connection method Transmission circuit part included Transmission circuit part included Applicable wire size Applicable solderless terminal Voltage Voltage Voltage Tomadule power supply Current Tomadule power supply External dimensions 34-point terminal block (M3 x 5.2 screws) I/O part: 18-point terminal block (M3 x 5.2 screws	Operation in	dication	ON indication (LED)	ON indication (LED)	0	
Applicable solderless terminal R1.25-3, R2-3 RAV1.25-3, RAV2-3 RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. External dimensions S5(H) × 166(W) × 50(D) mm S4(H) × 179(W) × 40(D) mm X In some cases, the solderless terminal must be changed. The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.		nection	(M3 screw) Transmission circuit part	supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block	×	Change in wiring is required.
Applicable solderless terminal RAV1.25-3, RAV2-3 RAV1.25-3, RAV2-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N Voltage Voltage Voltage Voltage Voltage Voltage Voltage Voltage Voltage The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. External dimensions Fig. 15.6 to 31.2VDC (peak voltage 31.2VDC) (ripple ratio within 5%) A The operating voltage range differs. The current consumption increases. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.	Applicable wire size		0.75 to 2mm ²	0.3 to 2mm ²	0	
I/O module power supply Current Curr		olderless		(conforming to JIS C 2805)	Δ	· ·
Supply Current 75mA (at 24VDC) 120 mA or less (24VDC when all points are ON) \triangle increases. The current capacity needs to be reconsidered. The overall size differs. Pay attention to the mounting dimensions.		Voltage			Δ	differs.
External dimensions $55(H) \times 166(W) \times 50(D) \text{ mm}$ $54(H) \times 179(W) \times 40(D) \text{ mm}$ × Pay attention to the mounting dimensions.	-	Current	75mA (at 24VDC)		Δ	increases. The current capacity needs to be reconsidered.
Weight 0.35kg 0.35kg	External dim	ensions	55(H) × 166(W) × 50(D) mm	54(H) × 179(W) × 40(D) mm	×	Pay attention to the mounting
	Weight		0.35kg	0.35kg	0	

(17) Specifications comparison between AJ35TB1A-8T and AJ65SBTB1-8T1

Specif	ications	AJ35TB1A-8T	AJ65SBTB1-8T1	Compatibility	nange required, × : Not compatible Precautions for replacement
Number of ou		8 points	8 points	0	
Insulation me		Photocoupler	Photocoupler	0	
Rated load vo		24VDC	12/24VDC	0	
Operating loa		19.2 to 26.4VDC	10.2 to 26.4VDC	0	
range	ia voltage	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum loa	nd current	0.3A/point	0.5A/point, 2.4A/common	0	
Maximum inr		1.0A 10ms or less	1.0A 10ms or less	0	
Leakage curr		0.1mA or less	0.1mA or less	0	
Maximum vol		0.1111/101 1000	0.3VDC or less (TYP.) 0.5A	Ŭ .	
ON	nage alop at	1.5VDC or less (MAX.) 0.3A	0.6VDC or less (MAX.) 0.5A	0	
Output metho	od	sink type	sink type	0	
Response	OFF→ON	2ms or less	0.5ms of less	0	
time					
uno	ON→OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	140:
External	Voltage	None	10.2 to 26.4VDC (ripple ratio within 5%)	×	Wiring of the power supply for driving the output circuit is required.
power supply	Current	None	15mA or less (24VDC)	×	Wiring of the power supply for driving the output circuit is required.
Surge suppre	essor	Zener diode	Zener diode	0	
Common terr arrangement		Independent common	8 points/common	×	Becomes a shared common.
Number of oc stations (num occupied poin	ber of	1 station (1 station × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
	nection method	26-point terminal block (M3 screw) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 10-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL,TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	85mA(at 24VDC)	35mA or less (24VDC when all points are ON)	0	
External dime	ensions	55(H) × 135(W) × 50(D) mm	54(H) × 87.3(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.3kg	0.14kg	Δ	

(18) Specifications comparison between AJ35TB2-8T and AJ65SBTB2-8T1

Specif	ications	AJ35TB2-8T	AJ65SBTB2-8T1	Compatibility	hange required, × : Not compatible Precautions for replacement
Number of ou		8 points	8 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load vo	oltage	5/12/24VDC	12/24VDC	Δ	5VDC cannot be used.
Operating loa		4.5 to 26.4VDC	10.2 to 26.4VDC	Δ	
range	J	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	5VDC cannot be used.
Maximum loa	d current	0.5A/point	0.5A/point, 2.4A/common	0	
Maximum inr	ush current	2.0A 10ms or less	1.0A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load used.
Leakage curr	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vol	tage drop at	0.2VDC or less (MAX.) 0.5A	0.3VDC or less (TYP.) 0.5A 0.6VDC or less (MAX.) 0.5A	0	
Output metho	od	sink type	sink type	0	
Response	OFF→ ON	2ms or less	0.5ms of less	0	
time	ON→ OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
External power	Voltage	4.5 to 26.4VDC (ripple ratio within 5%)	10.2 to 26.4VDC (ripple ratio within 5%)	Δ	5VDC cannot be used.
supply	Current	20mA or less (24VDC)	17.8mA or less (24VDC)	0	
Surge suppre	ssor	Zener diode	Zener diode	0	
Common terr	ninal	8 points/common (2-wire type)	8 points/common (2-wire type)	0	
	cupied stations ccupied points)	1 station (1 station × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External conr	nection method	26-point terminal block (M3 screw) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so terminal	lderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module power	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	70mA (at 24VDC)	45mA or less (24VDC when all points are ON)	0	
External dimensions		55(H) × 135(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.3kg	0.18kg	Δ	

(19) Specifications comparison between AJ35TB1-16T and AJ65SBTB1-16T1

Specif	ications	AJ35TB1-16T	AJ65SBTB1-16T1	Compatibility	nange required, × : Not compatible Precautions for replacement
Number of ou		16 points	16 points	0	
Insulation me		Photocoupler	Photocoupler	0	
Rated load ve		24VDC	12/24VDC	0	
Operating loa		19.2 to 26.4VDC	10.2 to 26.4VDC	U	
range	ia voltago	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum loa	id current	0.1A/point, 1.6A/common	0.5A/point, 3.6A/common	0	
Maximum inr		0.4A 10ms or less	1.0A 10ms or less	0	
Leakage curr		0.1mA or less	0.1mA or less	0	
Maximum vo			0.3VDC or less (TYP.) 0.5A	Ŭ	
ON	J 1	1.5VDC or less (MAX.) 0.1A	0.6VDC or less (MAX.) 0.5A	0	
Output metho	od	sink type	sink type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time		2ms or less (resistance load)	1.5ms or less (resistance load)		
11110	ON→OFF	Zills of less (resistance load)	1.5ms of less (resistance load)	0	Minima of the necessary comply for
	Voltage	None	10.2 to 26.4VDC		Wiring of the power supply for driving the output circuit is
External	voitage	None	(ripple ratio within 5%)	×	required.
power					Wiring of the power supply for
supply	Current	None	30mA or less (24VDC)	×	driving the output circuit is
			(,		required.
Surge suppre	essor	Zener diode	Zener diode	0	·
Common terr					
arrangement		16 points/common	16 points/common	0	
Number of o	ounied.				The number of occupied points
stations (num	•	2 stations	1 station	×	increases. The assignment of
occupied poi		(2 stations × 8 points)	(1 station × 32 points)	^	the entire system needs to be
occupied poi	113)				reconsidered.
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
			Transmission/module power		
			supply parts:		
		26-point terminal block	7-point terminal block		
External con	nection method	(M3 screw)	(M3 × 5.2 screws)	×	Change in wiring is required.
		Transmission circuit part included	I/O part:		
			18-point terminal block		
			(M3 × 5.2 screws)		
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so	lderless	R1.25-3, R2-3	RAV1.25-3		In some cases, the solderless
terminal	ndon looo	RAV1.25-3, RAV2-3	(conforming to JIS C 2805)	Δ	terminal must be changed.
		·	V2-MS3, RAP2-3SL, TGV2-3N		_
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC	Δ	The operating voltage range
power		(peak voltage 31.2VDC)	(ripple ratio within 5%)	<u> </u>	differs.
supply	Current	130mA or less (at 24VDC)	50mA or less	0	
		· , ,	(24VDC when all points are ON)	_	The everell size differen
External dim	oncione	EE(II) 42E(M) 50/D)	E4/U) 440/M/ 40/D)		The overall size differs.
External dime	511010115	55(H) × 135(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	Pay attention to the mounting dimensions.
Woight		0.3%	0.1910		differences.
Weight		0.3kg	0.18kg	Δ	1

(20) Specifications comparison between AJ35TB1-16T and AJ65BTB1-16T

Specifications		AJ35TB1-16T	O : Compatible, △ : Partial change required, × : Not comp. AJ65BTB1-16T Compatibility Precautions for replacem				
Number of output points		16 points	16 points	0			
Insulation method		Photocoupler	Photocoupler	0			
Rated load voltage		24VDC	12/24VDC	0			
Operating loa		19.2 to 26.4VDC	10.2 to 28.8VDC	0			
range	ad voltage	(ripple ratio within 5%)	(ripple ratio within 5%)	0			
rango		(hppie rade waim e70)	0.5A/point				
Maximum loa	ad current	0.1A/point, 1.6A/common	4A/1 common (Ta = 45°C)	0			
			2.8A/1 common (Ta = 55°C)				
Maximum inr	ush current	0.4A 10ms or less	4.0A 10ms or less	0			
Leakage curi		0.1mA or less	0.1mA or less	0			
Maximum vo		0	0.9VDC or less (TYP.) 0.5A				
ON	ago a.op a.	1.5VDC or less (MAX.) 0.1A	1.5VDC or less (MAX.) 0.5A	0			
Output metho	od	sink type	sink type	0			
<u> </u>	OFF→ ON	2ms or less	2ms or less	0			
Response time				_			
ume	ON→OFF	2ms or less (resistance load)	2ms or less (resistance load)	0			
			10.2 to 28.8VDC		Wiring of the power supply for		
	Voltage	None	(ripple ratio within 5%)	×	driving the output circuit is		
External			4004 1		required.		
power			100mA or less		Wiring of the power supply for		
supply	Current	ent None	(TYP.24VDC per common) External load current not	×	driving the output circuit is		
			included		required.		
Surge suppressor		Zener diode	Zener diode				
Common terminal		Zener diode	8 points/common	0			
arrangement		16 points/common	(terminal block 1-wire type)	Δ			
			(terminal zieek i mie type)		The number of occupied points		
Number of o	•	2 stations	1 station		increases. The assignment of		
stations (nun		(2 stations × 8 points)	(1 station × 32 points)	×	the entire system needs to be		
occupied poi	nts)	(= ::::::::::::::::::::::::::::::::::::	(· :::::::::::::::::::::::::::::::::::		reconsidered.		
Operation inc	dication	ON indication (LED)	ON indication (LED)	0			
				_	The existing terminal block of		
		26-point terminal block ion method (M3 screw)	27-point terminal block (M3.5 screw) Transmission circuit and module power supply terminal included	Δ	the AJ35TB1-16T can be used		
External con	nection method				by using wiring conversion		
		Transmission circuit part included			adapter *1. Note that wiring to		
		Transmission should part included			the CTR+ terminal is required.		
Applicable w	re size	0.75 to 2mm ²	0.75 to 2mm ²	0	·		
		5.7 0 10 2	0.70 to 2	Ü	The existing terminal block of		
			RAV1.25-3.5		the AJ35TB1-16T can be used		
Applicable so	olderless	R1.25-3, R2-3	(conforming to JIS C 2805)		by using wiring conversion		
terminal		RAV1.25-3, RAV2-3	RAV2-3.5	Δ	adapter *1. Note that wiring to		
					the CTR+ terminal is required.		
		15.6 to 31.2VDC	15.6 to 28.8VDC		The operating voltage range		
I/O module	Voltage	(peak voltage 31.2VDC)	(ripple ratio within 5%)	Δ	differs.		
power			80mA or less				
supply	Current	130mA or less (at 24VDC)	(at 24VDC TYP.)	0			
			- ,		The overall size differs.		
External dime	ensions	55(H) × 135(W) × 50(D) mm	65(H) × 151.9(W) × 46(D) mm *2	×	Pay attention to the mounting		
					dimensions.		
Weight		0.3kg	0.34kg	Δ			
		-	. =	_	1		

^{*1:} The A6ADP-1MC16T, MELSECNET/MINI-S3 - CC-Link module wiring conversion adapter can be used. For the mounting image, refer to Section 1.2.

^{*2:} When using the A6ADP-1MC16T, MELSECNET/MINI-S3 - CC-Link module wiring conversion adapter, the external dimensions are increased by 5.1mm (height) and 28.5mm (depth).

(21) Specifications comparison between AJ35TB2-16T and AJ65SBTB2-16T1

		A 105770-407		atible, ∆: Partial change required, ×: Not com		
	Specifications AJ35TB2-16T AJ65SBTB2-16T1 umber of output points 16 points 16 points		Compatibility	Precautions for replacement		
Number of output points		· ·	· · · · · · · · · · · · · · · · · · ·	0		
Insulation method		Photocoupler	Photocoupler	0		
Rated load vo		24VDC	12/24VDC	0		
Operating loa	ad voltage	19.2 to 26.4VDC	10.2 to 26.4VDC	0		
range		(ripple ratio within 5%)	(ripple ratio within 5%)	Ŭ		
Maximum loa	nd current	0.1A/point, 1.6A/common	0.5A/point, 3.6A/common	0		
Maximum inr	ush current	0.4A 10ms or less	1.0A 10ms or less	0		
Leakage curr		0.1mA or less	0.1mA or less	0		
Maximum vo	Itage drop at	1.5VDC or less (MAX.) 0.1A	0.3VDC or less (TYP.) 0.5A	0		
ON			0.6VDC or less (MAX.) 0.5A	Ŭ		
Output method	od	sink type	sink type	0		
Response	OFF→ON	2ms or less	0.5ms or less	0		
time	ON→OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0		
			· · · · · · · · · · · · · · · · · · ·		Wiring of the power supply for	
External	Voltage	None	10.2 to 26.4VDC	×	driving the output circuit is	
	, and the second		(ripple ratio within 5%)		required.	
power					Wiring of the power supply for	
supply	Current	None	24.2mA or less (24VDC)	×	driving the output circuit is	
			22 (2	^	required.	
Surge suppressor		Zener diode	Zener diode	0	7-4-0-2	
Common terr		16 points/common	16 points/common	Ŭ		
arrangement		(2-wire type)	(2-wire type)	0		
		71 /			The number of occupied points	
Number of o	•	2 stations	1 station	×	increases. The assignment of	
stations (num		(2 stations × 8 points)	(1 station × 32 points)		the entire system needs to be	
occupied poi	nts)				reconsidered.	
Operation inc	dication	ON indication (LED)	ON indication (LED)	0		
		, ,	Transmission/module power			
			supply parts:			
	34-point terminal block		7-point terminal block			
External con	nection method	(M3 screw)	(M3 × 5.2 screws)	×	Change in wiring is required.	
		Transmission circuit part included	I/O part:			
		Transmission on our part moladed	34-point terminal block			
			(M3 × 5.2 screws)			
A !! !-!!		2751 2 2	` '			
Applicable wi	II C SIZE	0.75 to 2mm ²	0.3 to 2mm ² RAV1.25-3	0		
Applicable so	olderless	R1.25-3, R2-3			In some cases, the solderless	
terminal		RAV1.25-3, RAV2-3	(conforming to JIS C 2805)	Δ	terminal must be changed.	
		45 6 to 24 0 /DO	V2-MS3, RAP2-3SL,TGV2-3N		The energting with a second	
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC	Δ	The operating voltage range	
power		(peak voltage 31.2VDC)	(ripple ratio within 5%)		differs.	
supply	Current	130mA (at 24VDC)	55mA or less	0		
			(24VDC when all points are ON)		The everall size differe	
External dime	oneione	EE(1) 166(M) 50(D)	E4/U) 470/(A/) 40/D)		The overall size differs.	
External dime	SHOIDIS	55(H) × 166(W) × 50(D) mm	54(H) × 179(W) × 40(D) mm	×	Pay attention to the mounting dimensions.	
\\/aimk+		0.25!	0.251		uiiiiciiSiUIIS.	
Weight		0.35kg	0.25kg	Δ		

(22) Specifications comparison between AJ35TC1-32T and AJ65SBTCF1-32T

Specifications		AJ35TC1-32T	AJ65SBTCF1-32T	Compatibility	hange required, × : Not compatible Precautions for replacement
Number of output points		32 points	32 points	O	recautions for replacement
Insulation method		Photocoupler	Photocoupler	0	
Rated load voltage		24VDC	12/24VDC	0	
Operating loa		19.2 to 26.4VDC	10.2 to 26.4VDC	0	
range	iu voltage	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum loa	d current	0.1A/point, 2A/common	0.1A/point, 3.2A/common	0	
Maximum inr		0.4A 10ms or less	1.0A 10ms or less	0	
Leakage curr		0.4A Tonis or less	0.1mA or less		
Maximum vol		U. IIIIA UI IESS	0.085VDC or less (TYP.) 0.1A	0	
ON	tage drop at	1.5VDC or less (MAX.) 0.1A	0.2VDC or less (MAX.) 0.1A	0	
Output metho	nd .	sink type	sink type	0	
<u> </u>			0.5ms or less		
Response	OFF→ON	2ms or less		0	
time	ON→OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
External power	Voltage	None	10.2 to 26.4VDC (ripple ratio within 5%)	×	Wiring of the power supply for driving the output circuit is required.
supply	Current	None	50mA or less (24VDC)	×	Wiring of the power supply for driving the output circuit is required.
Surge suppre	essor	Zener diode	Zener diode	0	
Common terr	ninal	32 points/common	32 points/common	0	
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation indication		ON indication (LED)	ON indication (LED)	0	
External connection method		Transmission circuit: 8-point terminal block (M3 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
		I/O part: 40-pin connector	I/O part: 40-pin connector	0	The existing connector can be attached without change.
Applicable wire size		Terminal block: 0.75 to 2mm ² 40-pin connector:0.3mm ²	Terminal block: 0.3 to 2mm ² 40 pin connector: 0.3mm ² or less (A6CON1, A6CON4) 0.2 to 0.08mm ² (for A6CON2) From 0.08mm ² twisted line, φ 0.25mm (for A6CON3)	0	
Accessory		1 external wiring connector	None	×	40-pin connectors for external wiring are sold separately.
Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	55mA(at 24V)	60mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dime	ensions	55(H) × 166(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.25kg	0.15kg	Δ	

5.2.3 I/O Module Specifications Comparison

(1) Specifications comparison between AX10Y10C and AJ65SBTB2N-16A+ AJ65SBTB2N-16R

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Specifications		AX10Y10C input specifications	AJ65SBTB2N-16A	Compatibility	nge required, × : Not compatible Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input voltage		100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input of	current	Approx. 6mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	0	
		85 to 132VAC	85 to 132VAC		
Operating vo	Itage range		(50/60Hz ± 3%, distortion rate	0	
		(50/60Hz ± 5%)	5% within)		
			100% simultaneously ON		
Maximum nu		100% simultaneously ON	(at 110VAC)	0	
simultaneous	input points	(at 110VAC)	60% simultaneously ON		
			(at 132VAC)		
Inrush curren	ıt	Max. 200mA, within 1ms	Max. 200mA, within 1ms	0	
ON voltage/C	M ourront	(at 132VAC) 80V or more/5mA or more	(at 132VAC) 80V or more/5mA or more	0	
ON voltage/O		30V or less/1mA or less	30V or less/1.7mA or less	0	
Of F Voltage/	Of F Current			0	
Input impeda	nce	Approx. 18k Ω (60Hz),	Approx. 15k Ω (60Hz),	0	
	I	Approx. 21k Ω (50Hz)	Approx. 18k Ω (50Hz)		
Response	OFF→ON	15ms or less (100VAC, 60Hz)	20ms or less (100VAC, 60Hz)	0	
time	ON→OFF	30ms or less (100VAC, 60Hz)	20ms or less (100VAC, 60Hz)	0	
Common terminal		16 points/common	16 points/common	0	
arrangement		-	(2-wire type)		
	fications	AX10Y10C output specifications	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
Number of ou	utput points	16 points	16 points	0	Although the inculation
					Although the insulation methods differ, the
Insulation me	ethod	Photocoupler	Relay	Δ	performance of the insulation
					is the same.
		24VDC 2A	24VDC 2A		
Datad land w	alta e a /au reant	(resistance load)/point	(resistance load)/point		
Rateu loau vi	oltage/current	240VAC 2A (COS Ω =1)/point	240VAC 2A (COS ϕ =1)/point	0	
		4A/common	8A/common		
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw	itching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
		Rated switching	Rated switching		
		voltage/current load	voltage/current load		
		100,000 times or more	100,000 times or more		
		200VAC 1.5A, 240VAC 1A	200VAC 1.5A, 240VAC 1A		
		(COS ϕ =0.7) 100,000 times or	(COS ϕ =0.7) 100,000 times or		
Electrical life		more	more	0	
Elocation inc		200VAC 1A, 240VAC 0.5A	200VAC 1A, 240VAC 0.5A		
		(COS $\phi = 0.35$) 100,000 times	(COS $\phi = 0.35$) 100,000 times		
		or more	or more		
		24VDC 1A, 100VDC 0.1A	24VDC 1A, 100VDC 0.1A		
		(L/R=7 ms) 100,000 times or more	(L/R=7 ms) 100,000 times or more		
		IIIOIE	IIIOIE		
Maximum sw	ritchina	3,600 times/hr	3,600 times/hr		

 $\bigcirc \colon \mathsf{Compatible}, \ \ \underline{\wedge} \colon \mathsf{Partial} \ \mathsf{change} \ \mathsf{required}, \ \ \times \colon \mathsf{Not} \ \mathsf{compatible}$

Specifications		AX10Y10C output specifications	AJ65SBT	B2N-16A	Compatibility	Precautions for replacement
External power	Voltage	24VDC± 10% Ripple voltage 4Vp-p or less	No	one	-	
supply	Current	92mA (24VDC, all points ON)	No	ne	-	
Common terminal arrangement		8 points/common	(2-wire	/common e type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.
Specif	ications	AX10Y10C	AJ65SBTB 2N-16A	AJ65SBTB 2N-16R	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation indication		ON indication (LED)	ON indication (LED)		0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)		×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so	lderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		×	Change in wiring is required.
1/0	Voltage	15.6 to 31.2VDC	_	26.4VDC within 5%)	Δ	The operating voltage range differs.
I/O module power supply	Current	74mA (at 24VDC TYP.)	40mA or less (24VDC when all points are ON)	120mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(V	V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.66kg	0.25kg	0.35kg	Δ	

(2) Specifications comparison between AX10Y22C and AJ65SBTB2N-16A+ AJ65SBTB2N-16S $^{\star 1}$

					nange required, \times : Not compatible
Specifications		AX10Y22C input specifications	AJ65SBTB2N-16A	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input voltage		100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input of	urrent	Approx. 6mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	0	
		85 to 132VAC	85 to 132VAC		
Operating vo	ltage range	(50/60Hz ± 5%)	(50/60Hz \pm 3%, distortion rate	0	
		(30/00112 ± 370)	5% within)		
			100% simultaneously ON		
Maximum nu		60% simultaneously ON	(at 110VAC)	0	
simultaneous	input points	(at 110VAC)	60% simultaneously ON		
			(at 132VAC)		
Inrush curren	t	Max. 200mA, within 1ms	Max. 200mA, within 1ms	0	
ON # 10		(at 132VAC)	(at132VAC)		
ON voltage/C		80V or more/5mA or more	80V or more/5mA or more	0	
OFF voltage/	OFF current	30V or less/1mA or less	30V or less/1.7mA or less	0	
Input impeda	nce	Approx. 18k Ω (60Hz), Approx.	Approx. 15k Ω (60Hz), Approx.	0	
		21k Ω (50Hz)	18k Ω (50Hz)		
Response	OFF→ON	15ms or less (100VAC, 60Hz)	20ms or less (100VAC, 60Hz)	0	
time	ON→OFF	30ms or less (100VAC, 60Hz)	20ms or less (100VAC, 60Hz)	0	
Common terr	ninal	40 = = int=/========	16 points/common	_	
arrangement		16 points/common	(2-wire type)	0	
Specif	ications	AX10Y22C output specifications	AJ65SBTB2N-16S	Compatibility	Precautions for replacement
Number of ou	ıtput points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load vo	oltage	100-240VAC, 40 to 70Hz	100-240VAC,50/60Hz ± 5%	0	
Maximum loa	d voltage	264VAC	264VAC	0	
Maximum loa	d current	0.3A/point 75% simultaneously ON	0.6A/point 4.8A/common	0	
Minimum load	٦	18VAC 10mA,	50VAC 100mA,		
voltage/curre		100VAC 10mA,	100VAC 10mA,	0	
voltage/curre		240VAC 10mA	240VAC 10mA		
Maximum inr	ush current	20A 10ms or less	25A, 10ms or less	0	
Leakage curr	ent at OFF	Approx.1.5mA(120VAC,60Hz)	1.5mA (100VAC, 60Hz)	0	
		Approx.3.0mA(240VAC,60Hz)	3.0mA (200VAC, 60Hz)	Ŭ	
Maximum vol	tage drop at	1.5V or less (100 to 300mA)			
ON		1.8V or less (50 to 100mA)	1.5V or less (at 0.6A)	0	
	<u> </u>	2.5V or less (10 to 50mA)		_	
Response	OFF→ON	1ms or less	1ms or less	0	
time	ON→OFF	0.5Hz+1ms or less	1/2 cycle + 1ms or less	0	
Surge suppre	essor	CR absorber (0.01 μ F+68 Ω)	CR absorber (0.01 μ F+47 Ω)	0	
Common terminal arrangement		8 points/common	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not
					possible.

Speci	fications	AX10Y22C	AJ65SBTB 2N-16A	AJ65SBTB 2N-16S	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	(1 station ×	ation 32 points × 2 ules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	tion (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	supply 7-point ter (M3 × 5 I/O 34-point ter	module power parts: minal block 2 screws) part: minal block 2 screws	×	Change in wiring is required.
Applicable w	vire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable se	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		×	Change in wiring is required.
I/O madula	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)		Δ	The operating voltage range differs.
I/O module power supply	Current	116mA (at 24V TYP.)	40mA or less (24VDC when all points are ON)	85mA or less (24VDC with all points ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	ensions	170(H) × 64(W) × 80(D) mm		V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.68kg	0.25kg	0.35kg	Δ	

^{*1:} Consider the characteristics of the triac and observe the necessary precautions by referring to Section 5.3 (5) before replacing the modules.

(3) Specifications comparison between AX40Y10C and AJ65SBTB1-16D+ AJ65SBTB2N-16R

○: Compatible, △: Partial change required, ×: Not compatible
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Specifications		AX40Y10C input specifications	AJ65SBTB1-16D	Compatibility	Precautions for replacement
Number of in		16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	roltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of		Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
		10.2 to 31.2VDC	19.2 to 26.4VDC	Ü	
Operating vo	Itage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu	mber of	100% simultaneously ON	4000/		
simultaneous	input points	(at 26.4VDC)	100% simultaneously ON	0	
ON voltage/C	N current	8V or more/2mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
			Positive/negative common		
Input method		Positive common	shared type	0	
		(sink type)	(sink/source shared type)		
Response	OFF→ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	Δ	
time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	Δ	The response times differ.
Common terr	ninal				
arrangement		16 points/common	16 points/common	0	
0	:4:	AX40Y10C output	A ICCORTRON 4CD	0	Donation for male and
Specif	ications	specifications	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
Number of ou	utput points	16 points	16 points	0	
					Although the insulation
Insulation me	thod	Photocoupler	Relay	_	methods differ, the
		i iii ii		Δ	performance of the insulation
			- 11/2-2-2-4		is the same.
		24VDC 2A	24VDC 2A		
Rated load		(resistance load)/point	(resistance load)/point	0	
voltage/curre	nt	240VAC 2A(COS $\phi = 1$)/point	240VAC 2A (COS $\phi=1$)/point	_	
		4A/common	8A/common	_	
Minimum swi		5VDC 1mA	5VDC 1mA	0	
	itching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
		Rated switching	Rated switching		
		voltage/current load	voltage/current load		
		100,000 times or more	100,000 times or more		
		200VAC 1.5A, 240VAC 1 A	200VAC 1.5A, 240VAC 1 A		
		(COS $\phi = 0.7$) 100000 times or	(COS $\phi = 0.7$) 100,000 times or		
Electrical life		more 200VAC 1A, 240VAC 0.5A	more	0	
		$(COS \phi = 0.35) 100,000 \text{ times}$	200VAC 1A, 240VAC 0.5A		
		or more	(COS $\phi = 0.35$) 100,000 times		
		24VDC 1A, 100VDC 0.1A	or more		
		(L/R=7 ms) 100,000 times or	24VDC 1A, 100VDC 0.1A		
		more	(L/R=7 ms) 100,000 times or more		
Maximum sw	itchina		more		
frequency		3,600 times/hr	3,600 times/hr	0	
External		24VDC ± 10%			
power	Voltage	Ripple voltage 4Vp-p or less	None	-	
supply	Current	92mA (24VDC all points ON)	None	_	
Surge suppre	essor	None	None	0	
Common terr	ninal	8 points/common	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.
					•

Specif	fications	AX40Y10C	AJ65SBTB1-16D	AJ65SBTB2N- 16R	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	(1 station ×	ation 32 points × 2 ules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	dication	ON indication (LED)	ON indica	tion (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/ module power supply parts 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	Transmission/ module power supply parts 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)		Δ	The operating voltage range differs.
power supply	Current	72mA (at 24V TYP.)	35mA or less (24VDC) when all points are ON)	120mA or less (24VDC) when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 118(W) × 40(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.65kg	0.18kg	0.35kg	Δ	

(4) Specifications comparison between AX40Y10C and AJ65DBTB1-32DR

Speci	fications	AX40Y10C input specifications	AJ65DBTB1-32DR input specifications	Compatibility	Precautions for replacement
Number of input points		16 points	16 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input voltage		12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	urrent	Approx. 3mA/Approx. 7mA	Approx. 5mA	Δ	Rated input current is smaller.
Operating vo	Itage range	10.2 to 31.2VDC (ripple ratio within 5%)	20.4 to 31.2VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu		100% simultaneously ON (at 26.4VDC)	100% (at 26.4VDC)	0	
ON voltage/0		8V or more/2mA or more	15V or more/3mA or more	Δ	12VDC cannot be used.
OFF voltage/		4V or less/1mA or less	5V or less/1.5mA or less		12VDC cannot be used.
Of F Voltage/	OTT GUITCIN	47 01 1033/1111/101 1033	0 V 01 1033/1.011// C1 1033	Δ	Input resistance becomes
Input resistar	nce	Approx. 3.3k Ω	Approx. 4.7k Ω	Δ	higher. *1
Input method		Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
time	ON→ OFF	10ms or less (at 24VDC)	10ms or less (at 24VDC)		
Common teri	minal	16 points/common	16 points/common (2 points) (terminal block 1-wire type)	0	
Specifications		AX40Y10C output specifications	AJ65DBTB1-32DR output specifications	Compatibility	Precautions for replacement
Number of or	utput points	16 points	16 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated load voltage/current		24VDC 2A (resistance load)/point 240VAC 2A(COS $\phi = 1$)/point 4A/common (2A/terminal)	24VDC 2A (resistance load)/point 240VAC 2A (COS $\phi=1$)/point 4A/common (2A/terminal)	0	
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw	itching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical li	l	20 million times or more	20 million times or more	0	
Mechanical life Electrical life		Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1 A (COS $\phi=0.7$) 100,000 times or more 200VAC 1A, 240VAC 0.5A	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1 A (COS $\phi=0.7$) 100,000 times or more 200VAC 1A, 240VAC 0.5A	0	
		(COS φ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	(COS φ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more		
Maximum sw frequency	itching	3,600 times/hr	3,600 times/hr	0	
External power	Voltage	24VDC ± 10% Ripple voltage 4Vp-p or less	24VDC ± 10% Ripple voltage 4Vp-p or less	0	
supply	Current	92mA (24VDC all points ON)	90mA (24VDC all points ON)	0	
Surge suppre	essor	None	None	0	
Common terr		8 points/common	8 points/common (terminal block 1-wire type)	0	

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Speci	fications	AX40Y10C	AJ65DBTB1-32DR	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation inc	dication	ON indication (LED)	ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	0	The number of applicable solderless terminals inserted is within two.
Applicable w	ire size	0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) RAV2-3.5	0	
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	72mA (at 24V TYP.)	60mA or less (24VDC, when all points are ON)	0	
External dim	ensions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0	
Weight		0.65kg	0.65kg	Δ	



(5) Specifications comparison between AX40Y10C and AJ65SBTB32-16DR

Specifications		AX40Y10C input specifications	AJ65SBTB32-16DR input specifications	Compatibility	Precautions for replacement
Number of input points		16 points	8 points	×	When nine or more points are used, use two AJ65SBTB32-16DR modules.
Insulation method		Photocoupler	Photocoupler	0	
Rated input voltage		12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input current		Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
Operating voltage range		10.2 to 31.2VDC	19.2 to 26.4VDC		12VDC cannot be used.
Operating voltage range		(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12 V DO Carmot be used.
Maximum number of simultaneous input points		100% simultaneously ON (at 26.4VDC)	100%	0	
ON voltage/ON current		8V or more/2mA or more	14V or more/3.5mA or more	,	12VDC cannot be used.
OFF voltage/OFF current		4V or less/1mA or less	6V or less/1.7mA or less	۸	12VDC cannot be used.
Input resistance				Δ 0	12 V DC carriot be used.
Input method		Approx. 3.3k Ω Positive common (sink type)	Approx. 3.3k Ω Positive/negative common shared type	0	
		(101)(70)	(sink/source shared type)	_	
Response	OFF→ON	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
time	ON→ OFF	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
Common terminal arrangement		16 points/common	8 points/common (terminal block 3-wire type)	0	
Specifications		AX40Y10C output specifications	AJ65SBTB32-16DR output specifications	Compatibility	Precautions for replacement
Number of output points		16 points	8 points	×	When nine or more points are used, use two AJ65SBTB32-16DR modules.
Insulation method		Photocoupler	Relay	Δ	Although the insulation method differs, the insulation performance is the same.
Rated load voltage/current		24VDC 2A	24VDC 2A	0	
		(resistance load)/point	(resistance load)/point		
		240VAC 2A(COS $\phi=$ 1)/point	240VAC 2A (COS $\phi=1$)/point		
		4A/common (2A/terminal)	4A/common		
Minimum switching load		5VDC 1mA	5VDC 1mA	0	
Maximum switching voltage		250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1 A (COS $\phi=0.7$) 100,000 times or more	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1 A (COS $\phi=0.7$) 100,000 times or more		
		200VAC 1A, 240VAC 0.5A (COS $\phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	200VAC 1A, 240VAC 0.5A (COS $\phi = 0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	0	
Maximum switching		3 600 times/b=	3 600 times/h-	_	
frequency		3,600 times/hr	3,600 times/hr	0	
External	Voltage	24VDC ± 10%	None		
power	vollage	Ripple voltage 4Vp-p or less	NONG		
supply	Current	92mA (24VDC all points ON)	None	-	
Surge suppressor		None	None	0	
Common terminal		8 points/common	4 points/common	0	
arrangement			(terminal block 2-wire type)	Ĭ	

Specifications		AX40Y10C	AJ65SBTB32-16DR	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 4 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required. The number of applicable solderless terminals inserted is within two.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so terminal	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	72mA (at 24V TYP.)	85mA or less (24VDC, when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.65kg	0.28kg	Δ	

(6) Specifications comparison between AX40Y50C and AJ65SBTB1-32DT2

			O: Comp	atible, <u>∆</u> ∶Partial cl	hange required, \times : Not compatible
Specif	ications	AX40Y50C input specifications	AJ65SBTB1-32DT2 input specifications	Compatibility	Precautions for replacement
Number of input points		16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	roltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	urrent	Approx.3mA/Approx.7mA	Approx. 7mA	0	
· · · ·		10.2 to 31.2VDC	19.2 to 26.4VDC		
Operating vo	ltage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu	mber of	60% simultaneously ON	, , ,		
simultaneous	input points	(at 26.4VDC)	100% simultaneously ON	0	
ON voltage/C		8V or more/2mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/		4V or less/1mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar					.2020 000000
IIIput resistai	ice .	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
Input method		Positive common	Positive common	0	
	I	(sink type)	(sink type)		
Response	OFF→ ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Common terr		16 points/common	32 points/common (Common shared by I/O)	Δ	As input common and output common are shared, wiring a different voltage for each common is not possible.
Specif	ications	AX40Y50C output specifications	AJ65SBTB1-32DT2 output specifications	Compatibility	Precautions for replacement
Number of ou	utput points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load v		12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Operating loa			19.2 to 26.4VDC	Δ	
range	ia voltage	10.2 to 31.2VDC	(ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum loa	nd current	0.3A/point 75% simultaneously ON	0.5A/point, 3.6A/common	0	
Maximum inr	ush current	1.2A 10ms or less	1.0A, 10ms or less	0	
Leakage curr	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	tage drop at	0.9VDC or less (TYP.) 0.3A	0.3VDC or less (TYP.) 0.5A	_	
ON		1.5VDC or less (MAX.) 0.3A	0.6VDC or less (MAX.) 0.5A	0	
Output metho	od	sink type	sink type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time ON→OFF		2ms or less (resistance load)	1.5ms or less (resistance load)	0	
External power supply Current		:: :::: (: 55:5::::::::5 :53:4)	19.2 to 26.4VDC	 	
		10.2 to 31.2VDC	(ripple ratio within 5%)	Δ	12VDC cannot be used.
		64mA (24VDC)	30mA or less (24VDC)	0	
117		` '	, ,	0	
Surge suppressor		Zener diode	Zener diode	0	As input common and output
Common terminal arrangement		16 points/common	32 points/common (I/O shared)	Δ	common and output common are shared, wiring a different voltage for each common is not possible.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specifications		AX40Y50C	AJ65SBTB1-32DT2	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation inc	dication	ON indication (LED)	ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	re size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so terminal	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply Current		74mA (at 24V TYP.)	60mA or less (24VDC when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.65kg	0.25kg	Δ	

(7) Specifications comparison between AX40Y50C and AJ65DBTB1-32DT1

				oatible, <u>∆</u> : Partial cl	nange required, × : Not compatible
Speci	ications	AX40Y50C input specifications	AJ65DBTB1-32DT1 input specifications	Compatibility	Precautions for replacement
Number of input points		16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	roltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	urrent	Approx.3mA/Approx.7mA	Approx. 5mA	Δ	Rated input current is smaller.*1
Operating vo	Itage range	10.2 to 31.2VDC (ripple ratio within 5%)	20.4 to 31.2VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu	mber of	60% simultaneously ON	100%	_	
simultaneous	input points	(at 26.4VDC)	(at 26.4VDC)	0	
ON voltage/0	N current	8V or more/2mA or more	15V or more/3mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	5V or less/1.5mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 3.3k Ω	Approx. 4.7k Ω	0	Input resistance becomes higher.*1
Input method		Positive common (sink type)	Positive common (sink type)	0	
Response	OFF→ON	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
time	ON→ OFF	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
Common terr			16 points/common (2 points)	Ŭ	
arrangement		16 points/common	(terminal block 1-wire type)	0	
-		AX40Y50C output	AJ65DBTB1-32DT1 output		
Specif	ications	specifications	specifications	Compatibility	Precautions for replacement
Number of or	utput points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load v	oltage	12VDC/24VDC	12VDC/24VDC	0	
Operating loa	nd voltage	40.04.04.0\/D0	10.2 to 31.2VDC	_	
range		10.2 to 31.2VDC	(ripple ratio within 5%)	0	
Maximum loa	id current	0.3A/point 75% simultaneously ON	0.5A/point, 4A/common (2A/terminal)	0	
Maximum inr	ush current	1.2A 10ms or less	1.2A, 10ms or less	0	
Leakage curi	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	tage drop at	0.9VDC or less (TYP.) 0.3A	0.3VDC or less (TYP.) 0.5A		
ON		1.5VDC or less (MAX.) 0.3A	0.6VDC or less (MAX.) 0.5A	0	
Output metho	od	sink type	sink type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time ON→OFF		2ms or less (resistance load)	1.5ms or less (resistance load)	0	
External	Voltage	10.2 to 31.2VDC	10.2 to 31.2VDC (ripple ratio within 5%)	0	
power supply	Current	64mA (24VDC)	30mA or less (24VDC, when all points are ON) External load current not included	0	
Surge suppre	essor	Zener diode	Zener diode	0	
Common terminal arrangement		16 points/common	16 points/common (2 points) (terminal block 1-wire type)	0	

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Specif	fications	AX40Y50C	AJ65DBTB1-32DT1	Compatibility	Precautions for replacement
Number of or stations (num occupied poi	nber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation inc	dication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	50-point terminal block (M3.5 × 7 screws)	
Applicable w	ire size	0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	R1.25-3.5 (conforming to JIS C 2805) RAV2-3.5	0	
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	74mA (at 24V TYP.)	55mA or less (24VDC when all points are ON)	0	
External dime	ensions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0	
Weight		0.65kg	0.65kg	0	

^{*1:} Check the specifications of the sensors or switches to be connected to the AJ65DBTB1-32DT1.

(8) Specifications comparison between AX80Y10C and AJ65SBTB1-16D+ AJ65SBTB2N-16R

Specif	ications	AX80Y10C input specifications	AJ65SBTB1-16D	Compatibility	nange required, × : Not compatible Precautions for replacement
Number of in		16 points	16 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input voltage		12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input o		Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
ratou input o	difon	10.2 to 31.2VDC	19.2 to 26.4VDC	U	
Operating vol	tage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nui		100% simultaneously ON (at 26.4VDC)	100% simultaneously ON	0	
ON voltage/C	N current	8V or more/2mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/		4V or less/1mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar		Approx. 3.3k Ω	Approx. 3.3k Ω	0	12120 341110120 40041
<u> </u>		Positive/negative common	Positive/negative common	Ü	
Input method		shared type	shared type	0	
		(sink/source shared type)	(sink/source shared type)	O	
Deenenee	OFF : ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Response	OFF→ON	, ,	, ,	0	
time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Common terr arrangement		16 points/common	16 points/common	0	
Specif	ications	AX80Y10C output specifications	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
Number of ou	itput points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Relay	Δ	Although the insulation methods differ, the performance of the insulation is the same.
		24VDC 2A	24VDC 2A		
Rated load		(resistance load)/point	(resistance load)/point	_	
voltage/curre	nt	240VAC 2A (COS ϕ =1)/point	240VAC 2A (COS ϕ =1)/point	0	
		4A/common	8A/common		
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw	itching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS $\phi=0.7$) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS $\phi=0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS $\phi=0.7$) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS $\phi=0.35$) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more	0	
Maximum switching frequency		3,600 times/hr	3,600 times/hr	0	
External power	Voltage	24VDC ± 10% Ripple voltage 4Vp-p or less	None	_	
supply Current		92mA (24VDC all points ON)	None	_	
Surge suppressor		None	None	0	
Common terminal arrangement		8 points/common	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, $\, \underline{\wedge} \, :$ Partial change required, $\, \times :$ Not compatible

Speci	fications	AX80Y10C	AJ65SBTB1-16D	AJ65SBTB2N- 16R	Compatibility	Precautions for replacement
Number of or stations (num occupied poi	nber of	4 stations (4 stations × 8 points)	(1 station ×	ation 32 points × 2 ules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	tion (LED)	0	
External con	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	I/O part: 18-point terminal block	Transmission/ module power supply parts 7 points terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	-	26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	72mA (at 24V TYP.)	35mA or less (24VDC when all points are ON)	120mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 118(W) × 40(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.65kg	0.18kg	0.35kg	Δ	

(9) Specifications comparison between AX80Y10C and AJ65DBTB1-32DR

				atible, <u>∆</u> : Partial cl	nange required, × : Not compatible
Speci	fications	AX80Y10C input specifications	AJ65DBTB1-32DR input specifications	Compatibility	Precautions for replacement
Number of input points		16 points	16 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input v	oltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of		Approx.3mA/Approx.7mA	Approx. 5mA	Δ	Rated input current is smaller.
Operating vo	Itage range	10.2 to 31.2VDC	20.4 to 31.2VDC	Δ	12VDC cannot be used.
		(ripple ratio within 5%)	(ripple ratio within 5%)	_	
Maximum nu		100% simultaneously ON (at 26.4VDC)	100%	0	
Simultaneous		8V or more/2mA or more	(at 26.4VDC) 15V or more/3mA or more		12VDC cannot be used.
ON voltage/0				Δ	
OFF voltage	OFF current	4V or less/1mA or less	5V or less/1.5mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 3.3k Ω	Approx. 4.7k Ω	Δ	Input resistance becomes higher.*1
		Positive/negative common	Positive/negative common		
Input method		shared type	shared type	0	
		(sink/source shared type)	(sink/source shared type)		
Response	OFF→ON	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 24VDC)	10ms or less (at 24VDC)	0	
Common ter	ninal	10 111	16 points/common (2 points)	_	
arrangement		16 points/common	(terminal block 1-wire type)	0	
•		AX80Y10C output	AJ65DBTB1-32DR output	0	Barrier de la constant de la constan
Speci	fications	specifications	specifications	Compatibility	Precautions for replacement
Number of o	utput points	16 points	16 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
		24VDC 2A	24VDC 2A		
D		(resistance load)/point	(resistance load)/point		
Rated load v	oltage/current	240VAC 2A (COS φ =1)/point	240VAC 2A (COS ϕ =1)/point	0	
		4A/common	4A/common (2A/terminal)		
Minimum sw	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw	itching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
		Rated switching	Rated switching		
		voltage/current load	voltage/current load		
		100,000 times or more	100,000 times or more		
		200VAC 1.5A, 240VAC 1 A	200VAC 1.5A, 240VAC 1 A		
		$(\cos \phi = 0.7) 100,000 \text{times or}$	$(\cos \phi = 0.7) 100,000 \text{times or}$		
		more	more		
Electrical life		200VAC 1A, 240VAC 0.5A	200VAC 1A, 240VAC 0.5A	0	
		$(\cos \phi = 0.35) 100,000 \text{times}$	$(\cos \phi = 0.35) 100,000 \text{times}$		
		or more	or more		
		24VDC 1A, 100VDC 0.1A	24VDC 1A, 100VDC 0.1A		
		(L/R=7 ms) 100,000 times or	(L/R=7 ms) 100,000 times or		
		more	more		
Maximum switching					
frequency		3,600 times/hr	3,600 times/hr	0	
External Voltage power supply Current		24VDC ± 10%	24VDC ± 10%	_	
		Ripple voltage 4Vp-p or less	Ripple voltage 4Vp-p or less	0	
			90mA or less		
		92mA (24VDC all points ON)	(24VDC all points ON)	0	
Surge suppre	essor	None	None	0	
Common ter	minal	9 mainta/	8 points/common		
		8 points/common	(terminal block 1-wire type)	0	1

 \bigcirc : Compatible, $\ _{\triangle}$: Partial change required, $\ \times$: Not compatible

Speci	fications	AX80Y10C	AJ65DBTB1-32DR	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External connection method		50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	0	The number of applicable solderless terminals inserted is within two.
Applicable w	ire size	0.75 to 2mm ²	0.75 to 2mm ²	0	
Applicable so	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	R1.25-3.5 (conforming to JIS C 2805) RAV2-3.5	0	
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply	Current	72mA (at 24V TYP.)	60mA or less (24VDC when all points are ON)	0	
External dim	ensions	170(H) × 64(W) × 80(D) mm	170(H) × 64(W) × 80(D) mm	0	
Weight		0.65kg	0.65kg	0	

^{*1:} Check the specifications of the sensors or switches to be connected to the AJ65DBTB1-32DR.

(10) Specifications comparison between AX80Y14CEU and AJ65SBTB1-16D +AJ65SBTB2N-16R

Author of injust points 16 points 17 points 1				O: Comp	atible, <u>∆</u> : Partial ch	nange required, × : Not compatible
Number of Input points 16 points 17 points 18	Specifications		AX80Y14CEU input specifications	AJ65SBTB1-16D	Compatibility	Precautions for replacement
Photocoupler Photocoupler Photocoupler Photocoupler Q	Number of input points		·	16 points	0	
Rated input current	Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated injust current Approx. 7mA Appr	Rated input v	/oltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Cipple ratio within 5% Cipple ratio within 6% Cipple ratio withi	Rated input of	current	Approx. 3mA/Approx. 7mA	Approx. 7mA		
Maximum mumber of simultaneousiy ON 100% simultaneously ON 100% simultaneously ON 100% simultaneously ON 1200C cannot be used. 1200C cann	Operating vo	Itage range			Δ	12VDC cannot be used.
ON voltage/ON current 5V or more/2mA or more 14V or more/3.5mA or more Δ 12VDC cannot be used. OFF voltage/OFF current 4V or less/1mA or less 6V or less/1.7mA or less Δ 12VDC cannot be used. Input method Approx.3.3 siQ O Approx.3.3 siQ O O Response (sink/source shared type) Positive/negative common shared type) Shared type (sink/source shared type) O Response (intermal arrangement 16 points/common 16 points/common O AXSOY440EU output specifications Specifications Number of output points 12 points 16 points/common O AXSOY440EU output specifications Relay Although the insulation method of fifer, the performance of the insulation is the same. AVOC 2A (resistance load)/point 24/0x02 A(roCoS φ = 1)/point 24/0x02 A(rOCS φ = 1)/			60% simultaneously ON		0	
OFF voltage OFF current			` '	14V or more/3.5mA or more	^	12VDC cannot be used.
Positive/negative common Positive/negative common Shared type Gink/source shared type						
Positive/inegative common shared type	-		·			12120 0011110120 00001
time ON → CFF 10ms or less (at 24VDC) 1.5ms or less (at 24VDC) ○ Common terminal arrangement 16 points/common 16 points/common ○ Number of output points AX80Y14CEU output spoints AX80Y14CEU output spoints ALthough the insulation method offler, the performance of the insulation is the same. Mated load voltage/current 24VDC 2A (resistance load/point 240VAC 2A (COS & ±1)/point 5A/common 24VDC 2A (resistance load/point 240VAC 2A (COS & ±1)/point 6A/common 240VAC 2A (COS & ±1)/point 8A/common ○ Minimum switching load 5VDC 10mA 5VDC 1mA ○ Maximum switching voltage 264VAC 125VDC 264VAC 125VDC ○ Mechanical life 20 million times or more 10ms or less 10ms or less ○ Mechanical life 20 million times or more 20 million times or more ○ 200VAC 2A, 240VAC 1.8, 240	<u> </u>		Positive/negative common shared type	Positive/negative common shared type		
Common terminal arrangement	Response	OFF→ ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
16 points/common 16 points/common C	time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Number of output points 12 points 16 points 0			16 points/common	16 points/common	0	
Relay	Speci	fications		AJ65SBTB2N-16R	Compatibility	Precautions for replacement
Photocoupler Relay	Number of o	utput points	12 points	16 points	0	
Rated load voltage/current	Insulation me	ethod	Photocoupler	Relay	Δ	methods differ, the performance of the insulation
Maximum swtching voltage 264VAC 125VDC 264VAC, 125VDC ○ Response time OFF→ON 10ms or less 10ms or less ○ Mechanical life 20 million times or more 20 million times or more ○ Electrical life Rated switching voltage/current load 200,000 times or more 200VAC 1.8A, 240VAC 1.8A (COS φ = 0.7)200,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS φ = 0.35)200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 2	Rated load v	oltage/current	(resistance load)/point 240VAC 2A (COS ϕ =1)/point	(resistance load)/point 240VAC 2A (COS ϕ =1)/point	0	
Response time OFF→ON 10ms or less 10ms or less 0	Minimum sw	itching load	5VDC 10mA	5VDC 1mA	0	
time $ON \rightarrow OFF$ $12ms \text{ or less}$ $12ms \text{ or less}$ O Mechanical life $12ms \text{ or less}$ $12ms \text{ or less}$ O O Electrical lifeRated switching voltage/current load 200,000 times or more 200VAC 2A, 240VAC 1.8A ($COS \phi = 0.7$)200,000 times or more 200VAC 1.5A, 240VAC 1A ($COS \phi = 0.7$)200,000 times or more 200VAC 1.1A, 240VAC 0.5A ($COS \phi = 0.35$)200,000 times or more 200VAC 1A, 240VAC 0.5A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A ($COS \phi = 0.35$) 100,000 times or mor	Maximum sw	vitching voltage	264VAC 125VDC	264VAC, 125VDC	0	
Mechanical life 20 million times or more 20 million times or more Rated switching voltage/current load 200,000 times or more 200VAC 2A, 240VAC 1.8A (COS $\phi = 0.7$)200,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS $\phi = 0.35$)200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 100,000 times or mo	Response	OFF→ON	10ms or less	10ms or less	0	
Mechanical life20 million times or more20 million times or moreRated switching voltage/current load 200,000 times or more 200VAC 2A, 240VAC 1.8A (COS ϕ = 0.7)200,000 times or more 200VAC 1.1A, 240VAC 0.9A (COS ϕ = 0.35)200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or moreReduce the exchange intervals of the modules as Mechanical/ Electrical Life is cut to about half.Maximum switching frequency3,600 times/hr3,600 times/hr0Maximum switching frequency3,600 times/hr3,600 times/hr0External power supplyVoltage24VDC ± 10% Ripple voltage 4Vp-p or lessNone-Current118mA (24VDC all points ON)None-	time	ON→OFF	12ms or less	12ms or less	0	
Rated switching voltage/current load 200,000 times or more 200VAC 1.8A (COS ϕ = 0.7)200,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ = 0.7)200,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ = 0.7) 100000 times or more 200VAC 1.1A, 240VAC 0.9A (COS ϕ = 0.35)200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 24VDC 1.1A, 100VDC 0.1A (L/R=7ms) 100,000 times or more 100VDC 0.1A (L/R=7	Mechanical I	ife	20 million times or more	20 million times or more		
Maximum switching frequency Voltage Current Curr			voltage/current load 200,000 times or more 200VAC 2A, 240VAC 1.8A (COS $\phi=0.7$)200,000 times or more 200VAC 1.1A, 240VAC 0.9A	voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS $\phi=0.7$) 100000 times or more 200VAC 1A, 240VAC 0.5A (COS $\phi=0.35$) 100,000 times	Δ	of the modules as Mechanical/ Electrical Life is cut to about
Sample S			more 24VDC 1.1A, 100VDC 0.1A	24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or		
External power supply Current Current Ripple voltage 4Vp-p or less None — — — — — — — — — — — — — — — — — — —		vitching	3,600 times/hr	3,600 times/hr	0	
supply Current 118mA (24VDC all points ON) None –		Voltage		None	_	
Surge suppressor None None O	·			None	-	
	Surge suppre	essor	None	None	0	

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specif	ications	AX80Y14C specific		AJ65SB1	B2N-16R	Compatibility	Precautions for replacement
Common terr arrangement	ninal	8 points/d 4 points/d		•	16 points/common (2-wire type)		As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.
Dielectric with	nstand voltage	AC external batch-Relay drive power supply-internal 5V circuit	AC2,830Vrms/ 3 cycle (elevation 2,000m)	Between AC external terminal batch and ground	AC2,830Vrms/ 3 cycle (elevation 2,000m)	0	
		Relay drive power supply, internal 5V circuit	500VDC/ minute	Between DC external batch and ground	500VDC/ minute	0	
Insulation res	sistance	10M Ω or m insulation resi		ground 500\ insulation res 10M Ω Between DC ex ground 500\ insulation res	ternal batch and //DC with the istance tester or more ternal batch and //DC with the istance tester or more	0	
Specif	Specifications		AX80Y14CEU		AJ65SBTB2N- 16R	Compatibility	Precautions for replacement
stations (num	Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)		ation 32 points × 2 ules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation ind	lication	ON indicat	tion (LED)	ON indica	tion (LED)	0	
	nection method	(M3.5 × Transmission circ	Transmission circuit part included		Transmission/ module power supply parts 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable wi	re size	0.75 to	2mm ²		2mm ²	0	
Applicable so terminal	olderless	R1.25-3.5 RAV1.25-3.5		(conforming t	.25-3 o JIS C 2805) -3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 3	31.2VDC		26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	73mA (at 2	24V TYP.)	35mA or less (24VDC when all points are ON)	120mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dimensions		170(H) × 64(W	/) × 80(D) mm	54(H) × 118(W) × 40(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.68	ōkg	0.18kg	0.35kg	Δ	

(11) Specifications comparison between AX80Y80C and AJ65SBTB1-16D+ AJ65SBTB1-16TE

(): Compatible.	∧ : Partial change	required.	x : Not compatible

					nange required, × : Not compatible
	fications	AX80Y80C input specifications	AJ65SBTB1-16D	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input v	/oltage	12/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	current	Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
Operating vo	ltage range	10.2 to 31.2VDC	19.2 to 26.4VDC		12VDC cannot be used.
Operating vo	illage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12 VDC carmot be used.
Maximum nu	mber of	60% simultaneously ON	100% simultaneously ON	0	
simultaneous	s input points	(at 26.4VDC)	10070 Simulaticously Cit	U	
ON voltage/0	ON current	8V or more/2mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
		Positive/negative common	Positive/negative common		
Input method	I	shared type	shared type	0	
		(sink/source shared type)	(sink/source shared type)		
Response	OFF→ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	Δ	
time	ON→ OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)		The response times differ.
Common teri		.5.115 61 1555 (41211250)		Δ	
arrangement		16 points/common	16 points/common	0	
	fications	AX80Y80C output specifications	AJ65SBTB1-16TE	Compatibility	Precautions for replacement
Number of or		16 points	16 points	0	
Insulation me	· · ·	Photocoupler	Photocoupler	0	
Rated load v		24VDC	12/24VDC	0	
Operating loa				Ŭ	
range		21.6 to 26.4VDC	10.2 to 26.4VDC	0	
<u> </u>					The maximum load current per
		0.5A/point, 60% simultaneously	0.1A/point 1.6A/common	×	point becomes lower. Pay
Maximum loa	ad current	ON			attention to the selection of the
					load to be used.
					The inrush current value
Maximum inr	ush current	2A 10ms or less	1A 10ms or less	×	differs. Pay attention to the
				^	selection of the load used.
Leakage curi	rent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	Itage drop at	0.9VDC or less (TYP.) 0.5A	0.1VDC or less (TYP.) 0.1A		
ON		1.5VDC or less (MAX.) 0.5A	0.2VDC or less (MAX.) 0.1A	0	
Output metho	od	Source type	Source type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time	ON→OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
		5. 1555 (. 5515141155 1544)	10.2 to 26.4VDC		
	Voltage	21.6 to 26.4VDC	(ripple ratio within 5%)	0	
External			(pp.o .223 Waiii 070)		The current consumption
power	Current				increases. The current
•		10mA (24VDC)	30mA or less (24VDC)	Δ	capacity needs to be
supply	Current	10.1.1 (2.1120)			
•	Current	(225)			reconsidered.
supply			Zener diode	0	reconsidered.
•	essor	Zener diode	Zener diode	0	reconsidered.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Speci	ifications	AX80Y80C	AJ65SBTB1-16D	AJ65SBTB1- 16TE	Compatibility	Precautions for replacement
Number of o stations (nur occupied po	mber of	4 stations (4 stations × 8 points)	1 sta (1 station × : mod	32 points × 2	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	tion (LED)	0	
External con	nnection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	supply 7-point terr (M3 × 5.	ninal block 2 screws) part: minal block	×	Change in wiring is required.
Applicable w	vire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable s terminal	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 2 (ripple ratio	26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	82mA (at 24V TYP.)	35mA or less 50mA or less (24VDC when all points are ON) ON)		Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	nensions	170(H) × 64(W) × 80(D) mm	54(H) × 118(V	V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.65kg	0.1	8kg	Δ	



(12) Specifications comparison between AX80Y80C and AJ65SBTB1-32DTE1

				atible, <u>∆</u> ∶Partial cl	hange required, \times : Not compatible
Specif	ications	AX80Y80C input specifications	AJ65SBTB1-32DTE1 input specifications	Compatibility	Precautions for replacement
Number of input points		16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	roltage	12VDC/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	urrent	Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
Operating vo	Itage range	10.2 to 31.2VDC (ripple ratio within 5%)	19.2 to 26.4VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu simultaneous		60% simultaneously ON (at 26.4VDC)	100%	0	
ON voltage/C	N current	8V or more/2mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/1mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
Input method		Positive/negative common shared type (sink/source shared type)	Negative common (Source type)	Δ	A positive common input method is not supported.
Response	OFF→ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Common terr	ninal	16 points/common	32 points/common (terminal block 1-wire type)	Δ	Input and output shares common.
Specif	ications	AX80Y80C output specifications	AJ65SBTB1-32DTE1 output specifications	Compatibility	Precautions for replacement
Number of ou	utput points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load v	oltage	24VDC	24VDC	0	
Operating loa	ad voltage	21.6 to 26.4VDC	19.2 to 26.4VDC (ripple ratio within 5%)	0	
Maximum loa	d current	0.5A/point, 60% simultaneously ON	0.5A/point 3.6A/common	Δ	The maximum load current per common differs. Pay attention to the operating current of the entire module.
Maximum inr	ush current	2A 10ms or less	1A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load used.
Leakage curr	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	tage drop at	0.9VDC or less (TYP.) 0.5A 1.5VDC or less (MAX.) 0.5A	0.5VDC or less (TYP.) 0.5A 0.8VDC or less (MAX.) 0.5A	0	
Output metho	od	Source type	Source type	0	
Response	OFF→ON	2ms or less	0.5ms or less	0	
time	ON→OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
External	Voltage	21.6 to 26.4VDC	19.2 to 26.4VDC (ripple ratio within 5%)	0	
power supply	Current	10mA (24VDC)	10mA or less (TYP.24VDC, per common) External load current not included	0	
Surge suppre	essor	Zener diode	Zener diode	0	
Common terminal arrangement		16 points/common	32 points/common (terminal block 1-wire type)	Δ	Input and output shares common.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specifications		AX80Y80C	AJ65SBTB1-32DTE1	Compatibility	Precautions for replacement
Number of o stations (nur occupied po	nber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	50-point terminal block (M3.5 × 7 screws) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required. The number of applicable solderless terminals inserted is within two.
Applicable w	rire size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable set	olderless	R1.25-3.5, R2-3.5 RAV1.25-3.5, RAV2-3.5	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	×	Change in wiring is required.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power	Current	82mA (at 24V TYP.)	50mA or less (24VDC when all points are ON)	0	
External dim	ensions	170(H) × 64(W) × 80(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.65kg	0.26kg	Δ	



(13) Specifications comparison between AJ35PTF-28AR and AJ65SBTB2N-16A + AJ65SBTB2N-16R

Specifi	cations	AJ35PTF-28AR input specifications	AJ65SBTB2N-16A	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	roltage	100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input of	urrent	10mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	Δ	Rated input current is smaller.*1
		85 to 132VAC	85 to 132VAC		
Operating vol	Itage range	$(50/60$ Hz \pm 5%)	(50/60Hz ± 3%, distortion rate within 5%)	0	
Maximum nu simultaneous		100% simultaneously ON	100% simultaneously ON (at 110VAC) 60% simultaneously ON (at 132VAC)	Δ	Use within specification range.
Inrush curren	t	Max. 300mA, within 0.3ms (132VAC)	Max. 200mA, within 1ms (132VAC)	0	
ON voltage/C	N current	80V or more/6mA or more	80V or more/5mA or more	0	
OFF voltage/	OFF current	40V or less/4mA or less	30V or less/1.7mA or less	Δ	OFF current has been reduced.*1
Input impeda	nce	Approx. 10k Ω (60Hz), Approx. 12k Ω (50Hz)	Approx. 15k Ω (60Hz), Approx. 18k Ω (50Hz)	Δ	Input impedance has increased.*1
Response	OFF → ON	15ms or less (6ms TYP.)	20ms or less (100VAC, 60Hz)	0	
time	ON → OFF	25ms or less (16ms TYP.)	20ms or less (100VAC, 60Hz)	0	
Common terr arrangement		16 points/common	16 points/common (2-wire type)	0	

 \bigcirc : Compatible, $\, \, \underline{\wedge} \, :$ Partial change required, $\, \, \times :$ Not compatible

Specifications		AJ35PTF-28AR output	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
		specifications		Companishing	r recautions for replacement
Number of output points		12 points	16 points	0	
Insulation me	ethod	Photocoupler	Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
	oltage/current	24VDC 2A (resistance load)/ point 240VAC 2A (COS ϕ = 1)/point 5A/common	24VDC 2A (resistance load)/ point 240VAC 2A (COS ϕ = 1)/point 8A/common	Δ	Use caution on the common current.
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw voltage	itching	264VAC, 125VDC	264VAC, 125VDC	0	
Response	OFF → ON	10ms or less	10ms or less	0	
time	ON → OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 200000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ = 0.7) 200000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 200000 times or more 24VDC 1A, 100VDC 0.1A (L/R = 7 ms) 200000 times or more	Rated switching voltage/current load 100000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ = 0.7) 100000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100000 times or more 24VDC 1A, 100VDC 0.1A (L/R = 7 ms) 100000 times or more	Δ	Reduce the exchange intervals of the modules as Mechanical/Electrical Life is cut to about half.
Maximum sw frequency	itching	3600 times/hr	3600 times/hr	0	
External power	Voltage	24VDC ± 10% Ripple voltage 4Vp-p or less	None	-	
supply	Current	110mA (24VDC, all points ON)	None	_	
Surge suppre	essor	None	None	0	
Common terminal arrangement		8 points/common, 3 points/ common, 1-point independent contact	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 3 commons to 16 points/ common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specif	fications	AJ35PTF-28AR	AJ65SBTB2N- 16A	AJ65SBTB2N- 16R	Compatibility	Precautions for replacement
Number of o stations (nur occupied poi	mber of ints)	4 stations (4 stations × 8 points)	points × 2	station × 32 2 modules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)		ition (LED)	0	
External con method	nection	Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	supply 7-point terminal scre I/O part: 34-poi	/module power / parts: block (M3 × 5.2 ews) nt terminal block 2 screws)	×	Change in wiring is required.
Applicable w	vire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	28 V2-l	forming to JIS C 05) MS3, 2-3SL, 2-3N,	Δ	In some cases, the solderless terminal must be changed.
I/O	Voltage	15.6 to 31.2VDC		26.4VDC within 5%)	Δ	The operating voltage range differs.
module power supply	Current	120mA	40mA or less (24VDC when all points are ON)	120mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	ensions	254(H) × 132(W) × 41(D) mm	54(H) × 179(V	V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.78kg	0.25kg	0.35kg	Δ	

^{*1:} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTB2N-16A.

(14) Specifications comparison between AJ35PTF-56AR and AJ65SBTB2N-16A+ AJ65SBTB2N-16R

Specif	ications	AJ35PTF-56AR input specifications	AJ65SBTB2N-16A	Compatibility	Precautions for replacement
Number of in	put points	32 points	16 points	×	When seventeen or more points are used, use two AJ65SBTB2N-16A modules.
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input of	urrent	10mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	Δ	Rated input current has been reduced.*1
Operating vo	Itage range	85 to 132VAC (50/60Hz±5%)	85 to 132VAC (50/60Hz ± 3%, distortion rate 5% within)	0	
Maximum nu simultaneous		100% simultaneously ON	100% simultaneously ON (at 110VAC) 60% simultaneously ON (at 132VAC)	Δ	Use within specification range.
Inrush curren	t	Max. 300mA, within 0.3ms (132VAC)	Max. 200mA, within 1ms (132VAC)	0	
ON voltage/C	N current	80V or more/6mA or more	80V or more/5mA or more	0	
OFF voltage/	OFF current	40V or less/4mA or less	30V or less/1.7mA or less	Δ	OFF current has been reduced. *1
Input impeda	nce	Approx. $10k \Omega$ (60Hz), Approx. $12k \Omega$ (50Hz)	Approx. $15k \Omega$ (60Hz), Approx. $18k \Omega$ (50Hz)	Δ	Input impedance has increased. *1
Response	OFF→ON	15ms or less (6ms TYP.)	20ms or less (100VAC, 60Hz)	0	
time	ON→OFF	25ms or less (16ms TYP.)	20ms or less (100VAC, 60Hz)	0	
Common terr		16 points/common	16 points/common (2-wire type)	0	

 \bigcirc : Compatible, $\,_{\triangle}\!:$ Partial change required, $\,\times$: Not compatible

O. Companie, A. Pariai change required, A. Not con					lange required, A : Not compatible
Specif	ications	AJ35PTF-56AR output specifications	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
Number of ou	utput points	24 points	16 points	×	When seventeen or more points are used, use two AJ65SBTB2N-16R modules.
Insulation me	thod	Photocoupler	Relay	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated load v	oltage/current	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 5A/common	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 8A/common	Δ	Use caution on the common current.
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw	itching voltage	264VAC, 125VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→ OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 200,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 200,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ =0.35) 200,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	Δ	Reduce the exchange intervals of the modules as Mechanical/ Electrical Life is cut to about half.
Maximum sw frequency	itching	3,600 times/hr	3,600 times/hr	0	
External power Voltage		$24 \text{VDC} \pm 10\%$ Ripple voltage 4Vp-p or less	None	_	
supply	Current	220mA (24VDC, all points ON)	None	-	
Surge suppre	essor	None	None	0	
Common terminal arrangement		8 points/common	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/ common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Speci	fications	AJ35PTF-56AR	AJ65SBTB2N- 16A	AJ65SBTB2N- 16R	Compatibility	Precautions for replacement
Number of or stations (num occupied poi	nber of	8 stations (8 stations × 8 points)	1 station (1 station × 32 points × 4 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	tion (LED)	0	
External con	Transmission/module power supply parts: 8-point terminal block		×	Change in wiring is required.		
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	(conforming t	1.25-3 o JIS C 2805) -3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	-	26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	150mA	40mA or less (24VDC when all points are ON) (20N)		Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	ensions	254(H) × 190(W) × 41(D) mm	, , ,	V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		1.2kg	0.25kg	0.35kg	Δ	

^{*1:} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTB2N-16A.



(15) Specifications comparison between AJ35PTF-28AS and AJ65SBTB2N-16A + AJ65SBTB2N-16S*1

Specifi	cations	AJ35PTF-28AS input specifications	AJ65SBTB2N-16A	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	roltage	100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input of	urrent	10mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	Δ	Rated input current is smaller.*2
		85 to 132VAC	85 to 132VAC		
Operating vol	Itage range	(50/60Hz ± 5%)	(50/60Hz ± 3%, distortion rate within 5%)	0	
Maximum nu simultaneous		100% simultaneously ON	100% simultaneously ON (at 110VAC) 60% simultaneously ON (at 132VAC)	Δ	Use within specification range.
Inrush curren	t	Max. 300mA, within 0.3ms (132VAC)	Max. 200mA, within 1ms (132VAC)	0	
ON voltage/C	N current	80V or more/6mA or more	80V or more/5mA or more	0	
OFF voltage/	OFF current	40V or less/4mA or less	30V or less/1.7mA or less	Δ	OFF current has been reduced.*2
Input impeda	nce	Approx. 10k Ω (60Hz), Approx. 12k Ω (50Hz)	Approx. 15k Ω (60Hz), Approx. 18k Ω (50Hz)	Δ	Input impedance has increased.*2
Response	OFF → ON	15ms or less (6ms TYP.)	20ms or less (100VAC, 60Hz)	0	
time	ON → OFF	25ms or less (16ms TYP.)	20ms or less (100VAC, 60Hz)	0	
Common terr arrangement		16 points/common	16 points/common (2-wire type)	0	

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Specif	ications	AJ35PTF-28AS output specifications	AJ65SBTB2N-16S	Compatibility	Precautions for replacement
Number of o	utput points	12 points	16 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated load v	oltage	100-240VAC, 40 to 70Hz	100-240VAC, 50/60Hz ± 5%	0	
Maximum loa	ad voltage	264VAC	264VAC	0	
Maximum loa	ad current	0.6A/point, 2.4A/common	0.6A/point, 4.8A/common	0	
Minimum loa	d voltage/	24VAC 100mA, 100VAC 10mA, 240VAC 10mA	50VAC 100mA, 100VAC 10mA, 240VAC 10mA	0	
Maximum ini	rush current	20A 10ms or less, 8A 100ms or less	25A 10ms or less	0	
Leakage cur	rent at OFF	1.5mA (132VAC, 60Hz) 3.0mA (264VAC, 60Hz)	1.5mA (100VAC, 60Hz) 3.0mA (200VAC, 60Hz)	0	
Maximum vo	ltage drop at	1.5V or less (0.1 to 0.6A) 1.8V or less (50 to 100mA) 2.0V or less (10 to 50mA)	1.5V or less (at 0.6A)	0	
Response	OFF → ON	1ms or less	1ms or less	0	
time	ON → OFF	0.5Hz + 1ms or less	1/2 cycle + 1ms or less	0	
Surge suppre	essor	CR absorber (0.022 μ F + 47 Ω)	CR absorber (0.01 μ F + 47 Ω)	0	
Fuse rating		High speed type fuse 3.2A (one fuse /common) HP-32	None	×	The fuse is not built in.*3
Fuse blown i	ndication	Available	None	×	
Common ter arrangement		8 points/common 4 points/common	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 2 commons to 16 points/ common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Specif	ications	AJ35PTF-28AS	AJ65SBTB2N- 16A	AJ65SBTB2N- 16S	Compatibility	Precautions for replacement
Number of o stations (nur occupied po	nber of ints)	4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	ition (LED)	0	
External con method	nection	Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)		×	Change in wiring is required.
Applicable w	rire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable s terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	28 V2-I RAP2	forming to JIS C 05) MS3, 2-3SL, 2-3N,	Δ	In some cases, the solderless terminal must be changed.
I/O	Voltage	15.6 to 31.2VDC	_	26.4VDC within 5%)	Δ	The operating voltage range differs.
module power supply	Current	140mA	40mA or less (24VDC (24VDC when all points are ON) 40mA or less (24VDC when all points are ON)		0	
External dim	ensions	254(H) × 132(W) × 41(D) mm	54(H) × 179(V	V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.65kg	0.25kg	0.35kg	Δ	

^{*1:} Consider the characteristics of the triac and observe the necessary precautions by referring to Section 5.3 (5) before replacing the modules.

^{*2:} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTB2N-16A.

^{*3:} Install a fuse for each external terminal point to prevent the burnout of the external devices and modules during load shorts. In addition, when a fuse blown indication is necessary, configure an external circuit.

(16) Specifications comparison between AJ35PTF-56AS and AJ65SBTB2N-16A+ AJ65SBTB2N-16S*1

		AJ35PTF-56AS input			nange required, × : Not compatib
Specifications		specifications	AJ65SBTB2N-16A	Compatibility	Precautions for replacement
Number of inp	out points	32 points	16 points	×	When seventeen or more points are used, use two AJ65SBTB2N-16A modules.
Insulation method		Photocoupler	Photocoupler	0	
Rated input voltage		100-120VAC, 50/60Hz	100-120VAC, 50/60Hz	0	
Rated input c	urrent	10mA (100VAC, 60Hz)	Approx. 7mA (100VAC, 60Hz)	Δ	Rated input current has been reduced.*2
Operating vol	tage range	85 to 132VAC (50/60Hz±5%)	85 to 132VAC (50/60Hz± 3%, distortion rate 5% within)	0	
Maximum nur simultaneous		60% simultaneously ON	100% simultaneously ON (at 110VAC) 60% simultaneously ON (at 132VAC)	Δ	Use within specification range.
Inrush curren	t	Max. 300mA, within 0.3ms (132VAC)	Max. 200mA, within 1ms (132VAC)	0	
ON voltage/O	N current	80V or more/6mA or more	80V or more/5mA or more	0	
OFF voltage/0	OFF current	40V or less/4mA or less	30V or less/1.7mA or less	Δ	OFF current has been reduced. *2
Input impedar	nce	Approx. 10k Ω (60Hz), Approx. 12k Ω (50Hz)	Approx. 15k Ω (60Hz), Approx. 18k Ω (50Hz)	Δ	Input impedance has increased. *2
Response	OFF→ON	15ms or less (6ms TYP.)	20ms or less (100VAC, 60Hz)	0	
time	ON→OFF	35ms or less (16ms TYP.)	20ms or less (100VAC, 60Hz)	0	
Common terminal arrangement		16 points/common	16 points/common (2-wire type)	0	
Specif	cations	AJ35PTF-56AS output	AJ65SBTB2N-16S	Compatibility	Precautions for replacement
Number of ou	tput points	specifications 24 points	16 points	×	When seventeen or more points are used, use two AJ65SBTB2N-16S modules.
Insulation me	thod	Photocoupler	Photocoupler	0	7.0000373217 100 111044100.
Rated load vo	ltage	100 to 240VAC, 40 to 70Hz	100-240VAC, 50/60Hz ± 5%	0	
Maximum loa	d voltage	264VAC	264VAC	0	
Maximum loa	d current	0.6A/point, 2.4A/common	0.6A/point, 4.8A/common	0	
Minimum load voltage/currer	•	24VAC 100mA, 100VAC 10mA, 240VAC 10mA	50VAC 100mA100VAC 10mA, 240VAC 10mA	0	
Maximum inru	ush current	20A 10ms or less 8A 100ms or less	25A 10ms or less	0	
Leakage current at OFF		1.5mA (132VAC, 60Hz)	1.5mA (100VAC, 60Hz)	0	
Leakage curre	ent at OFF	3.0mA (264VAC, 60Hz)	3.0mA (200VAC, 60Hz)		
Leakage curre Maximum vol		3.0mA (264VAC, 60Hz) 1.5V or less (0.1 to 0.6A) 1.8V or less (50 to 100mA) 2.0V or less (10 to 50mA)	3.0mA (200VAC, 60Hz) 1.5V or less (at 0.6A)	0	
Maximum vol		1.5V or less (0.1 to 0.6A) 1.8V or less (50 to 100mA)		0	
Maximum voli ON Response	age drop at	1.5V or less (0.1 to 0.6A) 1.8V or less (50 to 100mA) 2.0V or less (10 to 50mA)	1.5V or less (at 0.6A)		
Maximum vol ON Response time	off → ON	1.5V or less (0.1 to 0.6A) 1.8V or less (50 to 100mA) 2.0V or less (10 to 50mA) 1ms or less	1.5V or less (at 0.6A) 1ms or less	0	
Maximum vol ON Response time Surge suppre	off → ON	1.5V or less (0.1 to 0.6A) 1.8V or less (50 to 100mA) 2.0V or less (10 to 50mA) 1ms or less 0.5Hz+1ms or less	1.5V or less (at 0.6A) 1ms or less 1/2 cycle + 1ms or less	0	The fuse is not built in.*3
Maximum vol	OFF→ON ON→OFF	1.5V or less (0.1 to 0.6A) 1.8V or less (50 to 100mA) 2.0V or less (10 to 50mA) 1ms or less 0.5Hz+1ms or less CR absorber (0.022 μ F+47 Ω) High speed type fuse 3.2A (one fuse /common)	1.5V or less (at 0.6A) 1ms or less 1/2 cycle + 1ms or less CR absorber (0.01 μ F+47 Ω)	0 0	The fuse is not built in.*3

possible.

Specif	ications	AJ35PTF-56AS	AJ65SBTB2N- 16A	AJ65SBTB2N- 16S	Compatibility	Precautions for replacement
Number of oc stations (num occupied poir	ber of	8 stations (8 stations × 8 points)	1 station (1 station \times 32 points \times 4 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation ind	ication	ON indication (LED)	ON indica	tion (LED)	0	
External conn	ection method	Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws) 2 pieces	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)		×	Change in wiring is required.
Applicable wi	re size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so terminal	Iderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC		26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	230mA	40mA or less 85mA or less (24VDC when all points are ON) 0N)		Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dimensions		254(H) × 190(W) × 41(D) mm	54(H) × 179(W) × 40(D) mm		×	The overall size differs. Pay attention to the mounting dimensions.
Weight		i. iky	0.25kg	0.35kg	Δ	

^{*1:} Consider the characteristics of the triac and observe the necessary precautions by referring to Section 5.3 (5) before replacing the modules.

^{*2:} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTB2N-16A.

^{*3:} Install a fuse for each external terminal point to prevent the burnout of the external devices and modules during load shorts.

In addition, when a fuse blown indication is necessary, configure an external circuit.

Fuse blown indication

Common terminal

arrangement

Available

8 points/common

4 points/common

(17) Specifications comparison between AJ35PTF-28DS and AJ65SBTB1-16D+ AJ65SBTB2N-16S*1

O: Compatible, △: Partial change required, ×: Not compatible AJ35PTF-28DS input AJ65SBTB1-16D **Specifications** Compatibility Precautions for replacement specifications 16 points Number of input points 16 points 0 Insulation method Photocoupler Photocoupler 0 Rated input voltage 12/24VDC 24VDC 12VDC cannot be used. Δ Rated input current Approx. 3mA/Approx. 7mA Approx. 7mA 0 10.2 to 31.2VDC 19.2 to 26.4VDC 12VDC cannot be used. Operating voltage range Δ (ripple ratio within 5%) (ripple ratio within 5%) Maximum number of 100% simultaneously ON 100% simultaneously ON 0 simultaneous input points ON voltage/ON current 9.5V or more/2.6mA or more 14V or more/3.5mA or more 12VDC cannot be used. Δ OFF voltage/OFF current 6V or less/1.7mA or less 12VDC cannot be used. 6V or less/1.0mA or less Λ Input resistance Approx. 3.4k Ω Approx. 3.3k Ω 0 Positive/negative common Positive common Input method shared type 0 (sink type) (sink/source shared type) Response OFF→ ON 10ms or less (6ms TYP.) 1.5ms or less (at 24VDC) 0 10ms or less (7.5ms TYP.) 1.5ms or less (at 24VDC) ON→ OFF 0 Common terminal 16 points/common 16 points/common 0 arrangement AJ35PTF-28DS output **Specifications** AJ65SBTB2N-16S Compatibility Precautions for replacement specifications Number of output points 12 points 16 points 0 Insulation method Photocoupler Photocoupler 0 100-240VAC, Rated load voltage 100-240VAC, 40 to 70Hz 0 $50/60Hz \pm 5\%$ Maximum load voltage 264VAC 264VAC 0 0.6A/point, 4.8A/common Maximum load current 0.6A/point, 2.4A/common 0 24VAC 100mA, 50VAC 100mA, Minimum load 100VAC 10mA, 100VAC 10mA 0 voltage/current 240VAC 10mA 240VAC 10mA 20A 10ms or less 25A 10ms or less Maximum inrush current 0 8A 100ms or less 1.5mA (132VAC, 60Hz) 1.5mA (100VAC, 60Hz) Leakage current at OFF 0 3.0mA (264VAC, 60Hz) 3.0mA (200VAC, 60Hz) 1.5V or less (0.1 to 0.6A) Maximum voltage drop at 1.8V or less (50 to 100mA) 1.5V or less (at 0.6A) 0 2.0V or less (10 to 50mA) OFF→ ON 1ms or less 1ms or less 0 Response time 0.5Hz+1ms or less 1/2 cycle + 1ms or less ON→ OFF 0 CR absorber (0.022 μ F+47 Ω) Surge suppressor CR absorber (0.01 μ F+47 Ω) 0 High speed type fuse 3.2A (one fuse /common) Fuse rating None × The fuse is not built in. *2 HP-32

None

16 points/common

(2-wire type)

As common terminal arrangement changes from 2

commons to 16 points/

possible.

common, wiring with a different

voltage per common is not

Δ

Speci	fications	AJ35PTF-28DS	AJ65SBTB1-16D	AJ65SBTB2N- 16S	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)		ation 32 points × 2 ules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	tion (LED)	0	
External con	nection method	Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	block (M3 × 5.2	Transmission/ module power supply parts 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to	2mm ²	0	
Applicable so terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 2 (ripple ratio	26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply]	Current	150mA	35mA or less (24VDC when all points are ON)	85mA or less (24VDC when all points are ON)	0	
External dim	ensions	254(H) × 132(W) × 41(D) mm	54(H) × 118(W) × 40(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.76kg	0.18kg	0.35kg	Δ	

^{*1} Consider the characteristics of the triac and observe the necessary precautions by referring to Section 5.3 (5) before replacing the modules.

^{*2} Install a fuse for each external terminal point to prevent the burnout of the external devices and modules during load shorts.

In addition, when a fuse blown indication is necessary, configure an external circuit.

(18) Specifications comparison between AJ35PTF-56DS and AJ65SBTB1-32D+ AJ65SBTB2N-16S*1

○: Compatible, △: Partial change required, ×: Not compatible AJ35PTF-56DS input AJ65SBTB1-32D **Specifications** Compatibility Precautions for replacement specifications Number of input points 32 points 32 points 0 Insulation method Photocoupler Photocoupler 0 12VDC/24VDC 12VDC cannot be used. Rated input voltage 24VDC Δ Rated input current Approx. 3mA/Approx. 7mA Approx. 7mA 0 10.2 to 31.2VDC 19 2 to 26 4VDC 12VDC cannot be used. Operating voltage range Δ (ripple ratio within 5%) (ripple ratio within 5%) Maximum number of 60% simultaneously ON 100% simultaneously ON 0 simultaneous input points ON voltage/ON current 9.5V or more/2.6mA or more 14V or more/3.5mA or more 12VDC cannot be used. Δ 12VDC cannot be used. OFF voltage/OFF current 6V or less/1.0mA or less 6V or less/1.7mA or less Λ Input resistance Approx. 3.4k Ω Approx. 3.3k Ω 0 Positive/negative common Positive common Input method shared type 0 (sink type) (sink/source shared type) Response OFF→ ON 10ms or less (6ms TYP.) 1.5ms or less (at 24VDC) 0 1.5ms or less (at 24VDC) 10ms or less (7.5ms TYP.) ON→ OFF 0 Common terminal 16 points/common 32 points/common 0 arrangement AJ35PTF-56DS output **Specifications** AJ65SBTB2N-16S Compatibility Precautions for replacement specifications When seventeen or more Number of output points 24 points 16 points points are used, use two AJ65SBTB2N-16S modules. Insulation method Photocoupler Photocoupler 0 100-240VAC Rated load voltage 100-240VAC, 40 to 70Hz 0 $50/60Hz \pm 5\%$ Maximum load voltage 264VAC 264VAC \bigcirc Maximum load current 0.6A/point, 2.4A/common 0.6A/point, 4.8A/common 0 24VAC 100mA, 50VAC 100mA, Minimum load voltage/ 100VAC 10mA. 100VAC 10mA. 0 current 240VAC 10mA 240VAC 10mA 20A 10ms or less, Maximum inrush current 25A 10ms or less \circ 8A 100ms or less 1.5mA (132VAC, 60Hz) 1.5mA (100VAC, 60Hz) Leakage current at OFF 0 3.0mA (264VAC, 60Hz) 3.0mA (200VAC, 60Hz) 1.5V or less (0.1 to 0.6A) Maximum voltage drop at 1.8V or less (50 to 100mA) 1.5V or less (at 0.6A) 0 ON 2.0V or less (10 to 50mA) 1ms or less 1ms or less OFF→ON 0 Response time 0.5Hz+1ms or less 1/2 cycle + 1ms or less ON→ OFF 0 Surge suppressor CR absorber (0.022 μ F+47 Ω) CR absorber (0.01 μ F+47 Ω) 0 High speed type fuse 3.2A Fuse rating (one fuse /common) None × The fuse is not built in.*2 HP-32 Fuse blown indication Available None × As common terminal arrangement changes from 8 Common terminal 16 points/common points/common to 16 points/ 8 points/common Δ arrangement (2-wire type) common, wiring with a different

voltage per common is not

possible.

Speci	fications	AJ35PTF-56DS	AJ65SBTB1-32D	AJ65SBTB2N- 16S	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		8 stations (8 stations × 8 points)	1 station (1 station × 32 points × 3 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	tion (LED)	0	
External con	nection method	Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws) 2 pieces	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)		×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 2 (ripple ratio		Δ	The operating voltage range differs.
power supply	Current	230mA	45mA or less (24VDC when all points are ON)	85mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	ensions	254(H) × 190(W) × 41(D) mm	54(H) × 179(V		×	The overall size differs. Pay attention to the mounting dimensions.
Weight		1.16kg	0.25kg	0.35kg	Δ	

^{*1} Consider the characteristics of the triac and observe the necessary precautions by referring to Section 5.3 (5) before replacing the modules.

^{*2} Install a fuse for each external terminal point to prevent the burnout of the external devices and modules during load shorts.

In addition, when a fuse blown indication is necessary, configure an external circuit.

(19) Specifications comparison between AJ35PTF-28DR and AJ65SBTB1-16D + AJ65SBTB2N-16R

Specifi	cations	AJ35PTF-28DR input specifications	AJ65SBTB1-16D	Compatibility	Precautions for replacement
Number of in	out points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input c	urrent	Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
Operating vol	tage range	10.2 to 31.2VDC (ripple ratio within 5%)	19.2 to 26.4VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nur simultaneous		100% simultaneously ON	100% simultaneously ON	0	
ON voltage/O	N current	9.5V or more/2.6mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	6V or less/1.0mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistan	ice	Approx. 3.4k Ω	Approx. 3.3k Ω	0	
Input method		Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF → ON	10ms or less (6ms TYP.)	1.5ms or less (at 24VDC)	0	
time	ON → OFF	10ms or less (7.5ms TYP.)	1.5ms or less (at 24VDC)	0	
Common tern arrangement	ninal	16 points/common	16 points/common	0	

 \bigcirc : Compatible, $\,_{\triangle}\!:$ Partial change required, $\,\times$: Not compatible

AJ35PTF-28DR output					ange required, × . Not compatible
Specifi	Specifications AJ359FF-28DR Output AJ65SBTB2N-16R Compat		Compatibility	Precautions for replacement	
Number of ou	utput points	12 points	16 points	0	
Insulation me	sulation method Photocoupler Rela		Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated load vo	oltage/current	24VDC 2A (resistance load)/ point 240VAC 2A (COS ϕ = 1)/point 5A/common	24VDC 2A (resistance load)/ point 240VAC 2A (COS ϕ = 1)/point 8A/common	Δ	The maximum load current per common differs. Pay attention to the operating current of the entire module.
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw voltage	ritching	264VAC, 125VDC	264VAC, 125VDC	0	
Response	OFF → ON	10ms or less	10ms or less	0	
time	ON → OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 200000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ = 0.7) 200000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 200000 times or more 24VDC 1A, 100VDC 0.1A (L/R = 7 ms) 200000 times or more	Rated switching voltage/current load 100000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ = 0.7) 100000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100000 times or more 24VDC 1A, 100VDC 0.1A (L/R = 7 ms) 100000 times or more	Δ	Reduce the exchange intervals of the modules as Mechanical/Electrical Life is cut to about half.
Maximum sw frequency	ritching	3600 times/hr	3600 times/hr	0	
External power	Voltage	24VDC ± 10% Ripple voltage 4Vp-p or less	None	-	
supply	Current	110mA (24VDC, all points ON)	None	_	
Surge suppre	essor	None	None	0	
Common terminal arrangement		8 points/common, 3 points/ common, 1-point independent contact	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 3 commons to 16 points/ common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Speci	fications	AJ35PTF-28DR	AJ65SBTB1- 16D	AJ65SBTB2N- 16R	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		4 stations (4 stations × 8 points)	1 station (1 station × 32 points × 2 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	ndication	ON indication (LED)	ON indica	tion (LED)	0	
External connection method		Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)		×	Change in wiring is required.
Applicable v	vire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable s	solderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	28 V2-I RAP2	forming to JIS C 05) MS3, 2-3SL, 2-3N,	Δ	In some cases, the solderless terminal must be changed.
I/O	Voltage	15.6 to 31.2VDC		26.4VDC within 5%)	Δ	The operating voltage range differs.
module power supply	Current	120mA	35mA or less 120mA or (24VDC less (24VDC when all points are ON) ON)		Δ	The current consumption increases. The current capacity needs to be reconsidered.
External din	nensions	254(H) × 132(W) × 41(D) mm	54(H) × 118(W) × 40(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.76kg	0.18kg	0.35kg	Δ	

(20) Specifications comparison between AJ35PTF-56DR and AJ65SBTB1-32D+ AJ65SBTB2N-16R

Speci	Specifications AJ35PTF-56DR input AJ65SBT		AJ65SBTB1-32D	Compatibility	Precautions for replacement
Number of in	put points	32 points	32 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	current	Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
Operating vo	Itage range	10.2 to 31.2VDC (ripple ratio within 5%)	19.2 to 26.4VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu simultaneous		60% simultaneously ON	100% simultaneously ON	0	
ON voltage/0	ON current	9.5V or more/2.6mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	6V or less/1.0mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 3.4k Ω	Approx. 3.3k Ω	0	
Input method	1	Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (6ms TYP.)	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (7.5ms TYP.)	1.5ms or less (at 24VDC)	0	
Common terminal arrangement		16 points/common	32 points/common	Δ	As common terminal arrangement changes from 16 points/common to 32 points/common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, $\ _{\bigtriangleup}$: Partial change required, $\ \times$: Not compatible

Specifications		AJ35PTF-56DR output	AJ65SBTB2N-16R	Compatibility	Precautions for replacement
		specifications		,	When seventeen or more
Number of o	utput points	24 points	16 points	×	points are used, use two AJ65SBTB2N-16R modules.
Insulation me	ethod	Photocoupler	Relay	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated load v	oltage/current	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 5A/common	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 8A/common		The maximum load current per common differs. Pay attention to the operating current of the entire module.
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw	itching voltage	264VAC, 125VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
Electrical life		Rated switching voltage/current load 200,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 200,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ =0.35) 200,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	Δ	Reduce the exchange intervals of the modules as Mechanical/ Electrical Life is cut to about half.
Maximum sw frequency	ritching	3,600 times/hr	3,600 times/hr	0	
External power	Voltage	24VDC±10% Ripple voltage 4Vp-p or less	None	-	
supply	Current	220mA (24VDC, all points ON)	None	-	
Surge suppre	essor	None	None	0	
Surge suppressor Common terminal arrangement		8 points/common	16 points/common (2-wire type)	Δ	As common terminal arrangement changes from 8 points/common to 16 points/common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Speci	fications	AJ35PTF-56DR	AJ65SBTB1-32D	AJ65SBTB2N- 16R	Compatibility	Precautions for replacement
Number of oc stations (num occupied poi	nber of	8 stations (8 stations × 8 points)	1 station (1 station × 32 points × 3 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation inc	dication	ON indication (LED)	ON indica	tion (LED)	0	
External connection method		Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws) 2 pieces	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)		×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²		0	
Applicable so	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 2 (ripple ratio	26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	150mA	45mA or less (24VDC when all points are ON) ON)		Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dimensions		254(H) × 190(W) × 41(D) mm	54(H) × 179(W) × 40(D) mm		×	The overall size differs. Pay attention to the mounting dimensions.
Weight		1.16kg	0.25kg	0.35kg	Δ	

(21) Specifications comparison between AJ35PTF-28DT and AJ65SBTB1-32DT2

 $\bigcirc \colon \mathsf{Compatible}, \ \ \underline{\wedge} \colon \mathsf{Partial} \ \mathsf{change} \ \mathsf{required}, \ \ \times \colon \mathsf{Not} \ \mathsf{compatible}$

Specifi	ications	AJ35PTF-28DT input specifications	AJ65SBTB1-32DT2 input specifications	Compatibility	Precautions for replacement
Number of input points		16 points	16 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input v	/oltage	12/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	current	3mA/7mA	Approx. 7mA	0	
Operation	ltaga ranga	10.2 to 31.2VDC	19.2 to 26.4VDC		12VDC cannot be used.
Operating vo	ilage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12VDC carriot be used.
Maximum nu simultaneous		100% simultaneously ON	100% simultaneously ON	0	
ON voltage/C	ON current	9.5V or more/2.6mA or more	14VDC or more/ 3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	6V or less/1.0mA or less	6VDC or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 3.4k Ω	Approx. 3.3k Ω	0	
Input method	1	Positive common (sink type)	Positive common (sink type)	0	
Response	OFF → ON	10ms or less (6ms TYP.)	1.5ms or less (at 24VDC)	0	
time	ON → OFF	10ms or less (7.5ms TYP.)	1.5ms or less (at 24VDC)	0	
Common terr	minal	16 points/common	32 points/common		Use the same power supply
arrangement		16 points/common	(Common to input/output)	Δ	for the input and output sides.
Specifi	ications	AJ35PTF-28DT output specifications	AJ65SBTB1-32DT2 output specifications	Compatibility	Precautions for replacement
Number of ou	utput points	12 points	16 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated load v	oltage	12/24VDC	24VDC	Δ	12VDC cannot be used.
Operating loa	ad voltage	10.2 to 31.2VDC	19.2 to 26.4VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum loa	ad current	0.5A/point, 3.2A/common	0.5A/point, 3.6A/common	0	
Maximum inr	ush current	4.0A 10ms or less	1.0A 10ms or less	Δ	The inrush current value differs. Pay attention to the selection of the load used.
Leakage curr	rent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	ltage drop at	0.9VDC or less (TYP.) 0.5A	0.3VDC or less (TYP.) 0.5A,	0	
ON		1.5VDC or less (MAX.) 0.5A	0.6VDC or less (MAX.) 0.5A	O	
Output metho	od	Sink type	Sink type	0	
Response	OFF → ON	2ms or less	0.5ms or less	0	
time	ON → OFF	2ms or less (resistance load)	1.5ms or less (resistance load)	0	
	Voltage	10.2 to 31.2VDC	19.2 to 26.4VDC		The operating voltage range
External	Voltage	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	differs.
power			30mA or less (24VDC, when all		The current consumption
supply	Current	23mA	points are ON)	Δ	increases. The current
	Curront	(24VDC TYP./common)	External load current not		capacity needs to be
_		V : 1 (50 : 00 0	included		reconsidered.
Surge suppre		Varistor (52 to 62V)	Zener diode	0	Han the same
Common terr		8 points/common, 4 points/	32 points/common	Δ	Use the same power supply
arrangement		common	(Common to input/output)		for the input and output sides.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specif	ications	AJ35PTF-28DT	AJ65SBTB1-32DT2	Compatibility	Precautions for replacement
Number of or stations (nun occupied poi	nber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External con method	nection	Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 34-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable so terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N,	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	110mA or less	60mA or less (24VDC when all points are ON)	0	
External dim	ensions	254(H) × 132(W) × 41(D) mm	54(H) × 179(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight	_	0.65kg	0.25kg	Δ	

^{*1:} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTB1-32DT2.

(22) Specifications comparison between AJ35PTF-56DT and AJ65SBTB1-32D+ AJ65SBTB1-32T1

		A IZEDTE ECDT innut	O: Comp	oatible,	nange required, × : Not compatibl
Speci	fications	AJ35PTF-56DT input specifications	AJ65SBTB1-32D	Compatibility	Precautions for replacement
Number of input points		32 points	32 points	0	
Insulation method		Photocoupler	Photocoupler	0	
Rated input	voltage	12/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input	current	Approx. 3mA/Approx. 7mA	Approx. 7mA	0	
Operating vo	ltage range	10.2 to 31.2VDC	19.2 to 26.4VDC		12VDC cannot be used.
Operating vo	ntage range	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	12 V D C Carrillot be used.
Maximum nu simultaneous	ımber of s input points	60% simultaneously ON	100% simultaneously ON	0	
ON voltage/0	ON current	9.5V or more/2.6mA or more	14V or more/3.5mA or more	Δ	12VDC cannot be used.
OFF voltage	OFF current	6V or less/1.0mA or less	6V or less/1.7mA or less	Δ	12VDC cannot be used.
Input resista	nce	Approx. 3.4k Ω	Approx. 3.3k Ω	0	
Input method	d	Positive common (sink type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (6ms TYP.)	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (7.5ms TYP.)	1.5ms or less (at 24VDC)	0	
Common ter arrangement		16 points/common	32 points/common	Δ	As common terminal arrangement changes from 16 points/common to 32 points/ common, wiring with a different voltage per common is not possible.
Speci	fications	AJ35PTF-56DT output specifications	AJ65SBTB1-32T1	Compatibility	Precautions for replacement
Number of o	utput points	24 points	32 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated load v	oltage	12VDC/24VDC	12VDC/24VDC	0	
Operating loa	ad voltage	10.2 to 31.2VDC	10.2 to 26.4VDC (ripple ratio within 5%)	Δ	Voltages exceeding 26.4VDC cannot be applied.
Maximum loa	ad current	0.5A/point, 3.2A/common	0.5A/point, 4.8A/common	Δ	The maximum load current per common differs. Pay attention to the operating current of the entire module.
Maximum inn	rush current	4.0A 10ms or less	1.0A 10ms or less	Δ	The inrush current value differs. Pay attention to the selection of the load used.
Leakage cur	rent at OFF	0.1mA or less	0.1mA or less	0	
	ltage drop at	0.9VDC or less (TYP.) 0.5A	0.3VDC or less (TYP.) 0.5A	0	
ON		1.5VDC or less (MAX.) 0.5A	0.6VDC or less (MAX.) 0.5A		
Output meth		sink type	sink type	0	
Response	OFF→ON	2.0ms or less	0.5ms or less	0	
time	ON→OFF	2.0ms or less (resistance load)	1.5ms or less (resistance load)	0	
	Voltage	10.2 to 31.2VDC	10.2 to 26.4VDC		Voltages exceeding 26.4VDC
External	Tomago	(ripple ratio within 5%)	(ripple ratio within 5%)	Δ	cannot be applied.
power supply	Current	23mA (24VDC TYP/common)	50mA or less (24VDC)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
Surge suppre	essor	Varistor (52 to 62V)	Zener diode	0	
Common ter arrangement		8 points/common	32 points/common	Δ	As common terminal arrangement changes from 16 points/common to 32 points/ common, wiring with a different voltage per common is not possible.

				○: Compa	atible, △: Partial ch	ange required, ×: Not compatible
Speci	fications	AJ35PTF-56DT	AJ65SBTB1-32D	AJ65SBTB1-32T1	Compatibility	Precautions for replacement
Number of occupied stations (number of occupied points)		8 stations (8 stations × 8 points)	(1 station ×	ation 32 points × 2 ules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	tion (LED)	0	
External connection method		Transmission/module power supply parts: 8-point terminal block I/O part: 36-point terminal block (M3 × 6 screws) 2 pieces	supply 7-point tern (M3 × 5. I/O 34-point ter	module power parts: minal block 2 screws) part: minal block 2 screws)	×	Change in wiring is required.
Applicable w	rire size	0.75 to 2mm ²	0.3 to	2mm ²	0	
Applicable so terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	(conforming to	1.25-3 o JIS C 2805) -3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC		26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	160mA	45mA or less (24VDC when all points are ON)	65mA or less (24VDC when all points are ON)	0	
External dimensions		254(H) × 190(W) × 41(D) mm	54(H) × 179(V	V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		1.09kg	0.25kg	0.25kg	Δ	

Surge suppressor

Common terminal

arrangement

None

8 points/common

(23) Specifications comparison between AJ35TB1-16AR and AJ65SBTB2N-8A+ AJ65SBTB2N-8R

○: Compatible, △: Partial change required, ×: Not compatible AJ35TB1-16AR input AJ65SBTB2N-8A **Specifications** Compatibility Precautions for replacement specifications 8 points Number of input points 8 points 0 Insulation method Photocoupler Photocoupler 0 Rated input voltage 100-120VAC, 50/60Hz 100-120VAC, 50/60Hz 0 Rated input current Approx. 6mA (100VAC, 60Hz) Approx. 7mA (100VAC, 60Hz) 0 85 to 132VAC 85 to 132VAC Operating voltage range $(50/60Hz \pm 3\%, distortion rate)$ 0 $(50/60Hz \pm 5\%)$ 5% within) 100% simultaneously ON (at Maximum number of 100% simultaneously ON 110VAC), 60% simultaneously ON Use within specification range. Δ simultaneous input points (at 132VAC) Max. 200mA, within 1ms Inrush current 0 (132VAC) ON voltage/ON current 80V or more/5mA or more 80V or more/5mA or more 0 OFF voltage/OFF current 30V or less/1mA or less 30V or less/1.7mA or less 0 Approx. 18k Ω (60Hz), Approx. $15k \Omega$ (60Hz), Input impedance 0 Approx. 21k Ω (50Hz) Approx. 18k Ω (50Hz) 15ms or less (100VAC, 60Hz) 20ms or less (100VAC, 60Hz) OFF→ ON 0 Response time 30ms or less (100VAC, 60Hz) 20ms or less (100VAC, 60Hz) ON→ OFF 0 Common terminal 8 points/common 8 points/common (2-wire type) 0 arrangement AJ35TB1-16AR output AJ65SBTB2N-8R Compatibility Precautions for replacement **Specifications** specifications Number of output points 8 points 8 points \bigcirc Although the insulation methods differ, the Insulation method Photocoupler Relay isolation Δ performance of the insulation is the same 24VDC 2A 24VDC 2A The maximum load current per Rated load (resistance load)/point (resistance load)/point common differs. Pay attention Δ voltage/current 240VAC 2A (COS ϕ =1)/point 240VAC 2A (COS ϕ =1)/point to the operating current of the 5A/common 4A/common entire module. Minimum switching load 5VDC 1mA 5VDC 1mA 0 250VAC, 110VDC Maximum switching voltage 264VAC, 125VDC 0 10ms or less 10ms or less OFF→ ON 0 Response time $ON \rightarrow OFF$ 12ms or less 12ms or less 0 20 million times or more 20 million times or more Mechanical life \bigcirc Rated switching Rated switching voltage/current load voltage/current load 100,000 times or more 100,000 times or more 200VAC 1.5A, 240VAC 1A 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or (COS ϕ =0.7) 100,000 times or more more Electrical life 0 200VAC 1A, 240VAC 0.5A 200VAC 1A, 240VAC 0.5A (COS $\phi = 0.35$) 100,000 times (COS $\phi=$ 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or (L/R=7 ms) 100,000 times more or more Maximum switching 3,600 times/hr 3 600 times/hr 0 frequency External 24VDC ± 10% Voltage None power Ripple voltage 4Vp-p or less supply Current 45mA (24VDC, all points ON) None

None

8 points/common (2-wire type)

0

0

Specif	fications	AJ35TB1-16AR	AJ65SBTB2N-8A	⊖: Compa AJ65SBTB2N-8R	tible, <u>∧</u> : Partial ch Compatibility	ange required, × : Not compatible Precautions for replacement
Number of or stations (num	lumber of occupied 2 stations tations (number of ccupied points) 1 station (1 station × 32 points × 2 modules)		×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.		
Operation inc	dication	ON indication (LED)	ON indica	tion (LED)	0	
External con	Transmission/module power supply parts: 34-point terminal block (M3 screw) Transmission circuit part included 1/O part: 18-point terminal block		×	Change in wiring is required.		
Applicable w	ire size	0.75 to 2mm ²	(M3 × 5.2 screws) 0.3 to 2mm ²		0	
Applicable so	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 2 (ripple ratio	26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	62mA (at 24V)	35mA or less (24VDC when all points are ON)	85mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dimensions		55(H) × 166(W) × 50(D) mm	54(H) × 118(V	V) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.35kg	0.20kg	0.25kg	Δ	

(24) Specifications comparison between AJ35TB1-16DR and AJ65SBTB1-8D+ AJ65SBTB2N-8R

			∩: Comp	oatible. ∧ : Partial ch	nange required, × : Not compatible
Speci	fications	AJ35TB1-16DR input specifications	AJ65SBTB1-8D	Compatibility	Precautions for replacement
Number of in	put points	8 points	8 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input	voltage	24VDC	24VDC	0	
Rated input	current	Approx. 7mA	Approx. 7mA	0	
Oneration	ltogo rongo	19.2 to 26.4VDC	19.2 to 26.4VDC	0	
Operating vo	mage range	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum nu simultaneous	imber of s input points	100% simultaneously ON	100% simultaneously ON	0	
ON voltage/0	ON current	14V or more/3.5mA or more	14V or more/3.5mA or more	0	
OFF voltage	OFF current	6V or less/1.7mA or less	6V or less/1.7mA or less	0	
Input resistar	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
Input method	i	Positive/negative common shared type (sink/source shared type)	Positive/negative common shared type (sink/source shared type)	0	
Response	OFF→ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
time	ON→ OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Common ter	minal	8 points/common	8 points/common	0	
arrangement	fications	AJ35TB1-16DR output specifications	AJ65SBTB2N-8R	Compatibility	Precautions for replacement
Number of o	utnut nointe	8 points	8 points	0	
Insulation me		Photocoupler	Relay	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated load v	oltage/current	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 5A/common	24VDC 2A (resistance load)/point 240VAC 2A (COS ϕ =1)/point 4A/common	Δ	The maximum load current per common differs. Pay attention to the operating current of the entire module.
Minimum sw	itching load	5VDC 1mA	5VDC 1mA	0	
	vitching voltage	250VAC, 110VDC	264VAC, 125VDC	0	
Response	OFF→ON	10ms or less	10ms or less	0	
time	ON→OFF	12ms or less	12ms or less	0	
Mechanical I	1	20 million times or more	20 million times or more	0	_
Electrical life		Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	Rated switching voltage/current load 100,000 times or more 200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 100,000 times or more 200VAC 1A, 240VAC 0.5A (COS ϕ = 0.35) 100,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7 ms) 100,000 times or more	0	
Maximum sw	vitching				
frequency		3,600 times/hr	3,600 times/hr	0	
External power	Voltage	24VDC±10% Ripple voltage 4Vp-p or less	None	-	
supply	Current	45mA (24VDC, all points ON)	None	-	
Surge suppre	essor	None	None	0	
Common terrarrangement		8 points/common	8 points/common (2-wire type)	0	

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

				O: Compa	ipatible, $_{ riangle}$: Partial change required, $ imes$: Not compatib	
Speci	fications	AJ35TB1-16DR	AJ65SBTB1-8D	AJ65SBTB 2N-8R	Compatibility	Precautions for replacement
Number of o stations (nun occupied poi	nber of	2 stations (2 stations × 8 points)	(1 station ×	ation 32 points × 2 ules)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indica	ition (LED)	0	
External con	nection method	34-point terminal block (M3 screw) Transmission circuit part included	Transmission/ module power supply parts 7-point terminal block (M3 × 5.2 screws) I/O part: 10-point terminal block (M3 × 5.2 screws)	Transmission/ module power supply parts 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	ire size	0.75 to 2mm ²	0.3 to	2mm ²	0	
Applicable so terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	(conforming t	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N		In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	_	26.4VDC within 5%)	Δ	The operating voltage range differs.
power supply	Current	62mA (at 24VDC)	30mA or less (24VDC when all points are ON)	85mA or less (24VDC when all points are ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External dim	ensions	55(H) × 166(W) × 50(D) mm	54(H) × 87.3(W) × 40(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.35kg	0.14kg	0.25kg	Δ	

(25) Specifications comparison between AJ35TB1-16DT and AJ65SBTB1-16DT2

O: Compatible, △: Partial change required, ×: Not compatible

				atible, A: Partial ci	nange required, × : Not compatib
Speci	fications	AJ35TB1-16DT input specifications	AJ65SBTB1-16DT2 input specifications	Compatibility	Precautions for replacement
Number of ir	nput points	8 points	8 points	0	
Insulation m	ethod	Photocoupler	Photocoupler	0	
Rated input	voltage	24VDC	24VDC	0	
Rated input	current	Approx. 7mA	Approx. 7mA	0	
0		19.2 to 26.4VDC	19.2 to 26.4VDC	_	
Operating vo	oitage range	(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum nu simultaneou	umber of s input points	100% simultaneously ON	100% simultaneously ON	0	
ON voltage/	ON current	14V or more/3.5mA or more	14V or more/3.5mA or more	0	
OFF voltage	OFF current	6.0V or less/1.7mA or less	6.0V or less/1.7mA or less	0	
Input resista	nce	Approx. 3.3k Ω	Approx. 3.3k Ω	0	
Input method	d	Positive/negative common shared type (sink/source shared type)	Positive common (sink type)	Δ	A negative common current cannot be used.
Response	OFF→ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0	
Common ter	minal	8 points/common	8 points/common	0	
Speci	fications	AJ35TB1-16DT output specifications	AJ65SBTB1-16DT2 output specifications	Compatibility	Precautions for replacemen
Number of o	utput points	8 points	8 points	0	
Insulation m	ethod	Photocoupler	Photocoupler	0	
Rated load v	voltage	24VDC	24VDC	0	
Operating lo	ad voltage	19.2 to 26.4VDC	19.2 to 26.4VDC	_	
range		(ripple ratio within 5%)	(ripple ratio within 5%)	0	
Maximum lo	ad current	0.3A/point, 2.4A/common	0.5A/point, 2.4A/common	0	
Maximum in	rush current	3.0A 10ms or less	1.0A 10ms or less	×	The inrush current value differs. Pay attention to the selection of the load used.
Leakage cur	rent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	oltage drop at	1.5VDC or less (MAX.) 0.3A	0.3VDC or less (TYP.) 0.5A 0.6VDC or less (MAX.) 0.5A	0	
Output meth	od	sink type	sink type	0	
Response	OFF→ON	2.0ms or less	0.5ms or less	0	
time	ON→OFF	2.0ms or less (resistance load)	1.5ms or less (resistance load)	0	
External power	Voltage	19.2 to 26.4VDC (ripple ratio within 5%)	19.2 to 26.4VDC (ripple ratio within 5%)	0	
supply	Current	60mA or less (24VDC)	17.8mA or less (24VDC)	0	
Surge suppr	essor	Zener diode	Zener diode	0	
Common terminal arrangement		8 points/common	8 points/common	0	

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Speci	fications	AJ35TB1-16DT	AJ65SBTB1-16DT2	Compatibility	Precautions for replacement
Number of o stations (nur occupied po	mber of	2 stations (2 stations × 8 points)	1 station (1 station × 32 points)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Operation in	dication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	34-point terminal block (M3 screw) Transmission circuit part included	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws) I/O part: 18-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
Applicable w	vire size	0.75 to 2mm ²	0.3 to 2mm ²	0	
Applicable seterminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
power supply	Current	61mA (at 24VDC)	50mA or less (24VDC when all points are ON)	0	
External dim	ensions	55(H) × 166(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.35kg	0.18kg	Δ	

(26) Specifications comparison between AJ35TC1-32DT and AJ65SBTCF1-32DT

O: Compatible, △: Partial change required, ×: Not compatible

	○: Compatible, △: Partial change required, ×: Not compatible					
Speci	fications	AJ35TC1-32DT input specifications	AJ65SBTCF1-32DT input specifications	Compatibility	Precautions for replacement	
Number of in	put points	16 points	16 points	0		
Insulation method		Photocoupler	Photocoupler	0		
Rated input v	/oltage	24VDC	24VDC	0		
Rated input of	current	Approx. 5mA	Approx. 5mA	0		
Operating	ltone ronne	19.2 to 26.4VDC	19.2 to 26.4VDC	_		
Operating vo	illage range	(ripple ratio within 5%)	(ripple ratio within 5%)	0		
Maximum nu simultaneous		100% simultaneously ON	100% simultaneously ON	0		
ON voltage/0	ON current	17.5V or more/3.5mA or more	14V or more/3.5mA or more	0		
OFF voltage	OFF current	6V or less/1.7mA or less	6V or less/1.7mA or less	0		
Input resistar	nce	Approx. 4.7k Ω	Approx. 4.7k Ω	0		
		Positive/negative common	Positive/negative common			
Input method	I	shared type	shared type	0		
		(sink/source shared type)	(sink/source shared type)			
Response	OFF→ON	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0		
time	ON→OFF	10ms or less (at 24VDC)	1.5ms or less (at 24VDC)	0		
Common terr	minal	16 points/common	16 points/common	0		
	fications	AJ35TC1-32DT output specifications	AJ65SBTCF1-32DT output specifications	Compatibility	Precautions for replacement	
Number of o	utput points	16 points	16 points	0		
Insulation me	ethod	Photocoupler	Photocoupler	0		
Rated load v	oltage	24VDC	12VDC/24VDC	0		
Operating loa	ad voltage	19.2 to 26.4VDC	10.2 to 26.4VDC	_		
range		(ripple ratio within 5%)	(ripple ratio within 5%)	0		
Maximum loa	ad current	0.1A/point, 1.6A/common	0.1A/point, 1.6A/common	0		
Maximum inr	ush current	0.4A 10ms or less	1.0A 10ms or less	0		
Leakage curi	rent at OFF	0.1mA or less	0.1mA or less	0		
Maximum vo	Itage drop at	1.5VDC or less (MAX.) 0.1A	0.085VDC or less (TYP.) 0.1A 0.2VDC or less (MAX.) 0.1A	0		
Output metho	od	sink type	sink type	0		
Response	OFF→ON	2.0ms or less	0.5ms or less	0		
time	ON→OFF	2.0ms or less (resistance load)	1.5ms or less (resistance load)	0		
External	Voltage	None	10.2 to 26.4VDC (ripple ratio within 5%)	×	Wiring of the power supply for driving the output circuit is required.	
power supply	Current	None	30mA or less (24VDC)	×	Wiring of the power supply for driving the output circuit is required.	
Surge suppre	essor	Zener diode	Zener diode	0		
Common terrarrangement		16 points/common	16 points/common	0		

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Specif	ications	AJ35TC1-32DT	AJ65SBTCF1-32DT	Compatibility	Precautions for replacement
Number of oc stations (num occupied poin	ber of	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	0	
Operation inc	lication	ON indication (LED)	ON indication (LED)	0	
External con	nection method	Transmission circuit: 8-point terminal block (M3 screw)	Transmission/module power supply parts: 7-point terminal block (M3 × 5.2 screws)	×	Change in wiring is required.
		I/O part: 40-pin connector	I/O part: 40-pin connector	0	The existing connector can be attached without change.
Applicable wi	re size	Terminal block: 0.75 to 2mm ² 40-pin connector: 0.3mm ²	Terminal block: 0.3 to 2mm ² 40-pin connector: 0.3mm ² or less (for A6CON1, A6CON4) 0.2 to 0.08mm ² (for A6CON2) Twisted wire of 0.08mm ² , \$\phi\$ 0.25mm (for A6CON3)	0	
Accessory		1 external wiring connector	None	×	40-pin connectors for external wiring are sold separately.
Applicable so terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL, TGV2-3N	Δ	In some cases, the solderless terminal must be changed.
I/O module	Voltage	15.6 to 31.2VDC (peak voltage 31.2VDC)	20.4 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
supply Current		137mA (at 24VDC)	50mA or less (24VDC when all points are ON)	0	
External dime	ensions	55(H) × 166(W) × 50(D) mm	54(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.
Weight		0.25kg	0.15kg	Δ	

(27) Specifications comparison between AJ35PTF-128DT and AJ65SBTCF1-32D + AJ65SBTCF1-32T

O: Compatible, △: Partial change required, ×: Not compatible

Specifi	ications	AJ35PTF-128DT input specifications	AJ65SBTCF1-32D input specifications	Compatibility	Precautions for replacement
Number of in	put points	64 points	32 points	×	When 33 or more points are used, use two AJ65SBTCF1-32D modules.
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12/24VDC	24VDC	Δ	12VDC cannot be used.
Rated input of	current	4mA/Approx. 9mA	Approx. 5mA	Δ	Rated input current is smaller.*1
Operating vo	ltage range	10.2 to 26.4VDC (ripple ratio within 5%)	19.2 to 26.4VDC (ripple ratio within 5%)	Δ	12VDC cannot be used.
Maximum nu simultaneous		100% simultaneously ON (64 points are divided into four groups and I/O refresh is performed to each of the four groups.)	100% simultaneously ON	0	
ON voltage/C	ON current	8V or more/2.3mA or more	14VDC or more/ 3.5mA or more	Δ	12VDC cannot be used.
OFF voltage/	OFF current	4V or less/0.5mA or less	6VDC or less/1.7mA or less	Δ	12VDC cannot be used.
Input resistar	nce	Approx. 2.4k Ω	Approx. 4.7k Ω	Δ	Input impedance has increased.*1
Input method	ı	Positive common (sink type) Dynamic scan method (64 points are divided into four groups and I/O refresh is performed to each of the four groups.)	Positive/negative shared type (sink/source shared type)	Δ	The I/O refresh method is changed.
Response	OFF → ON	107ms or less ^{*2}	1.5ms or less (at 24VDC)	Δ	The I/O refresh method is changed, and the response
time	ON → OFF	107ms or less*2	1.5ms or less (at 24VDC)	Δ	time changes.
Common terminal arrangement		16 points/common (common pin: 1A17, 1B17, 2A17, 2B17)	32 points/common (40-pin connector 1-wire type)	Δ	As common terminal arrangement changes from 16 points/common to 32 points/common, wiring with a different voltage per common is not possible.

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Specifications		AJ35PTF-128DT output specifications	AJ65SBTCF1-32T output specifications	Compatibility	Precautions for replacement
Number of ou	utput points	64 points	32 points	×	When 33 or more points are used, use two AJ65SBTCF1-32T modules.
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated load ve	oltage	12/24VDC	12/24VDC	0	
Operating loa	ad voltage	10.2 to 31.2VDC	10.2 to 26.4VDC (ripple ratio within 5%)	Δ	Voltages exceeding 26.4VDC cannot be applied.
Maximum loa	ad current	0.1A/point, 2A/common	0.1A/point, 32A/common	0	
Maximum inr	ush current	0.4A, 100ms or less	1.0A, 10ms or less	0	
Leakage curr	rent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	ltage drop at	2.5VDC 100mA 1.75VDC 5mA 1.7VDC 1mA	0.1VDC or less (TYP.) 0.1A, 0.2VDC or less (MAX.) 0.1A	0	
Output metho	od	Static method of sink type	Sink type	Δ	The I/O refresh method is changed.
Response	OFF → ON	(2 + I/O refresh time × 5) ms or less*2	0.5ms or less	Δ	The I/O refresh method is changed, and the response
time	ON → OFF	(2 + I/O refresh time × 5) ms or less*2	1.5ms or less (resistance load)	Δ	time changes.
External	Voltage	10.2 to 31.2VDC	10.2 to 26.4VDC (ripple ratio within 5%)	Δ	Voltages exceeding 26.4VDC cannot be applied.
power supply	Current	40mA or less (TYP.24VDC, 1 common ON)	50mA or less (TYP.24VDC, per common) External load current not included	0	
Surge suppressor		Clamp diode	Zener diode	0	
Common terminal arrangement		32 points/common (common pin: TB5, TB7)	32 points/common (40-pin connector 1-wire type)	0	

 $\bigcirc \colon \mathsf{Compatible}, \ \ \triangle \colon \mathsf{Partial} \ \mathsf{change} \ \mathsf{required}, \ \ \mathsf{x} : \mathsf{Not} \ \mathsf{compatible}$

Specifi	cations	AJ35PTF-128DT	AJ65SBTCF1 -32D	AJ65SBTCF1 -32T1	Compatibility	Precautions for replacement	
Number of occupied stations (number of occupied points)		4 stations (number of required I/O points: 128 points)	1 station (1 station × 32 points × 4 modules)		0	The number of modules is changed, and the number of occupied points does not change.	
Operation ind	lication	ON indication (LED) 32-point switching display with switches	ON indication (LED)		0		
External connection method		Transmission/module power supply parts: 8-point terminal block I/O part: Four 40-pin connectors (soldering)	Communication part, module power supply part: 7-point two-piece terminal block M3 × 5.2 screws I/O power supply part, I/O part: 40-pin connector		×	Change in wiring is required.	
Applicable wire size		Terminal block: 0.75 to 2mm ² 40-pin connector: 0.3mm ²	Terminal block: 0.3 to 2mm² 40-pin connector: 0.3mm² or less (for A6CON1, A6CON4) 0.2 to 0.08mm² (for A6CON2) Stranded wire of 0.08mm², \$\phi\$ 0.25mm (for A6CON3)		0		
Transmission/ communication part, module power supply part Applicable solderless terminal		R1.25-3, R2-3 RAV1.25-3, RAV2-3	RAV1.25-3 (conforming to JIS C 2805) V2-MS3, RAP2-3SL TGV2-3N		Δ	In some cases, the solderless terminal must be changed.	
	Voltage	15.6 to 31.2VDC	-	26.4VDC within 5%)	Δ	The operating voltage range differs.	
I/O module power supply	Current	200mA	45mA or less (24VDC (24VDC when all when all points are ON) ON		Δ	The current consumption increases. The current capacity needs to be reconsidered.	
External dimensions		250(H) × 190(W) × 41(D) mm	54(H) × 118(W) × 40(D) mm		×	The shape and the number of modules differ. Pay attention to the mounting dimensions.	
Weight		1.05kg	0.1	5kg	Δ		

^{*1:} Confirm the specifications of the sensors or switches to be connected to the AJ65SBTCF1-32D.

^{*2:} For details on the response time, refer to the MELSECNET/MINI-S3 Master Module Type AJ71PT32-S3, AJ71T32-S3, A1SJ71T32-S3 User's Manual.

5.3 Precautions for Replacement of I/O Module

(1) Wiring

(a) Wire gauge and size of solderless terminals

As CC-Link supports compact modules and terminal blocks, the wire gauge and size of the solderless terminals applicable to terminal blocks differ from those that can be used on the MELSECNET/MINI-S3, A2C(I/O).

For this reason, when replacing the existing system with CC-Link, use wires and solderless terminals that meet the CC-Link specifications.

(b) Input method

Contents of the "Input method" item in the "Specifications" column for input modules and I/O modules in Section 5.2 are described below.

Positive common (Sink type) : means that DC power + is connected to the common terminal.

Negative common (Source type): means that DC power - is connected to the common terminal.

Positive/negative common shared type (Sink/source shared type):

means that either DC power + or DC power - is connected to the common terminal.

(c) Using wiring conversion adapter

When installing a MELSECNET/MINI-S3 - CC-Link module wiring conversion adapter to the CC-Link remote I/O module (AJ65BTB1-16D, AJ65BTB2-16D or AJ65BTB1-16T), the external dimensions are increased by 5.1mm (height) and 28.5mm (depth).

If the connected cable is not long enough, wiring to the CC-Link remote I/O module cannot be made.

(2) External wiring connector

(a) Purchasing external wiring connectors

At the CC-Link 32-point connector type I/O module, the external wiring connector is not included in the package. The external wiring connector (A6CON_□) must be purchased separately.

(3) Tightening module mounting screws and terminal block screws

Tighten module mounting screws and terminal block screws within the range described below. Tightening screws too much may cause damage to the module case. For details, refer to each product manual.

(a) CC-Link system compact type remote I/O module

For terminal block type, one-touch connector type, and 40-pin connector type remote I/O module

Screw	Tightening torque range
Module mounting screw (M4 screw with plain washer finished round)	78 to 108N•cm
Terminal block screw (M3 screw)	59 to 88N•cm
Terminal block mounting screw (M3.5 screw)	68 to 98N•cm

(b) CC-Link system remote I/O module (A2C shape)

Screw	Tightening torque range
Module mounting screw (M4 screw with plain washer finished round)	78 to 108N•cm
Terminal block screw (M3.5 screw)	68 to 92N•cm
Terminal block mounting screw (M4 screw)	102 to 138N•cm

(c) CC-Link system remote I/O module

Screw	Tightening torque range
Module mounting screw (M4 screw)	78 to 118N•cm
Terminal block screw (M3.5 screw)	59 to 88N•cm
Terminal block mounting screw (M4 screw)	78 to 118N•cm

(d) Wiring conversion adapter

Screw	Tightening torque range
Adapter, Terminal block mounting screw (M4 screw)	78 to 118N•cm
CTL + terminal screw (M3 screw)	49 to 78.4N•cm

(4) Precautions for input module (specifications change)

(a) The rated input current

Some CC-Link modules support a smaller rated input current than MELSECNET/MINI-S3,A2C(I/O) modules do. Confirm the specifications of the sensors or switches to be connected before use.

(b) The rated voltage value

CC-Link's DC input module is dedicated for use at 24VDC.

Confirm the specifications of the sensors or switches to be connected before use.

(c) The common terminal arrangement

Use caution when using voltages that differ depending on each common as the common terminal arrangement may differ between the CC-Link and the MELSECNET/MINI-S3, A2C(I/O).

(5) Precautions for output module (specifications change)

(a) The output current values

Some CC-Link modules support a smaller output current than MELSECNET/MINI-S3,A2C(I/O) modules do. Before using an output module having a smaller output current on CC-Link, confirm the specifications on the load side.

(b) The common terminal arrangement

Use caution when using voltages that differ depending on each common as the common terminal arrangement may differ between the CC-Link and the MELSECNET/MINI-S3, A2C(I/O).

(c) The common maximum load current

Sometimes the maximum load current per common differs between CC-Link and MELSECNET/ MINI-S3,A2C(I/O). Check the maximum load current per common before use.

(d) Precautions when using the triac output module

Operation of the triac that is used on the triac output module may be unstable when a sudden change occurs in the voltage and current due to component characteristics.

Problems due to voltage and current fluctuation might become obvious depending on individual differences between components. For this reason, refer to the following manual and check for any corresponding items in the precautions.

• I/O Module Type Building Block User's Manual

6

REPLACING ANALOG I/O MODULE

6.1 List of Alternative Analog I/O Module Models

MELSECNET/MINI-S3, A2C models to be discontinued			Replacement to CC-Link
Product name	Model name	Model name	Remarks (restrictions)
		AJ65BT-64AD	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Required (2 modules necessary) 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: 4CH/module 5) Change in functional specifications: Not required 6) Change in dimensions for mounting the panel: Required
Analog input module	A68ADC	AJ65SBT2B-64AD AJ65SBT-64AD	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Required (2 modules necessary) 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: 4CH/module, negative current conversion not possible 5) Change in functional specifications: An averaging processing function of the AJ65SBT-64AD can handle only a moving averaging processing. 6) Change in dimensions for mounting the panel: Required
		AJ65VBTCU- 68ADVN	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Voltage input only 5) Change in functional specifications: Not required 6) Change in dimensions for mounting the panel: Required

6 REPLACING ANALOG I/O MODULE

MELSECNET/MINI-S3, A2C models to be discontinued			Replacement to CC-Link
Product name	Model name	Model name	Remarks (restrictions)
Analog input module	A68ADC	AJ65VBTCU-68ADIN	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Current input only 5) Change in functional specifications: Not required 6) Change in dimensions for mounting the panel: Required
		AJ65SBT2B-64DA AJ65BT-64DAV	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Change in resolution 5) Change in functional specifications: Not required 6) Change in dimensions for mounting the panel: Required
Analog output module	A64DAVC	AJ65SBT-62DA	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Required (2 modules necessary) 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Change in resolution 5) Change in functional specifications: 2CH/module 6) Change in dimensions for mounting the panel: Required
		AJ65VBTCU- 68DAVN	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: 8CH/module 5) Change in functional specifications: Not required 6) Change in dimensions for mounting the panel: Required

	MINI-S3, A2C models		Replacement to CC-Link
Product name	Model name	Model name	Remarks (restrictions)
		AJ65SBT2B-64DA AJ65BT-64DAI	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Upward compatible 5) Change in functional specifications: Not required 6) Change in dimensions for mounting the panel: Required
Analog output module	A64DAIC	AJ65SBT-62DA	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Required (2 modules necessary) 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Change in resolution 5) Change in functional specifications: 2CH/module 6) Change in dimensions for mounting the panel: Required
Temperature	A64RD3C	AJ65SBT2B-64RD3 AJ65BT-64RD3	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Change in temperature detecting output current, change in resistive values of allowable conductor 5) Change in functional specifications: Not required 6) Change in dimensions for mounting the panel: Required
Temperature input module	A64RD4C	AJ65BT-64RD4	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Change in temperature detecting output current, change in resistive values of allowable conductor 5) Changes in functional specifications: Change in the specifications of the line breakage detection function 6) Change in dimensions for mounting the panel: Required

6.2 List of Alternative Master Module Models

6.2.1 Comparisons of analog input module

- (1) Comparisons between A68ADC and AJ65BT-64AD
 - (a) Performance specifications comparisons

O: Compatible, A: Partial C	nange requi	red, x . Not compatible
	Compati-	Precautions for

O: Compatible, △: Partial change required Compati-					
Item	A68ADC	AJ65B	AJ65BT-64AD		Precautions for replacement
	Voltage: -10 to 0 to +10VDC			bility	
	(input resistance 30K Ω)	10.10			
	Current: +4 to +20mA	_	Voltage: -10 to 0 to +10VDC		
	(input resistance 250 Ω)	` '	ance 1M Ω)		
Analog input	,		to 0 to +20mA	0	
	Select via input terminal	` '	(input resistance 250 Ω)		
	* Current input can also be used	(select via input terminal)			
	as -20 to 0 to +20mA.				
	16bits signed binary	16hite eig	ned binary		
Digital output	(data part 11bits)	1	rt 12bits)	0	
	-2048 to 2047				
		Analog input value	Digital output value		
		-10 to 10V or	0 to 4000 or		
	Analog input Digital output	-20 to 20mA	-2000 to 2000		
	Analog input Digital output +10V +2000	0 to 10V or	0 to 4000 or		
	+5V or +20mA +1000	0 to 10V or 0 to 20mA	-2000 to 2000		Precautions are
I/O characteristics	0V or +4mA ± 0	0 to ZoniA	-2000 to 2000	Δ	needed as gain
	-5V or	0 to 5V or	0 to 4000 or		values are different.
	-1000	0 to 20mA	-2000 to 2000		raido dio amoronii
	-10V -2000				
		1 to 5V or	0 to 4000 or		
		4 to 20mA	-2000 to 2000		
		Analog input value	Resolution		
		-10 to 10V or	5mV or 20 μA		
		-20 to 20mA			
	\/-lt\/ (4/0000\)	0 to 10V or	2.5mV or 10 μA		
Maximum resolution	Voltage 5mV (1/2000)	0 to 20mA	0 to 20mA		
	Current 20 μA (1/1000)	0 to 5V or			
		0 to 20mA	1.25mV or 5 μA		
		0 10 2011//			
		1 to 5V or			
		4 to 20mA	1mV or 4 μA		
Overell eagres	Within ± 1% (± 20)		(0	
Overall accuracy	(accuracy relative to maximum value)	± 1%	\pm 1%(\pm 40)		
Maximum conversion		A == - 1 -	hannel		
speed	Max. 2.5ms/channel	ims/c	name	0	
Absolute maximum	Voltage ±	15V, current ± 30mA		0	
input	voltage ±	TOV, CUITEIR ± SUITA			
					Please consider
Analog innet	O shannal-fire-did-	4 -6.	la/madula		replacing by using
Analog input	8 channels/module	4 cnanne	ls/module	×	two or more AJ65BT-64AD
					modules.
	Photocoupler isolation between input				modules.
	terminal and programmable controller	·	tion between power		
Insulation method	power supply	1	system and analog input	0	
	(non-isolated between channels)	(non-isolated between channels)			
				1	1

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Item	A68ADC	AJ65BT-64AD	Compati- bility	Precautions for replacement
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)	2 stations (2 stations × 32 points) (RX/RY 32 points each, RWr/RWw 8 points each)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Connected terminal	47-point terminal block	rminal block 27-point terminal block		
Applicable wire size	Applicable wire size 0.75 to 2mm² (applicable tightening torque 7kg cm)		0	Change in wiring is
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV1.25-3.5, RAV2-3.5	×	required.
24VDC internal current consumption	0.3A	0.12A	0	
Weight	1.01kg	0.35kg	Δ	
External dimensions	170(H) × 100(W) × 80(D)mm	65(H) × 151.9(W) × 63(D)mm	×	The overall size differs. Pay attention to the mounting dimensions.



(b) Functional comparisons

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Item	A68ADC	AJ65BT-64AD	Compati- bility	Precautions for replacement
Averaging processing A/D conversion system	A/D conversion is performed according to set times or set processing time on a channel, which is specified for the averaging processing to be performed on by the programmable controller CPU. After the conversion, the maximum and minimum values are removed, and the remaining total is averaged and the results are stored in the buffer memory.	A/D conversion is performed according to the preset number of times or preset time on each channel, the A/D conversion data obtained during that time is averaged, and the average value is stored to the remote register as a digital output value.	0	
Specification of channel to use	The A68ADC has an 8 channels of the A/D conversion circuit. Execution/non-execution of the A/D conversion can be specified on each of those channels. With the programmable controller CPU, the channel to execute A/D conversion on is specified to address 0 (specification of channel to use) of the buffer memory.	Enable (execute)/disable (do not execute) A/D conversion is specified on each channel. (default: execution on all channels disabled) By making unused channels conversion prohibited, sampling time can be shortened.	0	
Offset/gain setting	Changes the I/O conversion characteristics.	Changes the I/O conversion characteristics. For that, offset/gain settings can be configured for each channel without a aid of a various register.	0	

(c) Programmable controller CPU I/O signal comparisons

I/O signal is different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

	A68	ADC		AJ65BT-64AD			
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
X(n+0) to X(n+3)	Use prohibited	Y(n+0) to Y(n+3)	Use prohibited	RXn0	CH1 A/D Conversion completed flag	RYn0	Offset/gain value selection
X(n+4)	Communication error detection flag indicating that execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal *1	RXn1	CH2 A/D Conversion completed flag	RYn1	Voltage/current selection
X(n+5)	A68ADC reset switch ON detection flag	Y(n+5)	Reset signal for reset switch ON detection flag	RXn2	CH3 A/D Conversion completed flag		Use prohibited
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RXn3	CH4 A/D Conversion completed flag		
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset	RXn4 to RX(n+1)7	Use prohibited	- RY(n+1)7	
X(n+8) to	Use prohibited			RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data processing complete flag
X(n+17)		Y(n+8)		RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag
X(n+18)	A/D conversion READY	to Y(n+1F)	Use prohibited	RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag
X(n+19) to X(n+1F)	Use prohibited			RX(n+1)B RX(n+1)C to RX(n+1)F	Remote READY Use prohibited	RY(n+1)B to RY(n+1)F	Use prohibited

^{*1:} The signal contents differ when a version B A68ADC is combined with a version B A2CCPU.

(d) Buffer memory addresses comparisons

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memories and sequence programs, refer to the User's Manual.

	A68ADC		AJ65BT-64AD			
Address	Name	Read/write	Address	Name	Read/write	
0	Specification of channel to use		RWwm	Averaging processing specification		
1	Averaging processing specification		RWwm+1	CH1 Averaging time, count		
2	CH1 Averaging time, count		RWwm+2	CH2 Averaging time, count		
3	CH2 Averaging time, count		RWwm+3	CH3 Averaging time, count	w	
4	CH3 Averaging time, count		RWwm+4	CH4 Averaging time, count		
5	CH4 Averaging time, count	R/W	RWwm+5	Data format		
6	CH5 Averaging time, count		RWwm+6	A/D conversion enable/disable		
0	CH3 Averaging time, count		KWWIII+0	specification		
7	CH6 Averaging time, count		RWwm+7	Use prohibited	_	
8	CH7 Averaging time, count		RWrn	CH1 Digital output value		
9	CH8 Averaging time, count		RWrn+1	CH2 Digital output value		
10	CH1 Digital output value		RWrn+2	CH3 Digital output value	R	
11	CH2 Digital output value		RWrn+3	CH4 Digital output value		
12	CH3 Digital output value		RWrn+4	Error code		
13	CH4 Digital output value	R	RWrn+5			
14	CH5 Digital output value	T K	RWrn+6	Use prohibited	_	
15	CH6 Digital output value		RWrn+7			
16	CH7 Digital output value					
17	CH8 Digital output value					
18	Write data error code	R/W	1			
19	A/D conversion completed flag	R]			

(2) Comparisons between A68ADC and AJ65SBT-64AD

(a) Performance specifications comparisons

 $\bigcirc \colon \mathsf{Compatible}, \ \ \triangle \colon \mathsf{Partial} \ \mathsf{change} \ \mathsf{required}, \ \ \mathsf{x} \colon \mathsf{Not} \ \mathsf{compatible}$

		⊖: Compatible, △: Partial o		
Item	A68ADC	Compati- bility	Precautions for replacement	
Analog input	Voltage: -10 to 0 to +10VDC (input resistance 30K Ω) Current: +4 to +20mA (input resistance 250 Ω) Select via input terminal * Current input can also be used as -20 to 0 to +20mA.	Voltage: -10 to 0 to +10VDC (input resistance 1M Ω) Current: 0 to +20mA (input resistance 250 Ω)	Δ	Negative current cannot be converted.
Digital output	16bits signed binary (data part 11bits) -2048 to 2047	16bits signed binary (-4096 to +4095)	0	
I/O characteristics	Analog input Digital output +10V +2000 +5V or +20mA +1000 0V or +4mA ± 0 -5V or -12mA -1000 -10V -2000	Analog input range output Temperature of to 55 °C Analog input range output Temperature of to 55 °C Analog output Other Section 1 (-10 to +10V) (-10 to +1	Δ	Precautions are needed as gain values are different.
Maximum resolution	Voltage 5mV (1/2000) Current 20 μA (1/1000)	User range setting 2 (0 to 5V) (± 16 digits*) (± 8 digits*) 1.0mV	0	
Overall accuracy	Within \pm 1% (\pm 20) (accuracy relative to maximum value)	\(\frac{\frac{1}{5}}{5} \) \(\frac{1}{0} \) User range setting 3 (0 to 20mA) \(\frac{1}{0} \) (to 20mA) \(\frac{1}{2} \) *: Digit is the digital value.	0	
May conversion and	Maximum 2.5ms/channel	Factory-set: -10 to +10V.		
Max. conversion speed Absolute maximum		15V, current ± 30mA	0	
Number of analog input points	8 channels/module	4 channels/module	×	Consider replacing by using two or more AJ65SBT- 64AD modules.
Insulation method	Photocoupler isolation between input terminal and programmable controller power supply (non-isolated between channels)	Between communication line and all analog inputs: Photocoupler isolation between power line and all analog inputs: Photocoupler isolation (non-isolated between channels)	0	
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)	1 station (1 station × 32 points) (RX/RY 32 points each, RWr/RWw 4 points each)	×	The number of occupied stations has been changed.
Connected terminal	47-point terminal block	Communication part, module communication part: 7-point two-piece terminal block (M3 screw) I/O part: 18-point direct-mount terminal block (M3 screw)	×	
Applicable wire size	0.75 to 2mm ² (applicable tightening torque 7kg • cm)	0.3 to 0.75mm ²	×	Change in wiring is required.
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	 RAV1.25-3 (conforming to JIS C 2805) [Applicable wire size: 0.3 to 1.25mm²] V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm²] 	×	
24VDC internal current consumption	0.3A	0.09A	0	
Weight	1.01kg	0.20kg	Δ	
External dimensions	170(H) × 100(W) × 80(D)mm	50(H) × 118(W) × 40(D)mm	×	The overall size differs. Pay attention to the mounting dimensions.



(b) Functional comparisons

○: Compatible, △: Partial change required, ×: Not compatible

	change requ	red, × : Not compatible		
Item	A68ADC	AJ65SBT-64AD	Compati- bility	Precautions for replacement
Averaging processing A/D conversion system	A/D conversion is performed according to set times or set processing time on a channel, which is specified for the averaging processing to be performed on by the programmable controller CPU. After the conversion, the maximum and minimum values are removed, and the remaining total is averaged and the results are stored in the buffer memory.	Digital output values for the specified number of times, which have been obtained by measuring at each sampling period, are averaged.	Δ	Averaging processing performed on the AJ65SBT-64AD is movement averaging processing.
Specification of channel to use	The A68ADC has 8 channels of an A/D conversion circuit. Execution/non-execution of the A/D conversion can be specified on each of those channels. With the programmable controller CPU, the channel to execute A/D conversion on is specified to address 0 (specification of channel to use) of the buffer memory.	Enable (execute)/disable (do not execute) A/D conversion is specified on each channel. By making unused channels conversion prohibited, sampling period can be shortened.	0	
Switching function of input range	_	Sets the analog input range on each channel and changes the I/O conversion characteristics. The following eight input ranges can be selected: Input range	_	
Offset/gain setting	Changes the I/O conversion characteristics.	Changes the I/O conversion characteristics. For that, offset/gain settings can be configured for each channel without a aid of a various register.	0	

(c) Programmable controller CPU I/O signal comparisons

I/O signal is different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

	А	68ADC			AJ65	SBT-64AD	
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
X(n+0)		Y(n+0)			CH1 A/D		CH1 Specified flag of
to	Use prohibited	to	Use prohibited	RXn0	Conversion	RYn0	movement averaging
X(n+3)		Y(n+3)			complete flag		processing
X(n+4)	Communication error detection flag indicating that execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal ^{*1}	RXn1	CH2 A/D Conversion complete flag	RYn1	CH2 Specified flag of movement averaging processing
	A68ADC reset		Reset signal of reset		CH3 A/D		CH3 Specified flag of
X(n+5)	switch ON	Y(n+5)	switch ON detection flag	RXn2	Conversion	RYn2	movement averaging
	detection flag		emien en detection nag		complete flag		processing
					CH4 A/D		CH4 Specified flag of
				RXn3	Conversion	RYn3	movement averaging
					completed flag		processing
				RXn4	CH1 Range error		
V/ (C)	11	V/=+C\			flag		
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RXn5	CH2 Range error		
					flag CH3 Range error		
				RXn6	flag		
					CH4 Range error		
				RXn7	flag		
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset	RXn8 to RXnB	Use prohibited	RYn4 to RY(n+1)7	Use prohibited
X(n+8) to	Use prohibited			RXnC	E ² PROM write error flag		
X(n+17)	A/D '			RXnD	11		
X(n+18)	A/D conversion READY			RxnE	Use prohibited		
				RXnF	Test mode flag		
				RX(n+1)0	11		
		Y(n+8)		to	Use prohibited		
		to	Use prohibited	RX(n+1)7	Initial data		
X(n+19)		Y(n+1F)	Ose prombiled	RX(n+1)8	processing request	RY(n+1)8	Initial data setting complete flag
to X(n+1F)	Use prohibited			RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag
				RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag
				RX(n+1)B	Remote READY	RY(n+1)B	
				RX(n+1)C		to	Use prohibited
				to	Use prohibited	RY(n+1)F	- 1
				RX(n+1)F		, , ,	

^{*1:} The signal contents differ when a version B A68ADC is combined with a version B A2CCPU.

Read/write

W

R

(d) Buffer memory addresses comparisons

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A68ADC		AJ65SBT-64AD	
Address	Name	Read/write	Address	Name
0	Specification of channel to use		RWwm	A/D conversion enable/disable
U	Specification of charmer to use		Kvvwiii	specification
1	Averaging processing specification	1	RWwm+1	Input range setting
2	CH1 Averaging time, count		RWwm+2	Number of movement averaging
2	CH i Averaging time, count		Kvvwiii+2	processing setting
3	CH2 Averaging time, count	R/W	RWwm+3	Use prohibited
4	CH3 Averaging time, count		RWrn	CH1 Digital output value
5	CH4 Averaging time, count		RWrn+1	CH2 Digital output value
6	CH5 Averaging time, count		RWrn+2	CH3 Digital output value
7	CH6 Averaging time, count		RWrn+3	CH4 Digital output value
8	CH7 Averaging time, count			
9	CH8 Averaging time, count			
10	CH1 Digital output value			
11	CH2 Digital output value			
12	CH3 Digital output value			
13	CH4 Digital output value	R		
14	CH5 Digital output value			
15	CH6 Digital output value			
16	CH7 Digital output value			
17	CH8 Digital output value			
18	Write data error code	R/W		
19	A/D conversion completed flag	R		

(3) Comparisons between A68ADC and AJ65SBT2B-64AD

(a) Performance specifications comparisons

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

		⊖: Compatible, △: Partial cf	Compati-	Precautions for
Item	A68ADC	AJ65SBT2B-64AD	bility	replacement
Analog input	Voltage: -10 to 0 to +10VDC (input resistance 30K Ω) Current: +4 to +20mA (input resistance 250 Ω) Select via input terminal * Current input can also be used as -20 to 0 to +20mA.	Voltage: -10 to 0 to +10VDC (input resistance 1M Ω) Current: 0 to +20mA (input resistance 250 Ω)	Δ	Negative current cannot be converted.
Digital output	16bits signed binary (data part 11 bits) -2048 to +2047	16bits signed binary (-16384 to 16383)	0	
I/O characteristics	Analog input Digital output +10V +2000 +5V or +20mA +1000 OV or +4mA ± 0 -5V or -12mA -1000 -10V -2000	Analog input range	Δ	Precautions are needed as gain values are different.
Maximum resolution	Voltage 5mV (1/2000) Current 20 μA (1/1000)	S User ± 0.2%	0	
Overall accuracy	Within \pm 1% (\pm 20) (accuracy relative to maximum value)	setting 2 (± 32 digits) 0 to 5V 0 to 1 to 5V 16000 1 to 5V 16000 1 to 20mA 0 to 16000 4 to 20mA -16000 to +16000 User range setting 2 1 μ A 1 μ A	0	
Max. conversion speed	Maximum 2.5ms/channel	200 μs/channel	0	
Absolute maximum input	Voltage ±	15V, current ± 30mA	0	
Number of analog input points	8 channels/module	4 channels/module	×	Consider replacing by using two or more AJ65SBT2B- 64AD modules.
Insulation method	Photocoupler isolation between input terminal and programmable controller power supply (non-isolated between channels)	Between communication line and all analog inputs: Photocoupler isolation between power line and all analog inputs: Photocoupler isolation (non-isolated between channels)	0	
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)	1 station (1 station × 32 points) (RX/RY 32 points each, RWr/RWw 4 points each)	0	
Connected terminal	47-point terminal block	Communication part, module communication part: 7-point two-piece terminal block (M3 screw) I/O part: 18-point two-piece terminal block (M3 screw)	×	
Applicable wire size	0.75 to 2mm ² (applicable tightening torque 7kg • cm)	0.3 to 2.0mm ²	0	Change in wiring is required.
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	 RAV1.25-3 (conforming to JIS C 2805) [Applicable wire size: 0.3 to 1.25mm²] V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm²] 	0	
24VDC internal current consumption	0.3A	0.12A	0	
Weight	1.01kg	0.25kg	Δ	
	-	-	_	

 \bigcirc : Compatible, $\, \underline{\wedge} \, :$ Partial change required, $\, \times :$ Not compatible

Item	A68ADC	AJ65SBT2B-64AD	Compati- bility	Precautions for replacement
External dimensions	170(H) × 100(W) × 80(D) mm	50(H) × 122(W) × 54(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.

(b) Functional comparisons

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Item	A68ADC	AJ65SBT2B-64AD	Compati- bility	Precautions for replacement
Averaging processing A/D conversion system	A/D conversion is performed according to set times or set processing time on a channel, which is specified for the averaging processing to be performed on by the programmable controller CPU. After the conversion, the maximum and minimum values are removed, and the remaining total is averaged and the results are stored in the buffer memory.	Selects whether to perform the sampling processing or averaging processing (count average/time average/moving average) on each channel.	0	
Specification of channel to use	The A68ADC has the A/D conversion circuits of 8 channels. Execution/non-execution of the A/D conversion can be specified on each of those channels. With the programmable controller CPU, the channel to execute A/D conversion on is specified to address 0 (specification of channel to use) of the buffer memory.	Selects whether to enable or disable A/D conversion on each channel. By making unused channels A/D conversion prohibited, conversion cycle can be shortened.	0	
Input range setting function	-	Selects the analog input range to be used from the factory default ranges (4 to 20mA, 0 to 20mA, 1 to 5V, 0 to 5V, -10 to 10V) and the user range (user range setting) and changes the I/O conversion characteristics.	-	
Offset/gain setting	Changes the I/O conversion characteristics.	Corrects an error of a digital output value.	0	
Transmission speed auto-tracking function	-	Automatically sets the transmission speed according to the settings of the master module when the AJ65SBT2B-64AD is powered on.	_	



(c) Programmable controller CPU I/O signal comparisons

I/O signals are different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

	A68A	DC		AJ65SBT2B-64AD			
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
X(n+0) to X(n+3)	Use prohibited	Y(n+0) to Y(n+3)	Use prohibited	RXn0	CH1 A/D Conversion complete flag	RYn0	CH1 A/D conversion enable/disable setting
X(n+4)	Communication error detection flag indicating that execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal* ¹	RXn1	CH2 A/D Conversion complete flag	RYn1	CH2 A/D conversion enable/disable setting
X(n+5)	A68ADC reset switch ON detection flag	Y(n+5)	Reset signal of reset switch ON detection flag	RXn2	CH3 A/D Conversion complete flag	RYn2	CH3 A/D conversion enable/disable setting
				RXn3	CH4 A/D Conversion complete flag	RYn3	CH4 A/D conversion enable/disable setting
						RYn4	CH1 Input range setting (0th bit)
					Use prohibited	RYn5	CH1 Input range setting (1st bit)
X(n+6)	Use prohibited	Y(n+6)	Use prohibited			RYn6	CH1 Input range setting (2nd bit)
				RXn9		RYn7	CH2 Input range setting (0th bit)
						RYn8	CH2 Input range setting (1st bit)
				DV 4		RYn9	CH2 Input range setting (2nd bit)
				RXnA	Hardware error flag	RYnA	CH3 Input range setting (0th bit)
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset signal*1	RXnB	User range read error flag	RYnB	CH3 Input range setting (1st bit)

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	A68ADC			AJ65SBT2B-64AD				
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description	
X(n+8)				RXnC	Flash memory write error flag	RYnC	CH3 Input range setting (2nd bit)	
to X(n+17)	Use prohibited			RXnD	Number of offset/gain settings excess flag	RYnD	CH4 Input range setting (0th bit)	
X(n+18)	A/D conversion READY			RxnE	Use prohibited	RYnE	CH4 Input range setting (1st bit)	
	Y(n+8)		to Use prohibited	RXnF	Test mode flag	RYnF	CH4 Input range setting (2nd bit)	
		` ′		RX(n+1)0 to RX(n+1)7	Use prohibited	RY(n+1)0 to RY(n+1)7	Use prohibited	
X(n+19) to	Use prohibited	Y(n+1F)		RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data setting complete flag	
X(n+1F)	Ose prombited			RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag	
					RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag
			RX(n+1)B	Remote READY	RY(n+1)B			
				RX(n+1)C to RX(n+1)F	Use prohibited	to RY(n+1)F	Use prohibited	

^{*1} The signal contents differ when a version B A68ADC is combined with a version B A2CCPU.

(d) Buffer memory addresses comparisons

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

A68ADC			AJ65SBT2B-64AD		
Address	Name	Read/write	Address	Name	Read/write
0	Specification of channel to use	R/W	RWwm	CH1 Average processing setting	W
1	Averaging processing specification		RWwm+1	CH2 Average processing setting	
2	CH1 Averaging time, count		RWwm+2	CH3 Average processing setting	
3	CH2 Averaging time, count		RWwm+3	CH4 Average processing setting	
4	CH3 Averaging time, count		RWrn	CH1 Digital output value	R
5	CH4 Averaging time, count		RWrn+1	CH2 Digital output value	
6	CH5 Averaging time, count		RWrn+2	CH3 Digital output value	
7	CH6 Averaging time, count		RWrn+3	CH4 Digital output value	
8	CH7 Averaging time, count		m, n: The addressetting	ess assigned to the master station by a station	on number
9	CH8 Averaging time, count				
10	CH1 Digital output value	. R			
11	CH2 Digital output value				
12	CH3 Digital output value				
13	CH4 Digital output value				
14	CH5 Digital output value				
15	CH6 Digital output value				
16	CH7 Digital output value				
17	CH8 Digital output value				
18	Write data error code	R/W	1		
19	A/D conversion completed flag	R]		

(4) Comparisons between A68ADC and AJ65VBTCU-68ADVN/AJ65VBTCU-68ADIN

(a) Performance specifications comparisons

		O: Compatible, △: Partial ch	hange required, \times : Not compatible
Item	A68ADC	AJ65VBTCU-68ADVN AJ65VBTCU-68ADIN	Compati- Precautions for bility replacement
Analog input	Voltage: -10 to 0 to +10VDC (input resistance $30K \Omega$) Current: +4 to +20mA (input resistance 250Ω) Select via input terminal * Current input can also be used as -20 to 0 to +20mA.	Voltage: Current: $ -10 \text{ to } +10 \text{VDC} \qquad 0 \text{ to } +20 \text{mA} $ (input resistance $ 1 \text{M } \Omega \text{)} \qquad 250 \Omega \text{)} $	Voltage and current cannot be mixed, △ and negative current cannot be converted.
Digital output	16bits signed binary (data part 11bits) -2048 to 2047	16bits signed binary (-4096 to +4095) 16bits signed binary (-96 to +4095)	0
I/O characteristics	Analog input Digital output +10V +2000 +5V or +20mA +1000 0V or +4mA ± 0 -5V or-12mA -1000 -10V -2000	Analog input range Analog in	Precautions are needed as gain values are different.
Maximum resolution	Voltage 5mV (1/2000) Current 20 ^μ A (1/1000)	setting 2 (0 to 5V) (± 12 digits*) (± 8 digits*)	0
Overall accuracy	Within \pm 1% (\pm 20) (accuracy relative to maximum value)	P O To 20mA 0 t	0
Maximum conversion speed	Maximum 2.5ms/channel	*: Digit is the digital value. 1ms/channel	0
Absolute maximum input	Voltage ±	15V, current ± 30mA	0
Number of analog input points	8 ch	annels/module	0
Insulation method	Photocoupler isolation between input terminal and programmable controller power supply (non-isolated between channels)	Isolated Isolation Dielectric withstand voltage	0
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)	When set to Ver.1 remote device station (Ver.1 compatible local station): 3 stations (3 stations × 32 points) (RX/RY 32 points each, RWr/RWw 12 points each) When set to Ver.2 remote device station (Ver.2 compatible local station): 1 station (1 station × 32 points) (Expanded cyclic setting: 4X) (RX/RY 32 points each, RWr/RWw 16 points each)	When Ver.1 remote device station is set, the number of occupied points increases. The assignment of the entire system needs to be reconsidered.

Item	A68ADC	AJ65VBTCU-68	BADVN	AJ65VBTCU-68ADIN	Compati- bility	Precautions for replacement
Connected terminal	47-point terminal block		1			
Applicable wire size	0.75 to 2mm ² (applicable tightening torque 7kg • cm)	2mm ² g torque 7kg • cm) One-touch connector for communication One-touch (AWG#20) (AWG#20) [\$\phi\$ 2.2 to 3.0]				
		One-touch connector for power supply/FG	Shield wire 0.5mm²(AWG#20) 0.66 to 0.98mm²(AWG#18) [φ 2.2 to 3.0] Wire diameter 0.16mm or more		×	Change in wiring is
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	One-touch connector for analog I/O	¢	φ 1.0 to 1.4 (A6CON-P214), 1.4 to 2.0 (A6CON-P220) [Applicable wire size: 0.14 to 0.2mm²] 1 to 1.4 (A6CON-P514), φ 1.4 to 2.0 (A6CON-P520) [Applicable wire size: 0.3 to 0.5mm²]		required.
24VDC internal current consumption	0.3A		0.1A		0	
Weight	1.01kg		0.17kg		Δ	
External dimensions	170(H) × 100(W) × 80(D)mm	115(H) × 41(W) × 67(D)mm		×	The overall size differs. Pay attention to the mounting dimensions.	

Item	A68ADC	AJ65VBTCU-68ADVN/	Compati-	Precautions for
item	AGOADC	AJ65VBTCU-68ADIN	bility	replacement
	A/D conversion is performed according			
	to set times or set processing time on a			
	channel, which is specified for the	A/D conversion is performed according to set		
Averaging processing	averaging processing to be performed	times or set processing time on a channel, which		
Averaging processing	on by the programmable controller CPU.	is specified for the averaging processing to be	0	
A/D conversion system	After the conversion, the maximum and	performed on. After the conversion, the results are		
	minimum values are removed, and the	stored in the remote register.		
	remaining total is averaged and the			
	results are stored in the buffer memory.			
	The A68ADC has 8 channels of an A/D			
	conversion circuit.			
	Execution/non-execution of A/D			
	conversion can be specified on each of	Enable (execute)/disable (do not execute) A/D		
Specification of	those channels.	conversion is specified on each channel. By		
channel to use	With the programmable controller CPU,	making unused channels conversion prohibited,	0	
	the channel to execute A/D conversion	sampling period can be shortened.		
	on is specified to address 0			
	(specification of channel to use) of the			
	buffer memory.			
Offset/gain setting	Changes the I/O	conversion characteristics.	0	



I/O signal is different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

A68ADC			AJ65VBTCU-68ADVN/AJ65VBTCU-68ADIN				
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
X(n+0)	11	Y(n+0)	11	RXn0	CH1 A/D Conversion complete flag		
to X(n+3)	Use prohibited	to Y(n+3)	Use prohibited	RXn1	CH2 A/D Conversion completed flag		
	Communication error detection flag			RXn2	CH3 A/D Conversion completed flag		
X(n+4)	indicating that execution of the	Y(n+4)	Error detection reset	RXn3	CH4 A/D Conversion completed flag		
A(II+4)	FROM and TO instructions resulted in a communication error	Y (N+4)	signal ^{*1}	RXn4	CH5 A/D Conversion completed flag	EV. 0	
X(n+5)	A68ADC reset switch	V/~ (E)	Reset switch ON	RXn5	CH6 A/D Conversion completed flag	RYn0 to	Use prohibited
X(II+5)	ON detection flag	ag Y(n+5)	detection flag reset signal	RXn6	CH7 A/D Conversion completed flag	RY(n+1)7	
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RXn7	CH8 A/D Conversion completed flag		
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset	RXn8 to RXnB	Use prohibited		
X(n+8)				RXnC	E ² PROM write error flag		
to X(n+17)	Use prohibited			RXnD to RX(n+1)7	Use prohibited		
X(n+18)	A/D conversion READY	Y(n+8)	Lice prohibited	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data processing complete flag
	READY	Y(n+1F)	Use prohibited -	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag
X(n+19)				RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag
to X(n+1F)	Use prohibited			RX(n+1)B RX(n+1)C to RX(n+5)F	Remote READY Use prohibited	RY(n+1)B to RY(n+5)F	Use prohibited

^{*1:} The signal contents differ when a version B A68ADC is combined with a version B A2CCPU.

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A68ADC			AJ65VBTCU-68ADVN/AJ65VBTCU-68ADIN		
Address	Name	Read/write	Address	Name	Read/write	
0	Specification of channel to use		RWwm+0	A/D conversion enable/disable		
0	opechication of charmer to use		TXVWIII O	specification		
1	Averaging processing specification		RWwm+1	CH1 to 4 input range setting		
2	CH1 Averaging time, count		RWwm+2	CH5 to 8 input range setting		
3	CH2 Averaging time, count		RWwm+3	Averaging processing specification		
4	CH3 Averaging time, count	R/W	RWwm+4	CH1 Averaging time, count		
5	CH4 Averaging time, count		RWwm+5	CH2 Averaging time, count	W	
6	CH5 Averaging time, count		RWwm+6	CH3 Averaging time, count		
7	CH6 Averaging time, count		RWwm+7	CH4 Averaging time, count		
8	CH7 Averaging time, count		RWwm+8	CH5 Averaging time, count		
9	CH8 Averaging time, count		RWwm+9	CH6 Averaging time, count		
10	CH1 Digital output value		RWwm+A	CH7 Averaging time, count		
11	CH2 Digital output value		RWwm+B	CH8 Averaging time, count		
12	CH3 Digital output value		RWrn+0	CH1 Digital output value		
13	CH4 Digital output value	R	RWrn+1	CH2 Digital output value		
14	CH5 Digital output value		RWrn+2	CH3 Digital output value		
15	CH6 Digital output value		RWrn+3	CH4 Digital output value	1	
16	CH7 Digital output value		RWrn+4	CH5 Digital output value	R	
17	CH8 Digital output value		RWrn+5	CH6 Digital output value		
18	Write data error code	R/W	RWrn+6	CH7 Digital output value	1	
19	A/D conversion completed flag	R	RWrn+7	CH8 Digital output value		
		•	RWrn+8	Error code		
			RWrn+9			
			to	Use prohibited	_	
			RWrn+B			

6.2.2 Analog output module comparison

(1) Comparisons between A64DAVC and AJ65BT-64DAV

(a) Performance specifications comparisons

Compatible,	∴ : Partial change required,	x : Not compatible

	O: Compatible, △: Partial change required, ×: Not com					
Item	A64DAVC	AJ65BT-64DAV	Compati- bility	Precautions for replacement		
Digital input	(1) 16-bit signed binary value (2) Setting range: Set resolution Setting range 1/4000 -4000 to 4000 1/8000 -8000 to 8000 1/12000 -12000 to 12000	16bits signed binary (valid bits: 12 bits) -2048 to +2047	×	The setting range has been changed.		
Analog output	-10 to 0 to 10VDC (external load resistance: $2k \Omega$ to $1M \Omega$)	Voltage: -10 to +10VDC $(\text{external load resistance: } 2\text{k}\ \Omega \ \ \text{to } 1\text{M}\ \Omega\)$	0			
I/O characteristics	Digital value resolution	Digital input value	Δ	The digital input range is different.		
Maximum resolution of digital value	0.83mV (1/12000)	5mV (1/2000)	×	The maximum resolution is different.		
Overall accuracy (accuracy of maximum value)	± 1.	0% (± 100mV)	0			
Maximum conversion speed	Within 25ms/4 channels (1 channel is same period of time)	Max. 1ms/channel (4ms/4 channels)	0			
Number of analog output points	4 ch	annels/module	0			
Insulation method	Between the output terminal and programmable controller power supply: Photocoupler isolation (non-isolated between channels)	Between output channels: Non-isolated Between external power supply and analog output: Transformer insulation	0			
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)	2 stations (2 stations × 32 points) (RX/RY 32 points each, RWr/RWw 8 points each)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.		
Connected terminal	47-point terminal block	27-point terminal block	×			
Applicable wire size	V 11	e tightening torque 39 to 59N - cm)	0	Change in wiring is required.		
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV1.25-3.5 (comforting to JIS C 2805), RAV2-3.5	×	течиней.		
24VDC internal current consumption	0.12A	0.18A	Δ	The current consumption increases. The current capacity needs to be reconsidered.		
Weight	1.01kg	0.4kg	Δ			
External dimensions	170(H) × 100(W) × 80(D) mm	65(H) × 151.9(W) × 63(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.		

O: Compatible, △: Partial change required, ×: Not compatible

Item	A64DAVC	AJ65BT-64DAV	Compati- bility	Precautions for replacement
Analog output enable signal	With the analog output enable signals (Yn+18 to Yn+1B), it is possible to select the type of output values at each channel from D/A converted analog values and output offset values.	By turning the analog output enable signal ON or OFF with the sequence program, it is possible to select the type of output values at each channel from D/A converted analog values and output offset values. Note, however, that the D/A conversion time (conversion speed) is fixed regardless of the setting of the analog output enable signal.	0	
Analog output enable/disable setting	Stores the channel to disable analog output from (0V/0mA) in the buffer memory of the A64DAVC.	By writing "0" or "1" to the address of the remote register using the sequence program, it is possible to select on each channel whether to enable or disable outputs of analog values.	0	
HOLD/CLEAR setting	In preparation for the event that the programmable controller CPU enters a stop status or an error status, select HOLD or CLEAR (offset values or 0V/0mA) analog values that are stored before a stop or an error occurrence using the HOLD/CLEAR terminal.	In preparation for the event that the programmable controller CPU enters a stop status or the AJ65BT-64DAV stops D/A conversion due to an error, the HLD/CLR terminal can be used to select whether to hold or clear analog values (output offset values) that are being output from each channel right before those stops. The HLD/CLR terminal is provided on the front of the module and this selection can be made on all channels at once. (Including the case of the disconnections of link communication)	0	
Offset/gain setting	Changes the I/O conversion characteristics.	I/O conversion characteristics can be changed as desired when the detailed ones are required. To do this, short the test mode terminal to enter a test mode, and configure the offset/gain settings for each channel without a aid of a various register. Also, if detailed I/O conversion characteristics are not required, the default offset/gain values can be used by turning on the I/O signal RYn4 (offset/gain selection) to the master station.	0	



I/O signal is different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

A64DAVC				AJ65BT-64DAV					
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description		
						RYn0	CH1 Enable signal flag for analog output		
						RYn1	CH2 Enable signal flag for analog output		
X(n+0) to	Use prohibited	Y(n+0) to	Use prohibited	RXn0		RYn2	CH3 Enable signal flag for analog output		
X(n+3)		Y(n+3)		to RXnF		RYn3	CH4 Enable signal flag for analog output		
					Use prohibited	RYn4	Offset/gain value selection		
	Communication error detection flag indicating that							RYn5 to RYnF	
X(n+4)	execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal	RX(n+1)0 to RX(n+1)7	RY(n+1)0 to RY(n+1)7	Use prohibited			
X(n+5)	A64DAVC reset switch ON detection flag	Y(n+5)	Reset signal for reset switch ON detection flag	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data processing complete flag		
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag		
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset signal	RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag		
X(n+8) to X(n+17)	Use prohibited	Y(n+8) to Y(n+17)	Use prohibited	RX(n+1)B	Remote READY	RY(n+1)B			
		Y(n+18)	CH1 Analog output enable signal	RX(n+1)C		RY(n+1)C			
X(n+18)	D/A conversion	Y(n+19)	CH2 Analog output enable signal	RX(n+1)D	Use prohibited	RY(n+1)D	Use prohibited		
A(II+10)	READY	Y(n+1A)	CH3 Analog output enable signal	RX(n+1)E	Ose prombited	RY(n+1)E			
		Y(n+1B)	CH4 Analog output enable signal	RX(n+1)F		RY(n+1)F			
X(n+19) to X(n+1F)	Use prohibited	Y(n+1C) to Y(n+1F)	Use prohibited						

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64DAVC		AJ65BT-64DAV		
Address	Name	Read/write	Address	Name	Read/write
0	CH1 Digital value setting area		RWwm	CH1 Digital value setting area	
1	CH2 Digital value setting area		RWwm+1	CH2 Digital value setting area	1
2	CH3 Digital value setting area]	RWwm+2	CH3 Digital value setting area	l w
3	CH4 Digital value setting area]	RWwm+3	CH4 Digital value setting area] vv
4	CH1 Analog output disable/enable setting area		RWwm+4	Analog output enable/disable area	
5	CH2 Analog output disable/enable setting area	R/W RWwm+5 RWwm+6 Use prohibited RWwm+7		RWwm+5	
6	CH3 Analog output disable/enable setting area			Use prohibited	-
7	CH4 Analog output disable/enable setting area				
8	Resolution of digital value setting area		RWrn	CH1 Set value check code	
9	Error code storage area		RWrn+1	CH2 Set value check code	1
			RWrn+2	CH3 Set value check code	R
			RWrn+3	CH4 Set value check code	1
			RWrn+4	Error code	1
			RWrn+5		
			RWrn+6	Use prohibited	_
			RWrn+7		

(2) Comparisons between A64DAVC and AJ65SBT2B-64DA (voltage output)

(a) Performance specifications comparisons

Item	A64DAVC	○: Compatible, △: Partial of AJ65SBT2B-64DA	Compati-	Precautions for
- Item		A0033D12D-04DA	bility	replacement
Digital input	(1) 16-bit signed binary value (2) Setting range: Set resolution Setting range 1/4000 -4000 to 4000 1/8000 -8000 to 8000 1/12000 -12000 to 12000	Voltage: 16bits signed binary (-12288 to 12287, -16384 to 16383, -288 to 12287) Current: 16bits signed binary (-288 to 12287)	×	The setting range has been changed.
Analog output	Voltage: -10 to +10VDC (external load resistance: $2k\Omega$ to $1M\Omega$)	Voltage: -10 to +10VDC (external load resistance: $1k \Omega$ to $1M \Omega$) Current: 0 to $20mA$ (external load resistance: 0 to 600Ω)	0	
I/O characteristics	Digital value resolution	Digital input value Analog output range Analog input value Ambient temperature 25 ± 5 °C Ambient 45 ± 20 °C	Δ	The digital input range is different.
Maximum resolution of digital value	0.83mV (1/12000)		×	The maximum resolution is different.
Overall accuracy (accuracy of maximum value)	± 1.0% (± 100mV)		0	
Max. conversion speed	Within 25ms/4 channels (1 channel is same period of time)	200 μs/channel	0	
Output protection function	-	Available	0	
Number of analog output points	4 cl	nannels/module	0	
Insulation method	Between the output terminal and programmable controller power supply: Photocoupler isolation (non-isolated between channels)	Between communication line and all analog outputs: Photocoupler isolation between power supply line and all analog outputs: Transformer isolation between channels: Non-isolated	0	
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)	1 station (1 station × 32 points) (RX/RY 32 points each, RWr/RWw 4 points each)	0	
Connected terminal	47-point terminal block	Communication part, module communication part: 7-point two-piece terminal block (M3 screw) I/O part: 18-point two-piece terminal block (M3 screw)	×	
Applicable wire size	0.75 to 2mm ² (Applicable tightening torque 39 to 59N • cm)	0.3 to 2mm ²	0	Change in wiring is required.
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV1.25-3 (conforming to JIS C 2805) [Applicable wire size: 0.3 to 1.25mm ²] V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm ²]	0	

Item	A64DAVC	AJ65SBT2B-64DA	Compati- bility	Precautions for replacement
External power supply	24VDC (20.4 to 28.8VDC) Current consumption: 0.12A	24VDC (20.4 to 28.8VDC) Current consumption: 0.24A (at 24VDC) Inrush current: 2.6A 3.2ms or less	Δ	The current consumption increases. The current capacity needs to be reconsidered.
Weight	1.01kg	0.25kg	Δ	
External dimensions	170(H) × 100(W) × 80(D) mm	50(H) × 122(W) × 54(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Item	A64DAVC	AJ65SBT2B-64DA	Compati- bility	Precautions for replacement
Analog output enable/disable setting	Selects whether to output D/A conversion values or offset values on each channel. Note, however, that the conversion speed is fixed regardless of the output enable/disable setting.	Selects whether to output D/A conversion values or offset values on each channel. Note, however, that the conversion speed is fixed regardless of the output enable/disable setting.	0	
Analog conversion enable/disable function	-	Selects whether to enable or disable D/A conversion on each channel. By making unused channels D/A conversion prohibited, conversion speed can be increased.	-	
Output range switching function	-	Sets the analog output range on each channel and changes the I/O conversion characteristics.	-	
HOLD/CLEAR setting	As the analog output status of the programmable controller CPU that is in RUN, at STOP, or in an error status, switching the type of output values as desired between D/A conversion values, offset values and 0V/0mA is possible.	In preparation for the event that the programmable controller CPU enters a stop status or the AJ65SBT2B-64DA stops D/A conversion due to an error, this settings can be configured to select whether to hold or clear analog values (output offset values) that are being output from each channel right before those stops.	0	
Offset/gain setting	Changes the I/O conversion characteristics.	Changes the I/O conversion characteristics as desired. For that, offset/gain settings can be configured for each channel without an aid of a various register.	0	
Transmission speed auto-tracking function	-	Automatically sets the transmission speed according to the settings of the master module when the AJ65SBT2B-64DA is powered on.	-	

I/O signals are different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

A64DAVC					AJ65SB	T2B-64DA			
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description		
X(n+0) to X(n+3)	Use prohibited	Y(n+0) to Y(n+3)	Use prohibited			RYn0	CH1 Analog output enable/disable flag		
	Communication error detection flag					RYn1	CH2 Analog output enable/disable flag		
X(n+4)	indicating that execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal		RXn0		DV-0	RYn2	CH3 Analog output enable/disable flag
X(n+5)	A64DAVC reset switch ON	Y(n+5)	Reset signal of reset switch ON		Use prohibited	RYn3	CH4 Analog output enable/disable flag		
	detection flag		detection flag			RYn4	(0th bit)		
X(n+6)	Use prohibited	Y(n+6)	Use prohibited			RYn5	(1st bit)		
X(n+7)	Communication completion	Y(n+7)	Communication			RYn6	CH1 Range setting (2nd bit)		
	response signal wait flag		reset signal				RYn7	(0th bit)	
							RYn8	(1st bit)	
					RYn9	(2nd bit)			
				RXnA	Flash memory read error flag	RYnA	enable/disable flag CH1 Range setting (0th bit) CH1 Range setting (1st bit) CH1 Range setting (2nd bit) CH2 Range setting (0th bit) CH2 Range setting (1st bit) CH2 Range setting (2nd bit) CH3 Range setting (2nd bit) CH3 Range setting (0th bit) CH3 Range setting (1st bit) CH3 Range setting (1st bit) CH4 Range setting (2nd bit) CH4 Range setting (1st bit) CH4 Range setting (2nd bit) CH4 Range setting (2nd bit) CH1 HOLD/CLEAR setting		
				RXnB	User range read error flag	RYnB	(1st bit)		
					RXnC	Flash memory write error flag	RYnC		
						RXnD,	Use prohibited	RYnD	(0th bit)
				RXnE		RYnE			
				RXnF	Test mode flag	RYnF	(2nd bit)		
X(n+8) to	Use prohibited	Y(n+8) to	Use prohibited			RY(n+1)0	setting		
X(n+17)	'	Y(n+17)				RY(n+1)1	CH2 HOLD/CLEAR setting		
						RY(n+1)2	CH3 HOLD/CLEAR setting		
						RY(n+1)3	CH4 HOLD/CLEAR setting		
				RX(n+1)0 to	Use prohibited	RY(n+1)4	CH1 Conversion enable/disable setting		
				RX(n+1)7		RY(n+1)5	(0th bit) CH1 Range setting (1st bit) CH1 Range setting (2nd bit) CH2 Range setting (0th bit) CH2 Range setting (1st bit) CH2 Range setting (2nd bit) CH3 Range setting (2nd bit) CH3 Range setting (1st bit) CH3 Range setting (1st bit) CH3 Range setting (1st bit) CH4 Range setting (2nd bit) CH4 Range setting (2nd bit) CH4 Range setting (1st bit) CH4 Range setting (2nd bit) CH4 Range setting (2nd bit) CH4 HOLD/CLEAR setting CH3 HOLD/CLEAR setting CH4 HOLD/CLEAR setting CH4 Conversion enable/disable		
						RY(n+1)6	CH3 Conversion enable/disable		
						RY(n+1)7	CH4 Conversion enable/disable		

	A64DAVC				AJ65SB	T2B-64DA	
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
X(n+18)	D/A conversion READY	Y(n+18)	CH1 Analog output enable signal	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data setting complete flag
		Y(n+19)	CH2 Analog output enable signal	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag
X(n+19) to Use X(n+1F)	Use prohibited	Y(n+1A)	CH3 Analog output enable signal	RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag
	Y(n+1B)	CH4 Analog output enable signal	RX(n+1)B	Remote READY	RY(n+1)B	Use prohibited	
		Y(n+1C) to Y(n+1F)	Use prohibited	RX(n+1)C to RX(n+1)F	Use prohibited	RY(n+1)F	osc prombited

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64DAVC			AJ65SBT2B-64DA			
Address	Name	Read/write	Address	Name	Read/write		
0	CH1 Digital value setting area		RWwm	CH1 Digital input value setting			
1	CH2 Digital value setting area]	RWwm+1	CH2 Digital input value setting	l w		
2	CH3 Digital value setting area]	RWwm+2	CH3 Digital input value setting	7 "		
3	CH4 Digital value setting area		RWwm+3	CH4 Digital input value setting			
4	CH1 Analog output disable/enable setting area		RWrn	CH1/CH2 Check code			
5	CH2 Analog output disable/enable setting area	R/W	RWrn+1	CH3/CH4 Check code	R		
6	CH3 Analog output disable/enable setting area		RWrn+2	Error code			
7	CH4 Analog output disable/enable setting area		RWrn+3	Use prohibited			
8	Resolution of digital value setting area		m, n: The addre setting	ess assigned to the master station by a stati	on number		
9	Error code storage area						



(3) Comparisons between A64DAVC and AJ65SBT-62DA

(a) Performance specifications comparisons

	Í					0:0	ompatible,	∆ : Partiai		red, x: Not compatible
Item	A64I	DAVC			A	AJ65SBT-62	2DA		Compati- bility	Precautions for replacement
Digital input	(1) 16-bit signed bin (2) Setting range: Set resolution 1/4000 1/8000 1/12000	Setting range -4000 to 4000 -8000 to 8000 -12000 to 12000			(-	e: 16bits sig -4096 to +4 t: 16bits sig (0 to 4095	095) ned binary		×	The setting range has been changed.
Analog output	(external loa	to 10VDC ad resistance: o 1M Ω)		Voltage: -10 to +10VDC (external load resistance: $2k \Omega$ to $1M \Omega$) Current: 0 to $20mA$ (external load resistance: 0 to 600Ω)					0	
I/O characteristics	Digital value re 1/4000 1/8000 4000 8000 2000 4000 1000	1/12000 output value* 12000 +10V 6000 +5V 0 0V -6000 -5V -12000 -10V alue is set to 0V and	Voltage	Digital input value	Analog output -10 to +10V User range setting 1 (-10 to +10V) 0 to 5V 1 to 5V	Acct Ambient temperature 0 to 55 °C ±0.4% (±40mV)	Ambient temperature 25±5°C ±0.2% (±20mV)	Maximum resolution 2.5mV	Δ	The digital input range is different.
Maximum resolution of digital value	0.83mV((1/12000)		0 to 4000	User range setting 2 (0 to	±0.4% (±20mV)	±0.2% (±10mV)	1.0mV	×	The maximum resolution is different.
Overall accuracy (accuracy of maximum value)	± 1.0% (± 100mV)	Current	0 to 4000	5V) 0 to 20mA 4 to 20mA User range setting 3 (0 to 20mA) et: -10 to	±0.4% (±80 μ A)	±0.2% (±40 μ A)	5 μ A 4 μ A	0	
Maximum conversion speed		s/4 channels me period of time)		,		1ms/chanr	nel		0	
Absolute maximum output				,	/oltage:	± 12V, curr	ent: +21mA	\	0	
Number of analog output points	4 channe	els/module	2 channels/module				×	Please consider replacing by using two or more AJ65SBT-62DA modules.		
Insulation method	programmable cont	tput terminal and troller power supply: ler isolation etween channels)	be	Between communication line and all analog outputs: Photocoupler isolation between power supply line and all analog outputs: Photocoupler isolation (non-isolated between channels)				0		
Number of occupied I/O stations (number of points)	4 stations (4 sta	ations × 8 points)	(R			ı (1 station : each, RWr			0	

Item	A64DAVC	AJ65SBT-62DA	Compati- bility	Precautions for replacement
Connected terminal	47-point terminal block	Communication part, module communication part: 7-point two-piece terminal block (M3 screw) I/O part: 18-point direct-mount terminal block (M3 screw)	×	
Applicable wire size	0.75 to 2mm² (Applicable tightening torque 39 to 59 N ⋅ cm)	0.75 to 2mm ²	0	Change in wiring is required.
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV1.25-3 (conforming to JIS C 2805) [Applicable wire size: 0.3 to 1.25mm²] V2-MS3, RAV2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm²]	0	
24VDC internal current consumption	0.12 A	0.16A	Δ	The current consumption increases. The current capacity needs to be reconsidered.
Weight	1.01kg	0.20kg	Δ	
External dimensions	170(H) × 100(W) × 80(D)mm	50(H) × 118(W) × 40(D)mm	×	The overall size differs. Pay attention to the mounting dimensions.



○: Compatible, △: Partial change required, ×: Not compatible

Item	A64DAVC): Compatible, ∆ : Partial (B T-62DA	Compati-	
D/A output enable/disable function	Selects on each channel whether to output D/A conversion values or offset values. Note, however, that the conversion speed is fixed regardless of the output enable/disable setting.	Selects on each channel conversion values or offs	whether to output D/A set values. conversion speed is fixed	bility	replacement
D/A conversion enable/disable function	-	Selects whether to enabl conversion on each char By making unused chan prohibited, sampling peri	nnel. nels D/A conversion od can be shortened.	-	
Output range switching function	-	Sets the analog output rachanges the I/O convers The following eight input Output range -10 to +10V 0 to 5V 1 to 5V 0 to 20mA 4 to 20mA User range setting 1 (-10 to +10V) User range setting 2 (0 to 5V) User range setting 3 (0 to 20mA)		-	
HOLD/CLEAR setting	As the analog output status of the programmable controller CPU that is in RUN, at STOP, or in an error status, switching the type of output values as desired between D/A conversion values, offset values and 0V/0mA is possible.	In preparation for the event that the programmable controller CPU enters a stop status or the AJ65SBT-62DA stops D/A conversion due to an error, this settings can be configured to select whether to hold or clear analog values (output offset values) that are being output from each channel right before those stops.		0	
Offset/gain value selection	Changes the I/O conversion characteristics.	Changes the I/O convers desired. For that, offset/c configured for each chan various register.	gain settings can be	0	

I/O signal is different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

A64DAVC				AJ65SB	T-62DA		
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
V(- : 0))// : O)		RXn0 to RXnB	Use prohibited	RYn0	CH1 Analog output enable/disable flag
X(n+0) to X(n+3)	Use prohibited	Y(n+0) to Y(n+3)	Use prohibited	RXnC	E ² PROM write error flag	RYn1	CH2 Analog output enable/disable flag
λ(1113)		1(1113)		RXnD RxnE	Use prohibited		
				RXnF	Test mode flag		
X(n+4)	Communication error detection flag indicating that execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal	RX(n+1)0 to RX(n+1)7	Use prohibited	RYn2 to RY(n+1)7	Use prohibited
X(n+5)	A64DAVC reset switch ON detection flag	Y(n+5)	Reset signal for reset switch ON detection flag	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data processing complete flag
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset signal	RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag
X(n+8) to X(n+17)	Use prohibited	Y(n+8) to Y(n+17)	Use prohibited	RX(n+1)B	Remote READY		
		Y(n+18)	CH1 Analog output enable signal				
V(=140)	D/A conversion	Y(n+19)	CH2 Analog output enable signal			RY(n+1)B	l loo weakihitad
X(n+18)	READY	Y(n+1A)	CH3 Analog output enable signal	RX(n+1)C to	Use prohibited	to RY(n+1)F	Use prohibited
		Y(n+1B)	CH4 Analog output enable signal	RX(n+1)F	3		
X(n+19) to X(n+1F)	Use prohibited	Y(n+1C) to Y(n+1F)	Use prohibited				

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64DAVC		AJ65SBT-62DA			
Address	Name	Read/write	Address	Name	Read/write	
0	CH1 Digital value setting area		RWwm	CH1 Digital value setting		
1	CH2 Digital value setting area		RWwm+1	CH2 Digital value setting	w	
2	CH3 Digital value setting area		RWwm+2	Analog output enable/disable setting		
3	CH4 Digital value setting area		RWwm+3	Output range HOLD/CLEAR setting		
4	CH1 Analog output disable/enable		DW/rp	CH1 Check code		
4	setting area	RWrn		CHT Check code		
5	CH2 Analog output disable/enable	R/W	RWrn+1	CH2 Check code	- R	
5	setting area	F/VV		CH2 Check code		
6	CH3 Analog output disable/enable		RWrn+2	Error code		
O	setting area		KVVIII+2	Elloi code		
7	CH4 Analog output disable/enable		D\\/m + 2	Llaa mrahihitad		
1	setting area		RWrn+3	Use prohibited		
8	Resolution of digital value setting area					
9	Error code storage area					

(4) Comparisons between A64DAVC and AJ65VBTCU-68DAVN

(a) Performance specifications comparisons

		hange required, × : Not compatible	
Item	A64DAVC	AJ65VBTCU-68DAVN	Compati- Precautions for bility replacement
Digital input	(1) 16-bit signed binary value (2) Setting range: Set resolution Setting range 1/4000 -4000 to 4000 1/8000 -8000 to 8000 1/12000 -12000 to 12000	16bits signed binary (-4096 to +4095)	The setting range × has been changed.
Analog output	-10 to 0 to 10VDC (external load resistance: $2k \Omega$ to 1M Ω)	-10 to +10V DC (external load resistance: $2k\Omega\ \ \text{to 1M}\Omega\)$	0
I/O characteristics	Digital value resolution Analog output value*	Digital input value Analog output range Ambient temperature Ambient temperature 25±5°c -4000 to	The digital input △ range is different.
Maximum resolution of digital value	0.83mV(1/12000)	4000 User range setting 2 (±15mV) (±10mV) 1.0mV (0 to 5V)	The maximum x resolution is different.
Overall accuracy (accuracy relative to maximum value)	± 1.0% (± 100mV)		0
Maximum conversion speed	Within 25ms/4 channels (1 channel is same period of time)	1ms/channel	0
Absolute maximum output	-	± 12V	0
Analog output points	4 channels/module	8 channels/module	The number of channels has increased.
Insulation method	Between the output terminal and programmable controller power supply: Photocoupler isolation (non-isolated between channels)	Isolated Isolation method Dielectric withstand voltage Isolation resistance	0
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)	When set to Ver.1 remote device station (Ver.1 compatible local station): 3 stations (3 stations × 32 points) (RX/RY 32 points each, RWr/RWw 12 points each) When set to Ver.2 remote device station (Ver.2 compatible local station): 1 station (1 station × 32 points) (Expanded cyclic setting: 4X) (RX/RY 32 points each, RWr/RWw 16 points each)	When Ver.1 remote device station is set, the number of occupied points increases. The assignment of the entire system needs to be reconsidered.

Item	A64DAVC	AJ	65VBTCU-68DAVN	Compati- bility	Precautions for replacement
Connected terminal	47-point terminal block				
Applicable wire size	0.75 to 2mm ² (Applicable tightening torque	One-touch connector for communication	Communication line: Ver.1.10-compatible CC-Link dedicated cable 0.5mm ² (AWG 20)[ϕ 2.2 to 3.0], shield wire 0.5mm ² (AWG 20)		
	39 to 59 N - cm)	One-touch connector for power supply/FG	0.66 to 0.98mm ² (AWG 18)[\$\phi\$2.2 to 3.0] wire diameter 0.16mm or more		Change in wiring is
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	One-touch connector for analog I/O	 φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220) [Applicable wire size: 0.14 to 0.2mm²] φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220) [Applicable wire size: 0.14 to 0.2mm²] 	×	required.
24VDC internal current consumption	0.12A	0.15A		Δ	The current consumption increases. The current capacity needs to be reconsidered.
Weight	1.01kg		0.16kg	Δ	
External dimensions	170(H) × 100(W) × 80(D) mm	115(H) × 41(W) × 67(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.

Item	A64DAVC		CU-68DAVN	Compati- bility	Precautions for replacement
D/A output enable/disable function	Selects on each channel whether to output D/A conversion values or offset values. Note, however, that the conversion speed is fixed regardless of the output enable/disable setting.	Selects on each channel conversion values or offs Note, however, that the or regardless of the output of	set values. conversion speed is fixed	0	
D/A conversion enable/disable function	-	Selects whether to enabl conversion on each char By making unused chan prohibited, sampling peri	_		
Output range switching function	_	Sets the analog output range on each channel and changes the I/O conversion characteristics. The following five output ranges can be selected: Output range Set value -10 to +10V 0 _H 0 to 5V 1 _H 1 to 5V 2 _H User range setting 1 (-10 to +10V) User range setting 2 (0 to 5V) User of the setting 2 (10 to 5V)		-	
HOLD/CLEAR setting	As the analog output status of the programmable controller CPU that is in RUN, at STOP, or in an error status, switching the type of output values as desired between D/A conversion values, offset values and 0V/0mA is possible. D/A conversion value outputs, offset value outputs and 0V/0mA outputs can be revised arbitrarily.	In preparation for the event that the programmable controller CPU enters a stop status or the AJ65VBTCU-68DAVN stops D/A conversion due to an error, this settings can be configured to select whether to hold or clear analog values (output offset values) that are being output from each channel right before those stops.		0	
Offset/gain value selection	Changes the I/O conversion characteristics.	Changes the I/O convers desired. For that, offset/g configured for each chan various register.	gain settings can be	0	



I/O signal is different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

	A64I	DAVC		AJ65VBTCU-68DAVN				
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description	
X(n+0)	Use prohibited	Y(n+0) to	Use prohibited	RXn0		RYn0	CH1 Analog output enable/disable flag	
X(n+3)	ose prombited	Y(n+3)	Ose prombited	to RXnB	Use prohibited	RYn1	CH2 Analog output enable/disable flag	
	Communication error detection flag			TOTIO		RYn2	CH3 Analog output enable/disable flag	
X(n+4)	indicating that execution of the	Y(n+4)	Error detection reset	RXnC	E ² PROM write error flag	RYn3	CH4 Analog output enable/disable flag	
	FROM and TO instructions resulted in a communication error		signal			RYn4	CH5 Analog output enable/disable flag	
	A64DAVC reset		Reset switch ON detection flag	RXnD	Use prohibited	RYn5	CH6 Analog output enable/disable flag	
	switch ON detection flag	Y(n+5)		to RX(n+1)7		RYn6	CH7 Analog output enable/disable flag	
						RYn7	CH8 Analog output enable/disable flag	
X(n+6)	Use prohibited	Y(n+6)	Use prohibited			RYn8		
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset signal			to RY(n+1)7	Use prohibited	
X(n+8) to X(n+17)	Use prohibited	Y(n+8) to Y(n+17)	Use prohibited	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data processing complete flag	
		Y(n+18)	CH1 Analog output enable signal	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag	
X(n+18)	A/D conversion	Y(n+19)	CH2 Analog output enable signal	RX(n+1)A	Error status flag	RY(n+1)A	Error reset	
X(II+10)	READY	Y(n+1A)	CH3 Analog output enable signal	RX(n+1)B	Remote READY			
		Y(n+1B)	CH4 Analog output enable signal	RX(n+1)C	(n+1)C	RY(n+1)B to	Use prohibited	
X(n+19) to X(n+1F)	Use prohibited	Y(n+1C) to Y(n+1F)	Use prohibited	to RX(n+5)F	Use prohibited	RY(n+5)F		

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64DAVC			AJ65VBTCU-68DAVN		
Address	Name	Read/write	Address	Name	Read/write	
0	CH1 Digital value setting area		RWwm+0	CH1 Digital value setting		
1	CH2 Digital value setting area		RWwm+1	CH2 Digital value setting		
2	CH3 Digital value setting area		RWwm+2	CH3 Digital value setting		
3	CH4 Digital value setting area		RWwm+3	CH4 Digital value setting		
4	CH1 Analog output disable/enable setting area		RWwm+4	CH5 Digital value setting		
5	CH2 Analog output disable/enable setting area	R/W	RWwm+5	CH6 Digital value setting]	
6	CH3 Analog output disable/enable setting area		RWwm+6	CH7 Digital value setting	W	
7	CH4 Analog output disable/enable setting area		RWwm+7	CH8 Digital value setting		
8	Resolution of digital value setting area	1	RWwm+8	Analog output enable/disable setting		
9	Error code storage area		RWwm+9	CH1 to CH4 Output range setting		
			RWwm+A	CH5 to CH8 Output range setting		
			RWwm+B	HOLD/CLEAR setting		
			RWrn+0	CH1 Check code		
			RWrn+1	CH2 Check code		
			RWrn+2	CH3 Check code		
			RWrn+3	CH4 Check code		
			RWrn+4	CH5 Check code	R	
			RWrn+5	CH6 Check code		
			RWrn+6	CH7 Check code		
			RWrn+7	CH8 Check code		
			RWrn+8	Error code		
			RWrn+9			
			to	Use prohibited	_	

RWrn+B



(5) Comparisons between A64DAIC and AJ65BT-64DAI

(a) Performance specifications comparisons

): Compatible, ∆: Partial (
Item	A64	DAIC	AJ65BT	-64DAI	Compati- bility	Precautions for replacement
	(1) 16-bit signed bin	ary value				
	(2) Setting range:					
	Set resolution Setting range		16bits sign			The setting range
Digital input	1/4000 0 to 4000		(valid bits	•	×	has been changed.
	1/8000	0 to 8000	0 to 4	1095		3
	1/12000 0 to 12000					
	0 to	20mA	Current: +4	4 to 20mA		
Analog output	(external load residual)	stance: 0 to 600 Ω)	(external load resis	tance: 0 to 600 Ω)	0	
	Digital value r	application Applica	Digital input value			
		output	Digital input value 4000	Analog conversion value +20mA		
	1/4000 1/800) 1/12000 value*	2000	+12mA		
	4000 8000	12000 +20mA	0	+4mA		
1/0 -1	nt va	0000 110 1				The digital input
I/O characteristics	2000 4000	6000 +12mA			Δ	range is different.
	Digital input value 2000 4000 0 0 0	0 +4mA				
	* When the offset va and the gain value					
	and the gain value	13 Jet to ZulliA				The maximum
Maximum resolution of	13 // A	1/2000)	4 μA(1	/4000)	×	resolution is
digital value	1.0 μ/ (1/2000)	μή	, 1000)	^	different.
Overall accuracy						difform.
(accuracy relative to		+ 1	$.0\%(\pm 200~\mu\text{A})$		0	
maximum value)		<u> </u>	.0 70(= 200 µ/1)			
Maximum conversion	Within 25m	s/4 channels	Max. 1ms	c/channel		
speed		ne period of time)	(4ms/4 cl		0	
Analog output	(1 Grannor io dai		nannels/module	Turniolo)	0	
3 р	Between the ou	put terminal and				
		roller power supply:	Between output cha	nnels: Non-isolated		
Insulation method		ler isolation	(Between external pov	ver supply and analog	0	
		tween channels)	output: Transfo	rmer isolation)		
	(
					occupied points	
Number of occupied						increases. The
I/O stations	4 stations (4 sta	tions × 8 points)	2 stations (2 stati	×	assignment of the	
(number of points)	4 314110113 (4 316	tions x o points)	(RX/RY 32 points each, F	^	entire system	
(number of points)						needs to be
					reconsidered.	
Connected terminal	47-point te	minal block	27-point ter	minal block	×	
Applicable wire size			e tightening torque 39 to 59h		0	Change in wiring is
Amelianta III	14.05.0.14	4.05.7604	RAV1.	25-3.5		required.
Applicable solderless		1.25-YS3A,	(conforming to	JIS C 2805),	×	required.
terminal	V2-S3, Y	/2-YS3A	RAV2	**		
						The current
						consumption
24VDC internal current	1	5.4	0.0	7.0		increases. The
consumption	0.7	5A	0.2	/A	Δ	current capacity
						needs to be
						reconsidered.
Weight	1.0	1kg	0.4	kg	Δ	
						The overall size
						differs.
External dimensions	170(H) × 100(N) × 80(D) mm	65(H) × 151.9(V	V) × 63(D) mm	×	Pay attention to the
		, , ,	, , , , , , , , , , , , , , , , , , , ,	, , , ,	_ ^	mounting
					dimensions.	
	1		1		1	

Item	A64DAIC	AJ65BT-64DAI	Compati- bility	Precautions for replacement
Analog output enable signal	With the analog output enable signals (Yn+18 to Yn+1B), it is possible to select the type of output values at each channel from D/A converted analog values and output offset values.	By turning the analog output enable signal ON or OFF with the sequence program, it is possible to select the type of output values at each channel from D/A converted analog values and output offset values. Note, however, that the D/A conversion time (conversion speed) is fixed regardless of the setting of the analog output enable signal.	0	
Analog output enable/disable setting	Stores the channel to disable analog output from (0V/0mA) in the buffer memory of the A64DAIC.	By writing "0" or "1" to the address of the remote register using the sequence program, it is possible to select on each channel whether to enable or disable outputs of analog values.	0	
HOLD/CLEAR setting	In preparation for the event that the programmable controller CPU enters a stop status or an error status, the HOLD/CLEAR terminal can be used to select HOLD or CLEAR (offset values or 0V/0mA) analog values that are stored before a stop or an error occurrence.	In preparation for the event that the programmable controller CPU enters a stop status or the AJ65BT-64DAI stops D/A conversion due to an error, the HLD/CLR terminal can be used to select whether to hold or clear analog values (output offset values) that are being output from each channel right before those stops. The HLD/CLR terminal is provided on the front of the module and this selection can be made on all channels at once. (Including the case of the disconnections of link communication)	0	
Offset/gain setting	Changes the I/O conversion characteristics.	I/O conversion characteristics can be changed as desired when the detailed ones are required. To do this, short the test mode terminal to enter a test mode, and configure the offset/gain settings for each channel without a aid of a various register. Also, if detailed I/O conversion characteristics are not required, the default offset/gain values can be used by turning on the I/O signal RYn4 (offset/gain selection) to the master station.	0	



I/O signal is different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

	A64I	DAIC		AJ65BT-64DAI				
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description	
X(n+0) to	Use prohibited	Y(n+0)	Use prohibited			RYn0	CH1 Analog output enable flag	
X(n+3)	Ose pronibiled	Y(n+3)	Ose pronibiled			RYn1	CH2 Analog output enable flag	
	Communication error			RXn0		RYn2	CH3 Analog output enable flag	
	detection flag indicating that execution of the FROM and TO instructions resulted		Error detection reset signal	to RXnF	Use prohibited	RYn3	CH4 Analog output enable flag	
X(n+4)		Y(n+4)			ose prombned	RYn4	Offset/gain value selection	
	in a communication					RYn5	- Use prohibited	
	error					to		
						RYnF		
	A64DAIC reset		Reset switch ON	RX(n+1)0		RY(n+1)0		
X(n+5)	switch ON detection	Y(n+5)	detection flag reset	to		to		
	flag		signal	RX(n+1)7		RY(n+1)7		
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data processing complete flag	
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset signal	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag	
X(n+8)		Y(n+8)					Error reset request	
to	Use prohibited	to	Use prohibited	RX(n+1)A	Error status flag	RY(n+1)A	flag	
X(n+17)		Y(n+17)					liag	
X(n+18)	D/A conversion READY	Y(n+18)	CH1 Analog output enable signal	RX(n+1)B	Remote READY	RY(n+1)B		
		Y(n+19)	CH2 Analog output enable signal	RX(n+1)C		RY(n+1)C		
X(n+19)		Y(n+1A)	CH3 Analog output enable signal	RX(n+1)D		RY(n+1)D	Use prohibited	
to X(n+1F)	Use prohibited	Y(n+1B)	CH4 Analog output enable signal	RX(n+1)E	Use prohibited	RY(n+1)E		
		Y(n+1C) to Y(n+1F)	Use prohibited	RX(n+1)F		RY(n+1)F		

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64DAIC		AJ65BT-64DAI				
Address	Name	Read/write	Address	Name	Read/write		
0	CH1 Digital value setting area		RWwm	CH1 Digital value setting area			
1	CH2 Digital value setting area		RWwm+1	CH2 Digital value setting area			
2	CH3 Digital value setting area		RWwm+2	CH3 Digital value setting area	W		
3	CH4 Digital value setting area		RWwm+3	CH4 Digital value setting area			
4	CH1 Analog output disable setting area	R/W	RWwm+4	Analog output enable/disable area			
5	CH2 Analog output disable setting area	FC/VV	RWwm+5				
6	CH3 Analog output disable setting area		RWwm+6	Use prohibited	_		
7	CH4 Analog output disable setting area		RWwm+7				
8	Resolution of digital value setting area		RWrn	CH1 Set value check code			
9	Error code storage area		RWrn+1	CH2 Set value check code			
			RWrn+2	CH3 Set value check code	R		
			RWrn+3	CH4 Set value check code			
			RWrn+4	Error code			
			RWrn+5				
			RWrn+6	Use prohibited	_		
			RWrn+7				



(6) Comparisons between A64DAIC and AJ65SBT2B-64DA (current output)

(a) Performance specifications comparisons

Item	A64I	DAIC			А	J65SBT2B-6			Compati-	Precautions for replacement
Digital input	(1) 16-bit signed bina (2) Setting range: Set resolution 1/4000 1/8000 1/12000	Setting range 0 to 4000 0 to 8000 0 to 12000		Voltage: 16bits signed binary (-12288 to 12287, -16384 to 16383,				×	The setting range has been changed.	
Analog output	0 to 20mA (external load resistance: 0 to 600 Ω)			·	external loa	age: -10 to +7 d resistance: durrent: 0 to 20 pad resistance	1kΩ to 1MΩ 0mA		0	
I/O characteristics	Digital value reso 1/4000 1/8000 9 4000 8000 15 2000 4000	1/1200 utput value* 12000 +20mA 6000 +12mA		Digital input value -16000 to 16000	Analog output range -10 to 10V 0 to 5V	Ambient temperature 0 to 55 °C ± 0.3% (± 30mV)	tuture temperature resolution 25 ± 5 ℃ 4 ± 0.2% MV) (± 20mV) 0.625mV	Δ	The digital input range is different.	
Maximum	* When the offset val		Voltage	0 to 12000 -12000 to 12000	1 to 5V User range setting 2 (-10 to 10V)	± 0.3% (± 15mV) ± 0.3% (± 30mV)	± 0.2% (± 10mV) ± 0.2% (± 20mV)	0.333mV 0.333mV		The maximum
resolution of digital value	1.3 µ A ([1/12000)			0 to 20mA 4 to			1.66 μ A 1.33 μ A	×	resolution is different.
Overall accuracy (accuracy relative to maximum value)	± 1.0% (=	± 200 ^µ A)	Current		20mA User range setting 1 (0 to 20mA) et: -10 to +	± 0.3% (± 60 μ A)	\pm 0.2% (\pm 40 μ A)	0.95 μ A	0	
Max. conversion speed		s/4 channels ne period of time)		200 ^μ s/channel			0			
Output protection function		-				Available			0	
Number of analog output points		4	1 cha	annels/mo	odule				0	
Insulation method	Between the out programmable cont Photocoup (non-isolated be		Between communication line and all analog outputs: Photocoupler isolation between power supply line and all analog outputs: Transformer isolation between channels: Non-isolated				0			
Number of occupied I/O stations (number of points)	4 stations (4 sta	tions × 8 points)		between channels: Non-isolated 1 station (1 station × 32 points) (RX/RY 32 points each, RWr/RWw 4 points each)					0	

6 REPLACING ANALOG I/O MODULE

Item	A64DAIC	AJ65SBT2B-64DA	Compati- bility	Precautions for replacement
Connected terminal	47-point terminal block	Communication part, module communication part: 7-point two-piece terminal block (M3 screw) I/O part: 18-point two-piece terminal block (M3 screw)	×	
Applicable wire size	0.75 to 2mm ² (Applicable tightening torque 39 to 59N · cm)	0.3 to 2mm ²	0	Change in wiring is
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV1.25-3 (conforming to JIS C 2805) [Applicable wire size: 0.3 to 1.25mm ²] V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm ²]	0	required.
External power supply	24VDC (20.4 to 28.8VDC) Current consumption: 0.15A	24VDC (20.4 to 28.8VDC) Current consumption: 0.24A (at 24VDC) Inrush current: 2.6A 3.2ms or less	Δ	The current consumption increases. The current capacity needs to be reconsidered.
Weight	1.01kg	0.25kg	Δ	
External dimensions	170(H) × 100(W) × 80(D) mm	50(H) × 122(W) × 54(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Item	A64DAIC	AJ65SBT2B-64DA	Compati- bility	Precautions for replacement
Analog output enable/disable setting	Selects whether to output D/A conversion values or offset values on each channel. Note, however, that the conversion speed is fixed regardless of the output enable/disable setting.	Selects whether to output D/A conversion values or offset values on each channel. Note, however, that the conversion speed is fixed regardless of the output enable/disable setting.	0	
Analog conversion enable/disable function	-	Selects whether to enable or disable D/A conversion on each channel. By making unused channels D/A conversion prohibited, conversion speed can be increased.	_	
Output range switching function	-	Sets the analog output range on each channel and changes the I/O conversion characteristics.	_	
HOLD/CLEAR setting	As the analog output status of the programmable controller CPU that is in RUN, at STOP, or in an error status, switching the type of output values as desired between D/A conversion values, offset values and 0V/0mA is possible.	In preparation for the event that the programmable controller CPU enters a stop status or the AJ65SBT2B-64DA stops D/A conversion due to an error, this settings can be configured to select whether to hold or clear analog values (output offset values) that are being output from each channel right before those stops.	0	
Offset/gain setting	Changes the I/O conversion characteristics.	Changes the I/O conversion characteristics as desired. For that, offset/gain settings can be configured for each channel without an aid of a various register.	0	
Transmission speed auto- tracking function	-	Automatically sets the transmission speed according to the settings of the master module when the AJ65SBT2B-64DA is powered on.	_	

I/O signals are different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

	A64	DAIC			AJ65SB1	Γ2B-64DA					
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description				
X(n+0) to X(n+3)	Use prohibited	Y(n+0) to Y(n+3)	Use prohibited			RYn0	CH1 Analog output enable/disable flag				
X(IIIO)	Communication error detection flag	1(1110)				RYn1	CH2 Analog output enable/disable flag				
X(n+4)	indicating that execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal		BY ₂₀ 0					RYn2	CH3 Analog output enable/disable flag
X(n+5)	A64DAIC reset switch ON detection	Y(n+5)	Reset signal of reset switch ON detection	RXn0 to RXn9	Use prohibited	RYn3	CH4 Analog output enable/disable flag CH1 Range setting				
	flag		flag	10010		RYn4	(0th bit)				
X(n+6)	Use prohibited	Y(n+6)	Use prohibited			RYn5	CH1 Range setting (1st bit)				
X(n+7)	Communication completion response	Y(n+7)	Communication			RYn6	CH1 Range setting (2nd bit)				
λ(11-7)	signal wait flag	1(1117)	reset signal			RYn7	CH2 Range setting (0th bit)				
						RYn8	CH2 Range setting (1st bit)				
						RYn9	CH2 Range setting (2nd bit)				
				RXnA	Flash memory read error flag	RYnA	CH3 Range setting (0th bit)				
				RXnB	User range read error flag	RYnB	CH3 Range setting (1st bit)				
				RXnC	Flash memory write error flag	RYnC	CH3 Range setting (2nd bit)				
				RXnD, RXnE Use prohibited	Llac prohibited	RYnD	CH4 Range setting (0th bit)				
					RYnE	CH4 Range setting (1st bit)					
				RXnF	Test mode flag	RYnF	CH4 Range setting (2nd bit)				
X(n+8) to	Use prohibited	Y(n+8) to	Use prohibited			RY(n+1)0	CH1 HOLD/CLEAR setting				
X(n+17)	OSC Prombled	Y(n+17)	OSC PIONIBILES			RY(n+1)1	CH2 HOLD/CLEAR setting				
						RY(n+1)2	CH3 HOLD/CLEAR setting				
						RY(n+1)3	CH4 HOLD/CLEAR setting				
				RX(n+1)0 to	Use prohibited	RY(n+1)4	CH1 Conversion enable/disable setting				
				RX(n+1)7		RY(n+1)5	CH2 Conversion enable/disable setting				
						RY(n+1)6	CH3 Conversion enable/disable setting				
						RY(n+1)7	CH4 Conversion enable/disable setting				

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	A64	DAIC		AJ65SBT2B-64DA				
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description	
X(n+18)	D/A conversion READY	Y(n+18)	CH1 Analog output enable signal	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data setting complete flag	
		Y(n+19)	CH2 Analog output enable signal	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag	
X(n+19)		Y(n+1A)	CH3 Analog output enable signal	RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag	
to X(n+1F)	Use prohibited	Y(n+1B)	CH4 Analog output enable signal	RX(n+1)B	Remote READY	RY(n+1)B		
		Y(n+1C) to Y(n+1F)	Use prohibited	RX(n+1)C to RX(n+1)F	Use prohibited	to RY(n+1)F	Use prohibited	

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64DAIC		AJ65SBT2B-64DA			
Address	Name	Read/write	Address	Name	Read/write	
0	CH1 Digital value setting area		RWwm	CH1 Digital input value setting		
1	CH2 Digital value setting area		RWwm+1	CH2 Digital input value setting] w	
2	CH3 Digital value setting area		RWwm+2	CH3 Digital input value setting	T **	
3	CH4 Digital value setting area		RWwm+3	CH4 Digital input value setting		
4	CH1 Analog output disable/enable setting area		RWrn	CH1/CH2 Check code		
5	CH2 Analog output disable/enable setting area	R/W	RWrn+1	CH3/CH4 Check code	R	
6	CH3 Analog output disable/enable setting area		RWrn+2	Error code		
7	CH4 Analog output disable/enable setting area		RWrn+3	Use prohibited		
8	Resolution of digital value setting area		m, n: The addre	ess assigned to the master station by a stati	on number	
9	Error code storage area		setting			

(7) Comparisons between A64DAIC and AJ65SBT-62DA

(a) Performance specifications comparisons

	○: Compatible, △: Partial change required, ×: Not compatible										
Item	A64DAIC			AJ65SBT-62DA					Compati- bility	Precautions for replacement	
Digital input	(1) 16-bit signed binary value (2) Setting range: Set resolution Setting range 1/4000 0 to 4000 1/8000 0 to 8000 1/12000 0 to 12000		Voltage: 16-bit signed binary (-4096 to +4095) Current: 16bits signed binary (0 to 4095) Voltage: -10 to +10V DC						×	The setting range has been changed.	
Analog output	0 to 20mA (external load resistance: 0 to 600 Ω)			(external load resistance: $2k\ \Omega\ \ \text{to 1M}\ \Omega\)$ $0\ \text{to 20mA}$ (external load resistance: 0 to 600 Ω)						0	
I/O characteristics	Digital value n 1/4000 1/8000 1	1/12000 12000 6000 0		Voltage	Digital input value -4000 to +4000	Analog output range -10 to +10V User range setting1 (-10 to +10V) 0 to 5V 1 to 5V User range	Acct Ambient temperature 0 to 55 °c ± 0.4% (± 40mV)	ambient temperature $25\pm5^{\circ}\mathrm{c}$ $\pm 0.2\%$ ($\pm 20\mathrm{mV}$)	Maximum resolution 2.5mV 1.25mV	Δ	The digital input range is different.
Maximum resolution of digital value		1/12000)			4000	setting 2 (0 to 5V) 0 to 20mA 4 to 20mA	± 0.4%	± 0.2%	5 μ A	×	The maximum resolution is different.
Overall accuracy (accuracy relative to maximum value)	± 1.0%(± 200 μA)				E 0 4 to 20mA ± 0.4% ± 0.2% (± 80 μ A) (± 40 μ A) 4 μ A Factory-set: -10 to +10V.						
Maximum conversion speed	Within 25ms/4 channels (1 channel is same period of time)				1ms/channel						
Number of analog output points	4 channels/module			2 channels/module						×	Please consider replacing by using two or more AJ65SBT- 62DA modules.
Insulation method	Between the output terminal and programmable controller power supply: Photocoupler isolation (non-isolated between channels)				Between communication line and all analog outputs: Photocoupler isolation between power supply line and all analog outputs: Photocoupler isolation (non-isolated between channels)						
Number of occupied I/O stations (number of points)	4 stations (4 stations × 8 points)				1 station (1 station × 32 points) (RX/RY 32 points each, RWr/RWw 4 points each)					0	The number of occupied stations has been changed.

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Item	A64DAIC	AJ65SBT-62DA	Compati- bility	Precautions for replacement
Connected terminal	47-point terminal block	Communication part, module communication part: 7-point two-piece terminal block (M3 screw) I/O part: 18-point direct-mount terminal block (M3 screw)	×	
Applicable wire size 0.75 to 2mm ² (Applicable tightening torque 39 to 59 N · cm)		0.3 to 0.75mm ²	×	Change in wiring is
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	 RAV1.25-3 (conforming to JIS C 2805) [Applicable wire size: 0.3 to 1.25mm²] V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm²] 	×	required.
24VDC internal current consumption	0.15A	0.16A	Δ	The current consumption increases. The current capacity needs to be reconsidered.
Weight	1.01kg	0.20kg	Δ	
External dimensions 170(H) × 100(W) × 80(D) mm		50(H) × 118(W) × 40(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.



(b) Functional comparisons

○: Compatible. ∧: Partial change required. x: Not compatible

	⊖: Compatible, △: Partial change re				x : Not compatible
Item	A64DAIC	AJ65SBT	-62DA	Compati- bility	Precautions for replacement
D/A output enable/disable function	Selects on each channel whether to output D/A conversion values or offset values. Note, however, that the conversion speed is fixed regardless of the output enable/disable setting.	Selects on each channel wheth values or offset values. Note, he speed is fixed regardless of the setting.	owever, that the conversion	0	
D/A conversion enable/disable function	-	Selects whether to enable or di each channel. By making unused channels D/ sampling period can be shorter	/A conversion prohibited,	_	
		Sets the analog output range o changes the I/O conversion characteristics. The following eight output range	aracteristics.		
		-10 to +10V	0 _H		
	-	0 to 5V	1 _H	-	
Output range		1 to 5V	2 _H		
switching		0 to 20mA	3 _H		
function		4 to 20mA	4 _H		
		User range setting 1 (-10 to +10V)	5 _H		
		User range setting 2 (0 to 5V)	6 _H		
		User range setting 3 (0 to 20mA)	7 _H		
HOLD/CLEAR setting	As the analog output status of the programmable controller CPU that is in RUN, at STOP, or in an error status, switching the type of output values as desired between D/A conversion values, offset values and 0V/0mA is possible. D/A conversion value outputs, offset value outputs and 0V/0mA outputs can be revised arbitrarily.	In preparation for the event that controller CPU enters a stop statops D/A conversion due to an configured to select whether to (output offset values) that are be channel right before those stop	0		
Offset/gain setting	Changes the I/O conversion characteristics.	Changes the I/O conversion chat that, offset/gain settings can be channel without a aid of a vario	e configured for each	0	

(c) Programmable controller CPU I/O signal comparisons

The sequence program must be changed as the I/O signals differ.

For details on I/O signals and sequence programs, refer to the User's Manual.

A64DAIC				AJ65SBT-62DA			
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
X(n+0) to	Use prohibited	Y(n+0) to	Use prohibited	RXn0 to RXnB	Use prohibited	RYn0	CH1 Analog output enable/disable flag
X(n+3)		Y(n+3)		RXnC	E ² PROM write error flag	RYn1	CH2 Analog output enable/disable flag
	Communication error detection flag indicating that			RXnD RXnE RXnF	Use prohibited Test mode flag		
X(n+4)	execution of the FROM and TO instructions resulted in a communication error	Y(n+4)	Error detection reset signal	RX(n+1)0 to RX(n+1)7	Use prohibited	RYn2 to RY(n+1)7	Use prohibited
X(n+5)	A64DAIC reset switch ON detection flag	Y(n+5)	Reset switch ON detection flag reset signal	RX(n+1)8	Initial data processing request flag	RY(n+1)8	Initial data processing complete flag
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RX(n+1)9	Initial data setting complete flag	RY(n+1)9	Initial data setting request flag
X(n+7)	Communication completion response signal wait flag	Y(n+7)	Communication reset signal	RX(n+1)A	Error status flag	RY(n+1)A	Error reset request flag
X(n+8) to X(n+17)	Use prohibited	Y(n+8) to Y(n+17)	Use prohibited	RX(n+1)B	Remote READY		
		Y(n+18)	CH1 Analog output enable signal	RX(n+1)C		RY(n+1)B	
X(n+18)	D/A conversion	Y(n+19)	CH2 Analog output enable signal	RX(n+1)D	l loo weekikitod	to RY(n+1)F	Use prohibited
∧ (II+10)	READY	Y(n+1A)	CH3 Analog output enable signal	RX(n+1)E	Use prohibited	111111111111111111111111111111111111111	
		Y(n+1B)	CH4 Analog output enable signal	RX(n+1)F			
X(n+19) to X(n+1F)	Use prohibited	Y(n+1C) to Y(n+1F)	Use prohibited				

(d) Buffer memory addresses comparisons

The sequence program must be changed as the buffer memory assignments differ. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64DAIC		AJ65SBT-62DA			
Address	Name	Read/write	Address	Name	Read/write	
0	CH1 Digital value setting area		RWwm	CH1 Digital value setting		
1	CH2 Digital value setting area		RWwm+1	CH2 Digital value setting	w	
2	CH3 Digital value setting area		RWwm+2	Analog output enable/disable setting] vv	
3	CH4 Digital value setting area		RWwm+3	Output range HOLD/CLEAR setting		
4	CH1 Analog output disable/enable		RWrn	CH1 Check code		
4	setting area		KVVIII	CHT Check code		
5	CH2 Analog output disable/enable	D.0.4	RWrn+1	CH2 Check code	R	
5	setting area	R/W	KVVIIITI	CH2 Check code	K	
6	CH3 Analog output disable/enable		RWrn+2	Error code		
0	setting area		RVVIII+2	Error code		
7	CH4 Analog output disable/enable		D\\/m + 2	l loo wrobibitod		
1	setting area		RWrn+3	Use prohibited	_	
8	Resolution of digital value setting area	1				
9	Error code storage area					

6.2.3 Comparison of temperature input module

(1) Comparisons between A64RD3C and AJ65BT-64RD3

(a) Performance specifications comparisons

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Item	A64RD3C	AJ65BT-64RD3	Compati-	
	A04KD3C	A303B1-04KD3	bility	replacement
Measurement method		3-wire type	0	
Connectable platinum	Pt100 (JIS C 1604-1989, DIN43760-1980)	PM00 IPM00	0	
resistance thermometer	JPt100 (JIS C 1604-1981)	Pt100, JPt100	0	
Temperature	Pt100: -180[°C] to +600[°C] (27.08 Ω to 313.59 Ω)		0	
input range	Pt100: -180[°C] to +600[°C]	-180[°C] to 600[°C]	0	
	(25.8 Ω to 317.28 Ω)	 6bits signed binary		
Detected		-1800 to +6000 o 1 decimal place × 10)	0	
temperature	-	2bits signed binary		
value	-1	80000 to +600000	0	
	(down to 3	3 decimal places × 1000)		
Resolution		0.025°C	0	
		Ambient temperature		
Overall	± 1%	$(25 \pm 5^{\circ}\text{C})$: $\pm 0.1\%$ (accuracy relative to maximum value)		
accuracy	(accuracy relative to full-scale)	Ambient temperature	0	
	,	(20°C or less, 30°C or more): ± 0.25%		
		(accuracy relative to maximum value)		
Conversion		40ms/channel	0	
speed Number of				
temperature	4	channels/module	0	
input points				
Output current for temperature detection	4.2mA (MIN.), 4.7mA (MAX.)	1mA	×	The temperature detecting output current has been changed.
la coletica	Between input terminal and programmable	Between platinum resistance thermometer input and CC-		
Insulation method	controller: Photocoupler isolation	Link transmission line: Photocoupler isolation	0	
	(non-isolated between channels)	(non-isolated between channels)		
Number of occupied stations (number of occupied points)	4 stations (4 stations × 8 points)	4 stations (4 stations × 32 points) (RX/RY 128 points each, RWw/RWr 16 points each)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Connected terminal block	47-point terminal block	27-point terminal block	×	Change in wiring is required.
Applicable wire size		0.75 to 2.00mm ²	0	
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV 1.25-3.5, RAV 2-3.5 (conforming to JIS C 2805)	×	Change in wiring is required.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Item	A64RD3C	AJ65BT-64RD3	Compati- bility	Precautions for replacement
24VDC internal				
current	0.2A	0.17A	0	
consumption				
Weight	0.81kg	0.38kg	Δ	
External dimensions	170(H) × 100(W) × 80(D)mm	65(H) × 151.9(W) × 63(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.

6 REPLACING ANALOG I/O MODULE

(b) Functional comparisons

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

	Compatible, A. Partial change required, x. Not com				
Item	A64RD3C	AJ65BT-64RD3	bility	Precautions for replacement	
Conversion enable/disable specification for each channel	Selects on each channel whet	her to enable or disable temperature detection.	0		
Sampling/avera ging processing specification	Performs processing on a detected temperature in the specified processing method, and stores the processed data to the buffer memory. The following three processing methods are available: Sampling processing Time averaging processing Count averaging processing	Selects on each channel whether to perform the sampling processing or movement averaging processing. (default ··· sampling processing)	Δ	The AJ65BT- 64RD4 has been provided the movement averaging processing instead of the averaging processing on A64RD3C.	
Storage of detected temperature value	The value down to the 1st decimal place and the value down to the 3rd decimal place are stored to the buffer memory. Value down to 1st decimal place (16-bit signed binary) Example) 53.8(°C) → 538 Value down to 3rd decimal place (32-bit signed binary) Example) 216.025(°C) → 216025	The value down to the 1st decimal place and the value down to the 3rd decimal place are stored to the remote register.	0		
Wire break detection	Detects wire breaks on the connected Pt100 or cable. Wire breaks on each channel are detected, and the wire break detection flag (X19 to X1A) corresponding to each channel is turned ON.	Detects wires breaks on the connected platinum resistance thermometer for each channel.	0		
Specification of platinum temperature measuring resistor type	Specifies platinum temperature measuring resistor type to be used. The following two types of platinum temperature measuring resistors can be used: Pt100··· new JIS - DIN type (JIS C 1604-1989, DIN43760-1980) JPt100··· conventional JIS type (JIS C 1604-1981)	Specifies platinum temperature measuring resistor type to be used. The following two types of platinum temperature measuring resistors can be used: Pt100·····new JIS, IEC type (JIS C 1604-1997, IEC 751 1983) JPt100··· conventional JIS type (JIS C 1604-1981)	0		

(c) Programmable controller CPU I/O signal comparisons

The sequence program must be changed as the I/O signals differ.

For details on I/O signals and sequence programs, refer to the User's Manual.

·	or details on I/O s A64F	RD3C	coquerios progra	ino, roior to		-64RD3	
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
	'		'		CH1 Conversion		CH1 Conversion
X(n+0)		Y(n+0)		RXn0	completed flag	RYn0	enable flag
to	Use prohibited	to	Use prohibited		CH2 Conversion		CH2 Conversion
X(n+3)		Y(n+3)		RXn1	completed flag	RYn1	enable flag
					CH3 Conversion		CH3 Conversion
				RXn2	completed flag	RYn2	enable flag
				DV 0	CH4 Conversion	D)/ 0	CH4 Conversion
	EDOM/TO: / /			RXn3	completed flag	RYn3	enable flag
X(n+4)	FROM/TO instruction	Y(n+4)	Error detection reset				CH1 Sampling
	error detection flag		signal		CI IA Wire breek		processing/
				RXn4	CH1 Wire break	RYn4	movement averaging
					detection flag		processing
							specification flag
							CH2 Sampling
					CH2 Wire break		processing/
				RXn5		RYn5	movement averaging
	A64RD3C reset		Reset switch ON		detection flag		processing
X(n+5)	switch ON	Y(n+5)	detection flag				specification flag
X(II+3)	detection flag	1 (11+3)	reset signal				CH3 Sampling
	detection riag		reset signal		CH3 Wire break		processing/
			RXn6	detection flag	RYn6	movement averaging	
					dotootion hag		processing
							specification flag
						CH4 Sampling	
					CH4 Wire break		processing/
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RXn7	RXn7 detection flag	RYn7	movement averaging
					actocaen nag		processing
							specification flag
	Communication		Communication reset		•		
X(n+7)	completion response	Y(n+7)	signal	RXn8	E ² PROM error flag	RYn8	
	signal wait flag		-			to	Use prohibited
X(n+8)	11			DV-0	T4	RY(n+7)6	
to	Use prohibited			RXn9	Test mode flag		
X(n+17)				RXnA			
V/m (10)	DEADY floor				l loo probibitod	DV/~+7\7	Offset/gain value
X(n+18)	READY flag			to PV(n+7)7	Use prohibited	RY(n+7)7	selection flag
				RX(n+7)7	Initial data		Initial data
X(n+19)	CH1 Wire break			RX(n+7)8	processing request	RY(n+7)8	processing complete
λ(11 19)	detection flag	Y(n+8)		100(1117)0	flag	101(1117)0	flag
	CH2 Wire break	to	Use prohibited		Initial data setting		Initial data setting
X(n+1A)	detection flag	Y(n+1F)	(n+1F) -	RX(n+7)9	complete flag	RY(n+7)9	request flag
	CH3 Wire break						
X(n+1B)	detection flag			RX(n+7)A	Error status flag	RY(n+7)A	Error reset
	CH4 Wire break						
X(n+1C)	detection flag			RX(n+7)B	Remote READY	RY(n+7)B	
X(n+1D)	, , ,			RX(n+7)C		to	Use prohibited
to	Use prohibited			to	Use prohibited	RY(n+7)F	·
X(n+1F)				RX(n+7)F	•		
, ,							

(d) Buffer memory addresses comparisons

The sequence program must be changed as the buffer memory assignments differ.

For details on buffer memory and sequence programs, refer to the User's Manual.

	A64RD3C			AJ65BT-64RD3		
Address	Name	Read/write	Address	Name	Read/write	
0	Conversion enable/disable specification					
1	Averaging processing specification		RWwm			
2	CH1 Averaging time, count	R/W	to	l loo probibited		
3	CH2 Averaging time, count	FK/VV	RWwm+15	Use prohibited	_	
4	CH3 Averaging time, count		Kwwiii+15			
5	CH4 Averaging time, count					
6	CH1 Detected temperature value		RWrn	CH1 Detected temperature value (16 bits)		
7	CH2 Detected temperature value		RWrn+1	CH2 Detected temperature value (16 bits)		
8	CH3 Detected temperature value		RWrn+2	CH3 Detected temperature value (16 bits)		
9	CH4 Detected temperature value		RWrn+3	CH4 Detected temperature value (16 bits)		
10	CH1 Detected temperature value (L)	R	RWrn+4	CH1 Detected temperature value	R	
11	(32 bits) (H)		RWrn+5	(32 bits)		
12	CH2 Detected temperature value (L)		RWrn+6	CH2 Detected temperature value		
13	(32 bits) (H)		RWrn+7	(32 bits)		
14	CH3 Detected temperature value (L)		RWrn+8	CH3 Detected temperature value		
15	(32 bits) (H)		RWrn+9	(32 bits)		
16	CH4 Detected temperature value (L)		RWrn+10	CH4 Detected temperature value		
17	(32 bits) (H)		RWrn+11	(32 bits)		
18	Write data error code	R/W	D\\/rm 10			
19	Conversion completed flag	R	RWrn+12 to	Llas prohibited		
20	Specification of platinum temperature measuring resistor type	R/W	RWrn+15	Use prohibited	_	



(2) Comparisons between A64RD3C and AJ65SBT2B-64RD3

(a) Performance specifications comparisons

O: Compatible, △: Partial change required, ×: Not compatible

		O: Compatible, ∆: Partial change required, x: Not compatible				
Item	A64RD3C	AJ65SBT2B-64RD3	Compati- bility	Precautions for replacement		
Measuring method		3-wire type	0			
Connectable temperature measuring resistor	Pt100 (JIS C 1604-1989, DIN43760-1980) JPt100 (JIS C 1604-1981)	Pt100 (JIS C 1604-1997), JPt100 (JIS C 1604-1981), Ni100 (DIN 43760 1987)	0			
Temperature input range	Pt100: -180[°C] to +600[°C] (27.08 Ω to 313.59 Ω) JPt100: -180[°C] to +600[°C] (25.8 Ω to 317.28 Ω)	Pt100: -200 to 850°C JPt100: -180 to 600°C Ni100: -60 to 180°C	0			
Detected	16bits signed binary -1800 to +6000 (down to 1 decimal place × 10)	16bits signed binary -2000 to 8500 (down to 1 decimal place × 10)	0			
temperature value	32bits signed binary -180000 to +600000 (down to 3 decimal places × 1000)	-	×	32-bit output is not available.		
Resolution	0.025°C	0.1° _C	Δ	The maximum resolution is different.		
Overall accuracy	± 1% (accuracy relative to full-scale)	*1	0			
Conversion speed		40ms/channel	0			
Number of temperature input points	4	channels/module	0			
Output current for temperature detection	4.2mA (MIN.), 4.7mA (MAX.)	1mA	×	The temperature detecting output current has been changed.		
Insulation method	Between input terminal and programmable controller: Photocoupler isolation (non-isolated between channels)	Between communication line and all temperature measuring resistor inputs: Photocoupler isolation between power supply line and all temperature measuring resistor inputs: Transformer isolation between channels: Non-isolated	0	-		
Number of occupied stations (number of occupied points)	4 stations (4 stations × 8 points)	1 station (1 station × 32 points) (RX/RY 32 points each, RWr/RWw 4 points each)	0			
Connected terminal block	47-point terminal block	Communication part, module communication part: 7-point two-piece terminal block (M3 screw) I/O part: 18-point two-piece terminal block (M3 screw)	×			
Applicable wire size	0.75 to 2.0mm ²	0.3 to 2.0mm ²	0	Change in wiring is		
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV1.25-3 (conforming to JIS C 2805) [Applicable wire size: 0.3 to 1.25mm ²] V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm ²]	0	required.		
24VDC internal current consumption	0.2A	0.14A	0			
Weight	0.81kg	0.25kg	Δ			

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Item	A64RD3C	AJ65SBT2B-64RD3	Compati- bility	Precautions for replacement
External dimensions	170(H) × 100(W) × 80(D) mm	50(H) × 122(W) × 54(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.

^{*1} The accuracy of the AJ65SBT2B-64RD3 varies depending on the temperature measuring resistor as shown below.

	Conversion accuracy	Specifications
	-200 to 850°C	$\pm0.5^{\circ}$ C (ambient temperature: $25\pm5^{\circ}$ C), $\pm1.4^{\circ}$ C (ambient temperature: $0\pm55^{\circ}$ C)
Pt100	-20 to 120°C	$\pm0.2^{\circ}\text{C}$ (ambient temperature: $25\pm5^{\circ}\text{C}$), $\pm0.6^{\circ}\text{C}$ (ambient temperature: $0\pm55^{\circ}\text{C}$)
	0 to 200°C	$\pm0.2^{\circ}\text{C}$ (ambient temperature: $25\pm5^{\circ}\text{C}$), $\pm0.6^{\circ}\text{C}$ (ambient temperature: $0\pm55^{\circ}\text{C}$)
	-18 to 600°C	±0.4 °C (ambient temperature: 25 ± 5 °C), ±1.0 °C (ambient temperature: 0 ± 55 °C)
JPt100	-20 to 120°C	$\pm0.2^{\circ}\text{C}$ (ambient temperature: $25\pm5^{\circ}\text{C}$), $\pm0.6^{\circ}\text{C}$ (ambient temperature: $0\pm55^{\circ}\text{C}$)
	0 to 200°C	$\pm0.2^{\circ}\text{C}$ (ambient temperature: $25\pm5^{\circ}\text{C}$), $\pm0.6^{\circ}\text{C}$ (ambient temperature: $0\pm55^{\circ}\text{C}$)
Ni100	-60 to 180°C	$\pm0.2^{\circ}\text{C}$ (ambient temperature: $25\pm5^{\circ}\text{C}$), $\pm0.5^{\circ}\text{C}$ (ambient temperature: $0\pm55^{\circ}\text{C}$)



(b) Functional comparisons

 \bigcirc : Compatible, $\, \triangle$: Partial change required, $\, \times$: Not compatible

Item	A64RD3C	AJ65SBT2B-64RD3	Compati- bility	Precautions for replacement
Conversion enable/disable specification for each channel	Selects whether to enable or disable temper	0		
Sampling/aver aging processing specification	Performs processing on a detected temperature in the specified processing method, and stores the processed data to the buffer memory. The following three processing methods are available: Sampling processing Time averaging processing Count averaging processing	Selects whether to perform the sampling processing or averaging processing (count average/time average/moving average) on each channel.	0	
Storage of detected temperature value	The value down to the 1st decimal place and the value down to the 3rd decimal place are stored to the buffer memory. Value down to 1st decimal place (16-bit signed binary) Example) 53.8(°C) → 538 Value down to 3rd decimal place (32-bit signed binary) Example) 216.025(°C) → 216025	The value down to the 1st decimal place and the value down to the 3rd decimal place are stored to the remote register.	Δ	Only the value down to the 1st decimal place (16-bit signed binary) is stored.
Wire break detection	Detects wire breaks on the connected Pt100 or cable. Wire breaks on each channel are detected, and the wire break detection flag (X19 to X1A) corresponding to each channel is turned ON.	Detects wires breaks on the connected temperature measuring resistor for each channel.	0	
Selection of temperature measuring resistor type	Specifies the platinum temperature measuring resistor type to be used. The following two types of platinum temperature measuring resistor can be used: Pt100: new JIS • DIN type (JIS C 1604-1989, DIN43760-1980) JPt100: conventional JIS type (JIS C 1604-1981)	Specifies the temperature measuring resistor type to be used for each channel. The following three types of temperature measuring resistor can be used: Pt100 (JIS C 1604-1997) JPt100 (JIS C 1604-1981) Ni100 (DIN 43760 1987)	0	
Error correction with offset/gain setting	-	Corrects an error by using the set offset and gain values.	_	
Transmission speed auto- tracking function	-	Automatically sets the transmission speed according to the settings of the master module.	_	

(c) Programmable controller CPU I/O signal comparisons

I/O signals are different, so the sequence program must be changed. For details on I/O signals and sequence programs, refer to the User's Manual.

	A64	RD3C		1	AJ65SBT	2B-64RD3										
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description									
X(n+0)		Y(n+0)		RXn0	CH1 Conversion	RYn0	CH1 Conversion									
to	Use prohibited	to	Use prohibited	TOTTO	completed flag	KIIIO	enable flag									
X(n+3)	Ose profibiled	Y(n+3)	Ose prombited	RXn1	CH2 Conversion	RYn1	CH2 Conversion									
7.(0)		. (0)			completed flag		enable flag									
				RXn2	CH3 Conversion	RYn2	CH3 Conversion									
					completed flag		enable flag									
	FROM/TO		Error detection	RXn3	CH4 Conversion	RYn3	CH4 Conversion									
X(n+4)	instruction error	Y(n+4)	reset signal		completed flag		enable flag									
	detection flag		-	57/ 4	CH1 Wire break	RYn4										
				RXn4	detection flag	to	Use prohibited									
						RYn7	CH1 Measurement									
						RYn8										
							range (0th bit) CH1 Measurement									
	A64RD3C reset		Reset signal of		CH2 Wire break	RYn9	range (1st bit)									
X(n+5)	switch ON	Y(n+5)	reset switch ON	RXn5	detection flag		CH1 Measurement									
	detection flag		detection flag		detection hag	RYnA	range (2nd bit)									
							CH2 Measurement									
						RYnB	range (0th bit)									
							CH2 Measurement									
					CH3 Wire break	RYnC	range (1st bit)									
X(n+6)	Use prohibited	Y(n+6)	Use prohibited	RXn6	detection flag		CH2 Measurement									
					dotootion nag	RYnD	range (2nd bit)									
	Communication						CH3 Measurement									
	n+7) completion response signal wait flag		Communication		CH4 Wire break	RYnE	range (0th bit)									
X(n+7)		•	•	·	•	Y(n+7)	reset signal	RXn7	detection flag		CH3 Measurement					
			J		Ĭ	RYnF	range (1st bit)									
	3							CH3 Measurement								
				RXn8	1.1.1.1.1.1.1.1	RY(n+1)0	range (2nd bit)									
				DV=0	Use prohibited	DV/m 4)4	CH4 Measurement									
					RXn9		RY(n+1)1	range (0th bit)								
						RY(n+1)2	CH4 Measurement									
				RXnA	Flash memory	101 (11+1)2	range (1st bit)									
X(n+8)				TOTIL	read error flag	RY(n+1)3	CH4 Measurement									
to	Use prohibited					1(11/1)0	range (2nd bit)									
X(n+17)													RXnB	User range read		Wire break
					error flag	RY(n+1)4	detection									
				RXnC	Flash memory	,	upper/lower limit									
					write error flag	=	flag (all channels)									
				RXnD	Use prohibited	RY(n+1)5	Use prohibited									
		Y(n+8)		RXnE	T4	RY(n+1)6										
		to	Use prohibited	RXnF RX(n+1)0	Test mode flag		Offset/gain value									
X(n+18)	READY flag	Y(n+1F)		to	Use prohibited	RY(n+1)7	selection flag									
X(II+10)	NEADT liag			RX(n+1)7	Ose prombited		Selection liag									
		-		TOX(IIT I)I	Initial data											
X(n+19)	CH1 Wire break			RX(n+1)8	processing request	RY(n+1)8	Initial data setting									
X(III IO)	detection flag			101(11-1)0	flag	141(11-1)0	complete flag									
	CH2 Wire break	_			Initial data setting		Initial data setting									
X(n+1A)	detection flag	_		RX(n+1)9	complete flag	RY(n+1)9	request flag									
	CH3 Wire break						Error reset request									
X(n+1B)	detection flag			RX(n+1)A	Error status flag	RY(n+1)A	flag									
V(. (0)	CH4 Wire break			DV/ ()5	D		<u> </u>									
X(n+1C)	detection flag			RX(n+1)B	Remote READY	RY(n+1)B										
X(n+1D)		-		RX(n+1)C		to RY(n+1)F	Use prohibited									
to	Use prohibited			to	Use prohibited		Ose proffibiled									
X(n+1F)	-			RX(n+1)F	1											
			<u>I</u>				1									

(d) Buffer memory addresses comparisons

Buffer memory allocation is different, so the sequence program must be changed. For details on buffer memory and sequence programs, refer to the User's Manual.

	A64RD3C			AJ65SBT2B-64RD3			
Address	Name		Read/write	Address	Name	Read/write	
0	Conversion enable/disable specification	ation		RWwm	CH1 Average processing setting		
1	Averaging processing specification	on		RWwm+1	CH2 Average processing setting	R/W	
2	CH1 Averaging time, count		R/W	RWwm+2	CH3 Average processing setting	10,00	
3	CH2 Averaging time, count		10/00	RWwm+3	CH4 Average processing setting	1	
4	CH3 Averaging time, count			RWm	CH1 Detected temperature value (16 bits)		
5	CH4 Averaging time, count			IXVVIII	CITI Detected temperature value (10 bits)		
6	CH1 Detected temperature valu	е		RWrn+1	CH2 Detected temperature value (16 bits)	1	
7	CH2 Detected temperature valu	е		IXVVIII. I	On 2 Detected temperature value (10 bits)	R	
8	CH3 Detected temperature valu	е		RWrn+2	CH3 Detected temperature value (16 bits)] '`	
9	CH4 Detected temperature valu	е		TXVIII Z	On Detected temperature value (10 bits)		
10	CH1 Detected temperature value	(L)		RWrn+3	CH4 Detected temperature value (16 bits)	1	
11	(32 bits)	(H)	R	IXVIII+3	OTH Detected temperature value (10 bits)		
12	CH2 Detected temperature value	(L)		m, n: The add	ress assigned to the master station by a station n	umber setting	
13	(32 bits)	(H)					
14	CH3 Detected temperature value	(L)					
15	(32 bits)	(H)					
16	CH4 Detected temperature value	(L)					
17	(32 bits)	(H)					
18	Write data error code	•	R/W				
19	Conversion-completed flag	rsion-completed flag R					
20	Type specification of a platinum temperature-measuring resiston		R/W				

(3) Comparisons between A64RD4C and AJ65BT-64RD4

(a) Performance specifications comparisons

 \bigcirc : Compatible, $\, \underline{\wedge} \, :$ Partial change required, $\, \times :$ Not compatible

Item	A64RD4C	Compati- bility	Precautions for replacement	
Measuring method		4-wire type	0	
Connectable platinum	Pt100 (JIS C 1604-1989, DIN43760-1980)		0	
temperature measuring resistor	JPt100 (JIS C 1604-1981)	Pt100, JPt100	0	
Temperature	Pt100: -180[°C] to +600[°C] (27.08 Ω to 313.59 Ω)	-180[°C] to 600[°C]	0	
input range	JPt100: -180[$^{\circ}$ C] to +600[$^{\circ}$ C] (25.8 $^{\circ}$ Ω to 317.28 $^{\circ}$ Ω)	100[0] 10 000[0]	0	
Detected		Sbits signed binary -1800 to +6000 o 1 decimal place × 10)	0	
temperature value	32 -1	2bits signed binary 80000 to +600000 3 decimal places × 1000)	0	
Resolution	(Commission)	0.025°C	0	
Overall accuracy	± 1% (accuracy relative to full-scale)	Ambient temperature: $(25\pm5^{\circ}\text{C})$ $\pm0.1\%$ (accuracy relative to maximum value) Ambient temperature $(20^{\circ}\text{C} \text{ or less, } 30^{\circ}\text{C} \text{ or more})$: $\pm0.25\%$ (accuracy relative to maximum value)	0	
Conversion speed		0		
Number of temperature input points	4	channels/module	0	
Output current for temperature detection	4.2mA (MIN.), 4.7mA (MAX.)	1mA	×	The temperature detecting output current has been changed.
Insulation method	Between input terminal and programmable controller: Photocoupler isolation (non-isolated between channels)	Between platinum temperature measuring resistor input and CC-Link transmission line: Photocoupler isolation (non-isolated between channels)	0	
Number of occupied stations (number of occupied points)	4 stations (4 stations × 8 points)	4 stations (4 stations × 32 points) (RX/RY 128 points each, RWw/RWr 16 points each)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Connected terminal block	47-point terminal block	27-point terminal block	×	
Applicable wire size		0.75 to 2.00mm ²	0	Change in wiring is
Applicable solderless terminal	V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	RAV 1.25-3.5, RAV 2-3.5 (conforming to JIS C 2805)	×	required.

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Item	A64RD4C	•	Precautions for	
24VDC internal current consumption	0.15A	0.17A	bility	replacement The current consumption increases. The current capacity needs to be reconsidered.
Weight	0.81kg	0.38kg	Δ	
External dimensions	170(H) × 100(W) × 80(D) mm	65(H) × 151.9(W) × 63(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.

6 REPLACING ANALOG I/O MODULE

(b) Functional comparisons

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

Item	A64RD4C	O: Compatible, ∆: Partial chan	Compati- bility	
Conversion enable/disable specification for each channel	Selects on each channel whet	ther to enable or disable temperature detection.	0	
Sampling/avera ging processing specification	Performs processing on a detected temperature in the specified processing method, and stores the processed data to the buffer memory. The following three processing methods are available: Sampling processing Time averaging processing Count averaging processing	Selects on each channel whether to perform the sampling processing or movement averaging processing. (default ··· sampling processing)	Δ	The AJ65BT- 64RD4 has been provided the movement averaging processing instead of the averaging processing on A64RD3C.
Storage of detected temperature value	The value down to the 1st decimal place and the value down to the 3rd decimal place are stored to the buffer memory. • Value down to 1st decimal place (16-bit signed binary) Example) 53.8(°C) → 538 • Value down to 3rd decimal place (32-bit signed binary) Example) 216.025(°C) → 216025	The value down to the 1st decimal place and the value down to the 3rd decimal place are stored to the remote register.	0	
Wire break detection	Detects wire breaks on the connected Pt100 or cable. A wire break on a wire on a channel is detected, turning the Σ wire break detection flag (X19) ON.	Detects wires breaks on the connected platinum temperature measuring resistor for each channel.	0	
Specification of platinum temperature measuring resistor type	Specifies the platinum temperature measuring resistor type to be used. The following two types of platinum temperature measuring resistor can be used: • Pt100···new JIS • DIN type (JIS C 1604-1989, DIN43760-1980) • JPt100···conventional JIS type (JIS C 1604-1981)	Specifies the platinum temperature measuring resistor type to be used. The following two types of platinum temperature measuring resistor can be used: Pt100······new JIS, IEC type (JIS C 1604-1997, IEC 751 1983) JPt100····conventional JIS type (JIS C 1604-1981)	0	



(c) Programmable controller CPU I/O signal comparisons

The sequence program must be changed as the I/O signals differ.

For details on I/O signals and sequence programs, refer to the User's Manual.

		RD4C			o the Oser's Manu AJ65BT	-64RD4	
Device No.	Description	Device No.	Description	Device No.	Description	Device No.	Description
	, and the second		,		CH1 Conversion		CH1 Conversion
X(n+0)		Y(n+0)		RXn0	completed flag	RYn0	enable flag
to	Use prohibited	to	Use prohibited		CH2 Conversion		CH2 Conversion
X(n+3)		Y(n+3)		RXn1	completed flag	RYn1	enable flag
					CH3 Conversion		CH3 Conversion
				RXn2	completed flag	RYn2	enable flag
					CH4 Conversion		CH4 Conversion
				RXn3	completed flag	RYn3	enable flag
X(n+4)	X(n+4) FROM/TO instruction error detection flag	Y(n+4)	Error detection reset		completed hag		CH1 Sampling
7.()		. ()	signal				processing/
				RXn4	CH1 Wire break	RYn4	movement averaging
				10/114	detection flag	KIII4	processing
							specification flag
							CH2 Sampling
							processing/
				RXn5	CH2 Wire break	DVnE	· •
				KAIIS	detection flag	RYn5	movement averaging
	A64RD4C reset		Reset switch ON				processing
X(n+5)	switch ON detection	Y(n+5)	detection flag reset				specification flag
	flag		signal				CH3 Sampling
				DV-C	CH3 Wire break detection flag	D)/C	processing/
				RXn6		RYn6	movement averaging
							processing
							specification flag
				RXn7		RYn7	CH4 Sampling
			Y(n+6) Use prohibited		CH4 Wire break detection flag		processing/
X(n+6)	Use prohibited	Y(n+6)					movement averaging
							processing
							specification flag
	Communication		Communication reset		•		
X(n+7)	completion response	Y(n+7)	signal	RXn8	E ² PROM error flag	RYn8	
	signal wait flag		<u> </u>			to	Use prohibited
X(n+8)						RY(n+7)6	
to	Use prohibited			RXn9	Test mode flag	, , ,	
X(n+17)							
				RXnA			Offset/gain value
X(n+18)	READY flag			to	Use prohibited	RY(n+7)7	selection flag
				RX(n+7)7			-
	∑ wire break				Initial data		Initial data
X(n+19)	detection flag	Y(n+8)		RX(n+7)8	processing request	RY(n+7)8	processing complete
	detection hag	to	Use prohibited		flag		flag
		Y(n+1F)		RX(n+7)9	Initial data setting	RY(n+7)9	Initial data setting
			(. / / /	complete flag	(/0	request flag	
X(n+1A)	X(n+1A)			RX(n+7)A	Error status flag	RY(n+7)A	Error reset request
to	Use prohibited				Enor status hag	131 (11.17)13	flag
X(n+1F)	OSO PISITISTICA			RX(n+7)B	Remote READY	RY(n+7)B	
, (11)				RX(n+7)C		to	Use prohibited
				to	Use prohibited	RY(n+7)F	Coo prombited
				RX(n+7)F		().	

(d) Buffer memory addresses comparisons

The sequence program must be changed as the buffer memory assignments differ.

For details on buffer memory and sequence programs, refer to the User's Manual.

	A64RD4C		AJ65BT-64RD4			
Address	Name	Read/write	Address	Name	Read/write	
0	Conversion enable/disable specification					
1	Averaging processing specification		R/Wwm R/W to Use prohibited			
2	CH1 Averaging time, count	R/W				
3	CH2 Averaging time, count	IX/VV	RWwm+15	Ose profibiled	_	
4	CH3 Averaging time, count		TWWIII 13			
5	CH4 Averaging time, count					
6	CH1 Detected temperature value		RWrn	CH1 Detected temperature value		
	·			(16 bits)		
7	CH2 Detected temperature value		RWrn+1	CH2 Detected temperature value		
				(16 bits)		
8	8 CH3 Detected temperature value		RWrn+2	CH3 Detected temperature value		
				(16 bits)		
9	CH4 Detected temperature value		RWrn+3	CH4 Detected temperature value		
	·	R		(16 bits)	R	
10	CH1 Detected temperature value (L)		RWrn+4	CH1 Detected temperature value		
11	(32 bits) (H)		RWrn+5	(32 bits)		
12	CH2 Detected temperature value (L)		RWrn+6	CH2 Detected temperature value		
13	(32 bits) (H)		RWrn+7	(32 bits)		
14	CH3 Detected temperature value (L)		RWrn+8	CH3 Detected temperature value		
15	(32 bits) (H)		RWrn+9	(32 bits)		
16	CH4 Detected temperature value (L)		RWrn+10	CH4 Detected temperature value		
17	(32 bits) (H)		RWrn+11	(32 bits)		
18	Write data error code	R/W	RWrn+12			
19	Conversion completed flag	R	to	Use prohibited		
20	Specification of platinum temperature	R/W	RWrn+15	Use profibiled	_	
20	measuring resistor type	Ft/VV	KVVIN+15			

REPLACING THE HIGH-SPEED COUNTER MODULE

7.1 List of Alternative High-speed Counter Module Models

	I-S3, A2C models to be ontinued	Alternative model for CC-Link				
Product name	Model name	Model name	Remarks (restrictions)			
likeh annad	AD61C		1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size change of signal wire 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Change in interface specifications of coincidence output 5) Change in functional specifications: Not required 6) Change in dimensions for mounting to the panel: Required			
High-speed counter module	AD62C	AJ65BT-D62	1) Change in external wiring: Wiring change due to differences in terminal blocks, communication cable change to CC-Link dedicated cable, applicable wire size of signal lead change 2) Change in number of modules: Not required 3) Change in program: Change to programs for CC-Link 4) Change in performance specifications: Counting range change, external output specifications change 5) Change in functional specifications: Limit switch output function not provided 6) Change in dimensions for mounting to the panel: Required			

7.2 High-speed Counter Module Comparison

(1) Comparison between AD61C and AJ65BT-D62

(a) Performance specifications comparisons

	(a) P	erformanc	e specificatio	ns comparis	ons			
	lten	n	AD	61C	AJ65	mpatible, A: Partial changa 3T-D62 vitch settings switch LOW side	ge required Compati- bility	d, ×: Not compatible Precautions for replacement
	Number of occupied stations (occupied points)		4 stations (4 stations × 8 points)		4 stations (4 st (RX/RY 128 points eac ea	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.	
Nu	mber of channe	els			2 channels		0	
		Phase		1-phase	input, 2-phase input		0	
	Count input signal	Signal level $(\phi A, \phi B)$		5VD0 12VD0 24VD0	C > 2 to 5mA		0	
		Counting	1-phase input	50KPPS	200KPPS	10KPPS	0	
		speed (max.)	2-phase input	50KPPS	200KPPS	7KPPS	0	
		Counting range	0	to 16,777,215 (decim	nal notation): Binary forma	0		
<u>—</u>		System		on preset counter ter function		reset counter nter function	0	
Performance specifications of one channel	Counter	Min. count pulse width $10\mu s 10\mu s$ $10\mu s$			2.5μs 2.5μs (1-, 2-phase input)	100 µs 142 µs 150 50 50 71 71 μs µs µs µs µs (1-phase input)	0	
nce specific		input)	Set input rise ar to 5 μ s or less. Duty ratio 50%	nd fall times	Set input rise and fall less. Duty ratio 50%	Il times to 2 μ s or	0	
rforma	Maximum/	Comparison range		Bina	ry format 24bits		0	
Pe	minimum comparison	Comparison result	Set value=	< Count value Count value > Count value	Set value=	< Count value Count value > Count value	0	
		Preset		5mA	5/12/24VD	C 2 to 5mA		At AJ65BT-D62, external input/
	External input	Count disable		C 3/6mA 5 5mA		-	Δ	output specifications are
		Function start	-	-	5/12/24VD	C 2 to 5mA		different, so confirm the
	External output	Coincidence output	Transistor (open collector) output 12/24VDC 0.3A		12/24VDC 2	A per common	Δ	external device specifications.
	24VDC internal current consumption		0.1	5A	0.0)7A	0	
We	eight		1.0)kg	0.4	1kg	Δ	
Ex	ternal dimensio	ns	170(H) × 100(\	N) × 80(D) mm	65(H) × 151.9(W) × 63(D) mm	×	The overall size differs. Pay attention to the mounting



(b) Functional comparisons

 $\bigcirc \colon \mathsf{Compatible}, \ \ \underline{\wedge} \colon \mathsf{Partial} \ \mathsf{change} \ \mathsf{required}, \ \ \times \colon \mathsf{Not} \ \mathsf{compatible}$

Item	AD61C	⊖: Compatible, ∆: Parti	Compatibility	Precautions for
Count function at 1-phase/ 2-phase pulse input	 Captures 1-phase or 2-phase pulses from a pulse generator, and counts each of these pulses at its rise and fall. 1-phase input · · · Two counts are performed on a single pulse. 2-phase input · · · Four counts are performed on a single pulse at each of the A and B phases. Specifies the addition and subtraction counts in buffer memory during 1-phase input. During 2-phase input, it is automatically judged to perform addition when the A phase pulse comes before the B phase pulse, and perform subtraction when the B phase pulse comes before the A phase pulse. 	Captures 1-phase or 2-phase pulses from a pulse generator, and counts each of these pulses at its rise and fall. 1-phase input • • • Two counts are performed on a single pulse. 2-phase input • • • Four counts are performed on a single pulse at each of the A and B phases. Specifies the addition and subtraction counts to RY during 1-phase input. During 2-phase input, it is automatically judged to perform addition when the A phase pulse comes before the B phase pulse, and perform subtraction when the B phase pulse comes before the A phase pulse.	0	replacement
Comparison signal output function for counter value	Compares the counter value with the set value, and outputs result signals of small, large (>, <), or coincidence (=) to the programmable controller CPU. Performs external outputs of the coincidence signal to the external (EQU) terminal when the set value coincides with the count value. Note, however, that to do this the coincidence signal output enable flag must be turned ON beforehand by the sequence program.	Sets the output status of any channel in advance, and compares it with the current value to output ON/OFF signals.	0	
Preset function	 Changes the current counter value Execution of a preset is performed an external preset. 	e to the specified value. by the sequence program or input of	0	
Ring counter function	Outputs the coincidence signal when the set value matches the counter value, and set the current value as the preset value. Note, however, that to do this the ring counter switch must be turned ON.	Counts repeatedly between the ring counter value and the preset value by the ring counter command.	0	
Count start/ stop function by external input	Starts or stops counting by the external disable (DIS) terminal turning ON/OFF.	-	Δ	This is performed on the function start terminal.
Hardware reset function	 Initializes (clears data and sets default value) AD61C I/O signals and buffer memory by the reset switch on the front of the AD61C. 	-	×	This function is not available.
Error detection function	Stores the first error to buffer memory if any errors are found in communication (FROM/TO instructions) from the programmable controller CPU to buffer memory on AD61C.	-	×	This function is not available.

(c) Programmable controller CPU I/O signal comparisons

The sequence program must be changed as the I/O signals differ.

For details on I/O signals and sequence programs, refer to the User's Manual.

For details on I/O signals and sequence programs, refer to the User's Manual. AD61C AJ65BT-D62											
Devic	ce No.			e No.	-	Devic	e No.			e No.	
CH1	CH2	Description	CH1	CH2	Description	CH1	CH2	Description	CH1	CH2	Description
X00 t	to X03	Use prohibited	Y00 t	o Y03	Use prohibited	RXn0	RXn4	Counter value large (Point No. 1)	t	′n0 o ′nF	Use prohibited
X0	14 ^{*1}	Communication error detection	Y04 *1		Communication error detection reset	RXn1	RXn5	Counter value coincidence (Point No. 1)	RY (n+1)0	RY (n+1)7	Point No.1 coincidence signal reset command
Х	05	Detection of reset status	Y	05	Reset status detection reset	RXn2	RXn6	Counter value small (Point No.1)	RY (n+1)1	RY (n+1)8	Preset command
Х	06	Use prohibited	Y	06	Use prohibited	RXn3	RXn7	External preset command detection	RY (n+1)2	RY (n+1)9	Coincidence signal enable
X0	7 ^{*2}	Communication completion wait flag	Y0	7 *2	Communication completion wait flag reset	RXn8	RXnB	Counter value large (Point No. 2)	RY (n+1)3	RY (n+1)A	Down count command
X08 t	to X17	Use prohibited	Y08 1	to Y17	Use prohibited	RXn9	RXnC	Counter value coincidence (Point No. 2)	RY (n+1)4	RY (n+1)B	Count enable command
X18	X1C	CH1/CH2 counter value small/large	Y18	Y1C	CH1/CH2 coincidence signal reset command	RXnA	RXnD	Counter value small (Point No. 2)	RY (n+1)5	RY (n+1)C	Use prohibited
X19	X1D	CH1/CH2 counter value coincidence	Y19	Y1D	CH1/CH2 preset command	RXnE	RXnF	Use prohibited	RY (n+1)6	RY (n+1)D	Counter function selection start command
X1A	X1E	CH1/CH2 external preset request detection	Y1A	Y1E	CH1/CH2 count enable command	RX (n+1)0	RX (n+1)2	Preset completion	t	n+1)E o n+1)F	Use prohibited
X1B	X1F	CH1/CH2 preset completion	Y1B	Y1F	CH1/CH2 external preset request detection	RX (n+1)1	RX (n+1)3	Counter function detection	RY (n+2)0	RY (n+2)2	External preset detection reset command
						t	n+1)4 o n+7)7	Use prohibited	RY (n+2)1	RY (n+2)3 n+2)4	Point No.2 coincidence signal reset command
								Initial data		o n+7)7	Use prohibited Initial data
						,	1+7)8	processing request flag	RY(r	1+7)8	processing complete flag
						t RX(n	n+7)9 o n+7)A n+7)B	Use prohibited Remote READY	RY(n+7)9 to		Use prohibited
						RX(n	n+7)C o n+7)F	Use prohibited		n+7)F	

^{*1, *2:} These input signals are used on the A2CCPU side.



(d) Buffer memory addresses comparisons

The sequence program must be changed as the buffer memory assignments differ. For details on buffer memory and sequence programs, refer to the User's Manual.

	AD61C		AJ65BT-D62								
Address	Name	Read/write	Add	ress	Name	Read/write					
Address	Name	Reau/write	CH1	CH2	Name	Reau/write					
0	CH1 mode register	R/W	RWwm	RWwm+8	Preset value setting area (L)						
1	CH1 subtraction count specification		RWwm+1	RWwm+9	(H)						
					Pulse input mode/						
2	CH1 coincidence signal output	W	RWwm+2 RW	Nwm+2 RWwm+A	Function selection register/						
2	enable flag		1 (V V VVIII · Z	IXWWIII A	External output hold/						
					clear setting area	W					
3	CH1 set value	R/W	RWwm+3	RWwm+B	Coincidence output point (L)						
4	OTTI Set value	10,77	RWwm+4	RWwm+C	No.1 setting area (H)						
5	CH1 preset value	w	RWwm+5	RWwm+D	Sampling/periodic setting area						
6	OTT preser value	**	RWwm+6	RWwm+E	Coincidence output point (L)						
7	CH2 mode register	R/W	RWwm+7	RWwm+F	No.2 setting area (H)						
8	CH2 down count specification		RWrn RWrn+8		(L)						
9	CH2 coincidence signal output enable flag	W	RWrn+1	RWrn+9	Current value storage area (H)						
10			RWrn+2	RWrn+A	Latch count value/ (L)						
	CH2 set value	DAM	DAA	DAM	D/M/	D/M/	R/W			Sampling count value	
11	CH2 Set Value	FC/VV	RWrn+3	RWrn+B	Periodic pulse count (H)						
					previous value storage area	R					
12			RWrn+4	RWrn+C	Periodic pulse count (L)						
13	CH2 preset value	W	RWrn+5	RWrn+D	present value (H)						
10			TOVIIII	IXWIIIID	storage area						
					Sampling/periodic counter flag						
14	CH1 current value		RW	rn+6	storage area						
	Offi Guitent Value				(common for CH1, CH2)						
15		R	RWrn+7								
16	CH2 current value		RWi		Use prohibited	_					
17	OTIZ GUITORI VAIGO			rn+F	Coo prombited	_					
18	Error code		1000								

(2) Comparisons between AD62C and AJ65BT-D62

(a) Performance specifications comparisons

 \bigcirc : Compatible, \triangle : Partial change required, \times : Not compatible

ltem		A	D62C		ompatible, $_{\Delta}$: Partial chan 5BT-D62	Compati-	Precautions for
		50k pulse/s (on 10k pulse/s (on silk-		Counting speed	switch settings switch	bility	replacement
Counting specific	eed switch	silk-screen diagram: 50kPPS)	screen diagram: 10kPPS)	HIGH side LOW side		0	
Number of occupied stations (number of occupied points)		, , , , , ,		(RX/RY 128 points e	tations × 32 points) ach, RWw/RWr 16 points each)	×	The number of occupied points increases. The assignment of the entire system needs to be reconsidered.
Number of c	hannels	1 c	hannel	2 c	hannels	0	
Count	Phase			t, 2-phase input		0	
input signal	Signal level (ϕ A, ϕ B)		5VDC 12VDC 24VDC	2 to 5mA		0	
	Counting speed*	1- phase input 50k pulse/s	10k pulse/s	200kPPS	10kPPS	0	
	(max.)	2- phase input 50k pulse/s	7k pulse/s	200kPPS	7kPPS	0	
	Counting		gned binary		5 (decimal notation)	×	The counting
	range	-2147483648	3 to 2147483647		format 24bits		range varies.
	Туре		UP/DOWN Preset coun	ter + Ring counter func	ction I	0	
Counter	Minimum count pulse width	10µs 10µs (1-, 2-phase input)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2.5µs 2.5µs	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	
		5 μ s	ise and fall times to or less.	2 μ s	rise and fall times to s. or less. ratio 50%	0	
	Comparison range	32bits si	gned binary		-	×	
Limit switch output	Comparison result	Dog ON address ≦ OFF N/C cor Dog OFF address :	tact action: ≦ Count value ≦ Dog address tact action: ≦ Count value ≦ Dog address		-	×	Limit switch output is not available.
External input	Preset Function start	12/24VDC 3/6	6mA, 5VDC 5mA	5/12/24\	/DC 2 to 5mA	Δ	As the external input/output
External output	Comparison output	` '	collector) output 12/ oint, 0.8A per common	12/24VDC	2A per common	Δ	specifications are different on AJ65BT-D62, confirm the specifications of external device.
24VDC internal curre	ent consumption	0	.15A	0.07A		0	
Weight	•	0.	86kg	С).41kg	Δ	
External dim	nensions		(W) × 80(D) mm		9(W) × 63(D) mm	×	The overall size differs. Pay attention to the mounting dimensions.



(b) Functional comparisons

 $\bigcirc \colon \mathsf{Compatible}, \ \ \underline{\wedge} \colon \mathsf{Partial} \ \mathsf{change} \ \mathsf{required}, \ \ \times \colon \mathsf{Not} \ \mathsf{compatible}$

	Item	AD62C AJ65BT-D62		Compatibility	Precautions for replacement
Pr	Preset Any value can be overwritten to the counter's present values.		counter's present values.	0	
fur	nction	Preset is performed by the sequence	program or an external preset input.	O	
Rii	ng counter	Counts repeatedly between the ring of	counter value and the preset value by	0	
fur	nction	the ring counter command.		O	
		Sets the output status of any			
Lir	nit switch	channel in advance, and compares			The limit switch
ou	tput	it with the current value of the limit	_	×	output function is not
fur	nction	switch output command counter to			available.
		output ON/OFF signals.			
	Latch	Stores the current value of the	Stores the current value of the		
	counter	counter to buffer memory when the	counter to the remote register	0	
	function	counter function selection start	when the counter function selection		
	Turiction	command signal is input.	start command signal is input.		
		Stores the number of input pulses	Stores the number of input pulses		
*uo	Sampling	to the buffer memory for the preset	to the remote register for the preset		
ecti	counter	sampling period after a signal	sampling period after a signal	0	
sel	function	carrying the counter function	carrying the counter function		
ion		selection start command is input.	selection start command is input.		
Counter function selection*		Stores the number of input pulses	Stores the number of input pulses		
er fu	Periodic	to the buffer memory at each	to the remote register at each		
unte	pulse	preset cycle time for the duration	preset cycle time for the duration	0	
S	counter	that a signal carrying the counter	that a signal carrying the counter		
	function	function selection start command is	function selection start command is		
		being input. being input.			
	Count		·		
	disable Stops counting of the pulse while the count enable command is ON.		count enable command is ON.	0	
	function				

^{*:} With counter function selection, only one of the four functions can be selected and used.

(c) Programmable controller CPU I/O signal comparisons

The sequence program must be changed as the I/O signals differ. For details on I/O signals and sequence programs, refer to the User's Manual.

AD62C					AJ65BT-D62					
Device No.	Description	Device No.	Description	Device CH1	e No. CH2	Description	Device CH1	e No. CH2	Description	
X00 to X03	Use prohibited	Y00 to Y03	Use prohibited	RXn0	RXn4	Counter value large (Point No. 1)	RY t	′n0 o ′nF	-	
X04 *1	Communication error detection	Y04 *1	Communication error detection reset	RXn1	RXn5	Counter value coincidence (Point No. 1)	RY (n+1)0	RY (n+1)7	Point No.1 coincidence signal reset command	
X05	Detection of reset status	Y05	Reset status detection reset	RXn2	RXn6	Counter value small (Point No.1)	RY (n+1)1	RY (n+1)8	Preset command	
X06	Use prohibited	Y06	Use prohibited	RXn3	RXn7	External preset command detection	RY (n+1)2	RY (n+1)9	Coincidence signal enable	
X07 *2	Communication completion wait flag	Y07 *2	Communication completion flag reset	RXn8	RXnB	Counter value large (Point No. 2)	RY (n+1)3	RY (n+1)A	Down count command	
		Y08 to Y17	Use prohibited	RXn9	RXnC	Counter value coincidence (Point No. 2)	RY (n+1)4	RY (n+1)B	Count enable	
		Y18	Count enable command	RXnA	RXnD	Counter value small (Point No. 2)	RY (n+1)5	RY (n+1)C	-	
X08 to X1A	Use prohibited	Y19	Down count command	RXnE	RXnE RXnF	-	RY (n+1)6	RY (n+1)D	Counter function selection start command	
		Y1A	Preset command						t	n+1)E o n+1)F
X1B	Fuse blown detection	Y1B	Ring counter command	RX (n+1)0	RX (n+1)2	Preset completion	RY (n+2)0	RY (n+2)2	External preset detection reset command	
X1C	Sampling/ periodic counter	Y1C	Counter function selection start	RX (n+1)1	RX (n+1)3	Counter function detection	RY (n+2)1	RY (n+2)3	Point No.2 coincidence signal reset command	
	ON/OFF flag		command	t	ı+1)4 o ı+7)7	-		n+2)4 o n+7)7	-	
X1D	Limit switch output READY flag	Y1D	Limit switch output command	RX(r	1+7)8	Initial data processing request flag	RY(r	n+7)8	Initial data processing complete flag	
X1E	External preset request detection	Y1E	External preset request detection reset command	RX(n+7)9 to RX(n+7)A RX(n+7)B RX(n+7)C to RX(n+7)F		-				
X1F	Multiple-dog setting error detection	Y1F	Multiple-dog setting error detection reset			Remote		n+7)9 o n+7)F	-	
						-				

^{*1, *2:} These input signals are used on the A2CCPU side.



(d) Buffer memory addresses comparisons

The sequence program must be changed as the buffer memory assignments differ. For details on buffer memory and sequence programs, refer to the User's Manual.

	AD62C		AJ65BT-D62				
Address	Name	Read/write	Add	lress	Name	Read/write	
Address	Name	Reau/write	CH1	CH1 CH2		Reau/write	
0	Present value (L)		RWwm	RWwm+8	Preset value setting area	1	
1	(H)		RWwm+1	RWwm+9	Heset value setting area)	
			5,11	511/	Pulse input mode/Function selection		
2	Counter function selection (L) count value	R	RWwm+2	RWwm+A	register/External output hold and cle setting area	ar	
3	(H)		RWwm+3	RWwm+B	(L)	1	
	Limit switch output				Coincidence output point	W	
4	status flag		RWwm+4	RWwm+C	No.1 setting area (H)	
	(CH1 to CH8)						
5	Pulse input mode setting		RWwm+5	RWwm+D	Sampling/periodic setting area		
6	Counter function selection setting	-	RWwm+6	RWwm+E	Coincidence output point (L		
7	(1)	1	RWwm+7	RWwm+F	No.2 setting area (H)	
8	Preset value setting (H)		RWrn	RWrn+8	(L'	'	
9	(L)	RWrn+1 RWrn+9		Current value storage area (H			
10	Ring counter value setting (H)	R/W	RWrn+2	RWrn+A	Latch count value/Sampling (L	1	
		1			count value/Periodic pulse		
11	Sampling/periodic setting		RWrn+3	RWrn+3 RWrn+B	count previous value (H)	
					storage area	R	
12	Communication error code		RWrn+4	RWrn+C	Periodic pulse count (L)		
13	Multiple-dog setting error code		RWrn+5	RWrn+D	present value storage area (H)	
					Sampling/periodic counter		
14 to 30	CH1 limit switch output data setting		RW	rn+6	flag storage area		
					(common for CH1, CH2)		
31 to 47	CH2 limit switch output data setting		RW	rn+7			
48 to 64	CH3 limit switch output data setting	R/W	RWrn+E		Use prohibited	_	
65 to 81	CH4 limit switch output data setting] K/VV	RW	rn+F			
82 to 98	CH5 limit switch output data setting						
99 to 115	CH6 limit switch output data setting						
116 to 132	CH7 limit switch output data setting						
133 to 149	CH8 limit switch output data setting						

8

REPLACING THE COMMUNICATION MODULES

8.1 List of Alternative Communication Module Models

MELSECNET/MINI-S3, A2C models to be discontinued		Alternative models for CC-Link	
Product name	Model name	Model name	Remarks (restrictions)
RS-232 interface module	AJ35PTF-R2	AJ65BT-R2N	 1) Change in RS-232C cable (25-pin → 9-pin) 2) Change in general-purpose I/O specifications (power voltage range, number of points) 3) Change is required as the program is not compatible.
Portable type	AJ35T-OPB-P1-S3	None	
operating box	AJ35PT-OPB-M1-S3	None	
Connection cable for operating box	AC30MINI	None	Transition to GOT is recommended.
Relay type joint box	AJ35T-JB-S3	None	
Transmission converter	AJ35PTC-CNV	AJ65SBT-RPS	New cable must be used as the two systems differ in cable types.

8.2 Serial Communication Module Comparisons

(1) Comparisons between AJ35PTF-R2 and AJ65BT-R2N

(a) Performance specifications comparisons

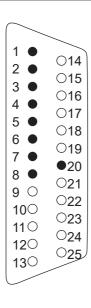
○: Compatible, ∧: Partial change required, x: Not compatible

		Specific	rtial change requi	red, × : Not compatible	
Interface specifications		•	cations AJ65BT-R2N	Compatibility	Precautions for
		AJ35PTF-R2 RS-232C-compliant (25-pin) × 1 channel RS-232C-compliant (9-pin) × 1 channel		Δ	replacement For differences in the RS-232C interface specifications, refer to 1).
Commi	unication d	Full-duplex communication system (nonprocedural)	Full-duplex communication system (nonprocedural)	0	
Synchr	ronization d	Asynchronous method	Asynchronous method	0	
Transm	nission speed	300, 600, 1200, 2400, 4800, 9600, 19200 bps	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps ^{*1}	0	
	Start bit	1	1	0	
Data	Data bit	7 or 8	7 or 8	0	
type	Parity bit	1 or 0 (none)	1 or 0 (none)	0	
	Stop bit	1 or 2	1 or 2	0	
Error d	letection	Parity check (Odd or Even)	Parity check (Odd or Even)	0	
Commi	unication	DTR/DSR (ER/DR) control	DTR/DSR (ER/DR) control	0	
control		XON/XOFF (DC1/DC3) control	DC1/DC3 control	0	
Transm		15m	Up to 15m	0	
OS rece	eive buffer	2048 bytes	5120 bytes	0	
	Input	12/24VDC (sink type) × 4 points	24VDC (sink type) × 2 points		For differences in
Genera purpos I/O		Transistor output (sink type) 12/24VDC × 4 points	Transistor output Transistor output (sink type) (sink type)		the general- purpose I/O specifications, refer to 2) and 3).
Numbe	er of occupied s	4 stations (4 stations × 8 points)	1 station (1 station × 32 points)	×	
Power	supply voltage	15.6 to 31.2VDC	24VDC	0	
Curren	t consumption	130mA (24V)	110mA (24V)	0	
Weight	t	0.71kg	0.40kg	Δ	
Max. siz	ze of send/ buffer	1000 bytes each for send/receive (1000 bytes for total of send and receive)	(1536 words for total of send and receive)	0	
External dimensions		250(H) × 132(W) × 41(D)mm	80(H) × 170(W) × 47(D)mm	×	The overall size differs. Pay attention to the mounting dimensions.

1) RS-232 interface specifications comparisons

The RS-232C cable must be changed as the RS-232C interface specifications are different between the AJ35PTF-R2 and AJ65BT-R2N.

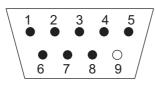
[AJ35PTF-R2]



Pin No.	Name	Signal code	Signal direction AJ35PTF-R2←External device
1	Frame ground	FG	←
2	Send data	SD(TXD)	-
3	Receive data	RD(RXD)	←
4	Request to send	RS(RTS)	-
5	Clear to send	CS(CTS)	←
6	Data set ready	DSR(DR)	←
7	Signal ground	SG	←
8	Carrier detect	CD	←
20	Data terminal ready	DTR(ER)	

25-pin D-sub (female) screw type 17LE-13250-22-D2AC (DDK Ltd.) or equivalent

[AJ65BT-R2N]



Use the following model as a connector of the AJ65BT-R2N side connection cable.

DDK Ltd.

Plug, chell: 17JE-23090-02 (D8A) (-CG)

Pin No.	Name	Signal code	Signal direction AJ65BT-R2N ↔ External device
1	Data carrier detect	CD(DCD)	←
2	Received data	RD(RXD)	←
3	Transmitted data	SD(TXD)	
4	Data terminal ready	ER(DTR)	
5	Signal ground	SG	-
6	Data set ready	DR(DSR)	-
7	Request to send	RS(RTS)	
8	Clear to send	CS(CTS)	-
9	_	_	_

2) General-purpose input specifications comparisons

[AJ35PTF-R2]

Item			DC input (sink type)	
Itte	em	AJ35PTF-R2			Terminal layout
Number of inp	ut points	4 pc	oints		
Insulation met	hod	Photod	coupler		
Rated input vo	ltage	12VDC	24VDC		
Rated input cu	rrent	3mA	7mA		
Operating volta	age range	10.2 to 31.2VDC (rip	ople ratio within 5%)		
Maximum num	ber of	100% (4 points) o	imultaneously ON		
simultaneous i	nput points	100% (4 points) s	initialieously ON		
ON voltage/ON	N current	9.5V or more /	2.6mA or more		
OFF voltage/C	FF current	6V or less / 1.0mA or less		Γ	1 X0 0 0
Input resistance	e	Approx. 3.4kΩ			2 X1 0 0
Response	OFF→ON	10ms	or less		3 X2 - O O
time	ON→OFF	10ms	or less		4 X3 - O O
Wiring method	for common	4 points per common			5 COM1 + -
willing method	TIOI COMMINION	(common terminal: TB5)			6 NC
Operation indi	cation	ON indica	tion (LED)		7 NC
External conne	action	8-point terminal	block connector	L	8 NC
External conne	SCHOTT	(M3 × 6	screws)		
Applicable wire	a siza	0.75 to	2mm ²		
Applicable wife size		(applicable tighteni	ng torque 7kg • cm)		
		1.25-3, 1.25-YS3A, 2-	S3, 2-YS3A, V1.25-3,		
Applicable solo	derless	V1.25-YS3A, V2-S3	3, V2-YS3A, 1.25-3,		
terminal		1.25-YS3A, 2-S3,	2-YS3A, V1.25-3,		
		V1.25-YS3A, V	2-S3, V2-YS3A		

[AJ65BT-R2N]

164		DC input (positive/negati	ve commor	shared typ	oe)	
116	em	AJ65BT-R2N		External c	onnection	
Number of inp	ut points	2 points				
Isolation meth	od	Photocoupler				
Rated input vo	oltage	24VDC	<u></u>	IXC R		-
Rated input cu	urrent	Approx. 7mA		INC) [K	日 (١ ـــــا
Operating volt	age range	19.2 to 28.8VDC (ripple ratio within 5%)			94	7
Maximum nun simultaneous		100%		2 CCM1 — 1		
ON voltage/O	N current	14V or more / 3.5mA or more				
OFF voltage/0	OFF current	6V or less / 1.7mA or less				م هد
Input resistant	се	Approx. 3.3kΩ	Internal circuit			
Response	OFF→ON	10ms or less			阜 (李)) =
time	ON→OFF	10ms or less		'		
Wiring method	l for common	2 points/common (COM1)				
willing method	i loi common	Positive/negative common shared type				
External connection system		7-point terminal block (M3.5 screw)	Terminal number	Signal	Terminal number	Signal
Applicable wir	e size	0.75 to 2mm ²	TB1	XC	TB3	XD
Applicable sol terminal	derless	RAV1.25-3.5, RAV2-3.5 (JIS C 2805-compliant)	TB2	COM1	-	-

3) General-purpose output specifications comparisons

[AJ35PTF-R2]

Item		Transistor out	put (sink type)
Itte	em	AJ35PTF-R2	Terminal layout
Number of outp	put points	4 points	
Insulation meth	nod	Photocoupler	
Rated load volt	tage	12/24VDC	
Operating load	l voltage range	10.2 to 31.2VDC	
Maximum load	current	0.1A/point, 0.4A/common	
Maximum inrus	sh current	0.4A 100ms or less	
Leakage curre	nt at OFF	0.1mA or less	
Maximum volta	age drop at ON	2.5V (0.1A), 1.75V (5mA), 1.7V (1mA)	9 Y0 - T-
Response C	OFF→ON	2ms or less	10 Y1 - T
time C	ON→OFF	2ms or less (resistance load)	11 Y2
Surge suppres	sor	Clamp diode	12 Y3 I
Mining mothed	for common	4 points per common	13 12/24V
Wiring method	ioi common	(common terminal: TB14)	14 COM2 - +
Operation indic	cation	ON indication (LED)	15 NC
External conne	ation	8-point terminal block connector	16 NC
External conne	ection	(M3 × 6 screws)	
Applicable wire	o ei = e	0.75 to 2mm ²	
Applicable wire size		(applicable tightening torque 7kg - cm)	
Applicable sale	dorlogo torminal	1.25-3 1.25-YS3A 2-S3 2-YS3A V1.25-3	
Applicable solo	derless terminal	V1.25-YS3A V2-S3 V2-YS3A	
External power	r Voltage	10.2 to 31.2VDC	
supply for outp	out Current	15mA (TYP.24VDC)	

[AJ65BT-R2N]

[A000B1=1X21V]		Transistor output (Sink type)						
		AJ65BT-R2N		External c	onnection			
No. of output points		2 points						
Insulation method		Photocoupler						
Rated load voltage		12 to 24VDC (+20/-15%)						
Operating load voltage range		10.2 to 28.8VDC (Ripple ratio is 5% or less)						
Max. load current		0.1A/point						
		0.2A/common						
Max. inrush	current	0.7A, 10ms or less						
Leakage cu	rrent at OFF	0.1mA or lower						
Max. voltage	e drop at ON	0.1VDC(TYP.)0.1A, 0.2VDC(MAX.)0.1A				LED		
Output meth	nod	sink type	TB 5	TB 5 Internal				
Response	OFF→ ON	1ms or less				circuit		
time	ON→ OFF	1ms or less (Resistance load)	1		T			
External	Voltage	10.2 to 28.8VDC (Ripple ratio is 5% or less)]					
power supply of output section	Current	10mA (at 24VDC) (MAX all points ON)	TB 7	Constant-voltage circuit	}			
Surge suppressor		Zener diode	12/24VDC	<u> </u>				
Wiring method for common		2 points/common (COM2)						
External connection method		7-point terminal block (M3.5 screw)						
Applicable wire size		0.75 to 2mm ²						
Applicable solderless		RAV1.25-3.5, RAV2-3.5						
terminal		(JIS C 2805-Compliant)						
Protective function		Provided						
		Overheat protective function operates in unit of 1 point.	Terminal number	Signal	Terminal number	Signal		
		Overload protective function operates in unit of 1 point.	TB4	+24V	TB6	COM2		
		(Detection disabled)	TB5	YC	TB7	YD		

(b) Functional comparisons

The following table shows RS-232 interface module comparisons between MELSECNET/MINI-S3 and CC-Link.

O: Compatible, △: Partial change required, ×: Not compatible

Item	Functions			
item	AJ35PTF-R2	AJ65BT-R2N	bility	replacement
Barcode reading	Actually required data only can be read to the programmable controller CPU regardless of the data communication protocol of the compatible barcode reader.	None	×	Utilize nonprocedural communication.
ID card reading/ writing	Data can be read from and written to a programmable controller CPU by setting the MINI standard protocol for communication with the compatible ID card controller.	None	×	Utilize nonprocedural communication.
Nonprocedural communication	Nonprocedural communication with external devices is available.	Nonprocedural communication with external devices is available. There are two methods for nonprocedural communications: the automatic buffer memory update function and the RIWT (RISEND) and RIRD (RIRCV) instructions.	Δ	Create new programs as there is no compatibility in programs.

(c) Switch comparisons

The switch settings are not compatible as MELSECNET/MINI-S3 and CC-Link are different networks.

For details, refer to the User's Manual for each module.

(d) Parameter comparisons

The parameter settings are not compatible as MELSECNET/MINI-S3 and CC-Link are different networks.

For details, refer to the User's Manual for each module.

(e)Program Comparisons

The I/O signals and buffer memory are not compatible as MELSECNET/MINI-S3 and CC-Link are different networks.

For details, refer to the User's Manual for each module.

APPENDICES

Appendix 1 External Dimensions

For external dimensions of modules described in this handbook, refer to the user's manual for each module.

Appendix 2 Performance Specifications Comparison between

MELSECNET/MINI-S3 compact type I/O module and Renewal

Tool for A0J2

Appendix 2.1Precautions for the performance specifications comparison

This section describes the precautions when comparing the performance specifications between a MELSECNET/MINI-S3 compact type I/O module and a renewal tool for A0J2.

(1) External supply power (24VDC)

The renewal tool for A0J2 requires an external supply power (24VDC). Reuse the I/O module terminal block of the existing MELSECNET/MINI-S3 compact type I/O module and connect the external supply power (24VDC) to the renewal tool.

For precautions or details when connecting the external supply power, refer to the following.

 Renewal tool for A0J2 series Transition from MELSEC-A0J2(H) series to renewal system using renewal tool

(Issued by Mitsubishi Electric System & Service Co., Ltd.)

When the I/O module on the CC-Link side is connected to the renewal tool for A0J2 with the dedicated cable, the external supply power (24VDC) supplies the driving power for external devices of the I/O module on the CC-Link side.

(2) Selection of I/O modules on the CC-Link

The renewal tool for A0J2 has functions that convert AC input into DC input, and convert transistor output into relay output or triac output.

Therefore, select a DC input module and a transistor output module for the I/O modules on the CC-Link side, regardless of the type of the renewal tool for A0J2.

When the I/O module on the CC-Link side is connected to the renewal tool for A0J2 with the dedicated cable, select the AJ65SBTCF1-32D or AJ65SBTCF1-32T that can be wired using a connector for the I/O module on the CC-Link side.

The mounting plate SC-A0JQPT2 can be used to mount the AJ65SBTCF1-32D or AJ65SBTCF1-32T. In this case, drilling of mounting holes is not required.

(3) Derating chart for the maximum number of simultaneous input points

(a) Input module on the programmable controller side

Check the number of simultaneous input points by referring to the derating chart of the selected CC-Link input module.

When the AJ65SBTCF1-32D is used, the maximum number of simultaneous input points is 100% (all points turn on simultaneously).

(b) Renewal tool for A0J2

The maximum number of simultaneous input points of the renewal tool for A0J2 (input module) has the limitation depending on the external supply power (24VDC) that supplies the power to the module. Use the module within the range shown in the derating chart in the performance specifications comparison.

(4) Temperature derating for the triac output module

The output load current of the renewal tool for A0J2 (triac output module) has the limitation depending on the ambient temperature in the environment where the module is used.

Use the module within the range shown in the temperature derating chart in the performance specifications comparison.

Appendix 2.2Performance specifications comparison

This section shows the performance specifications comparison between MELSECNET/MINI-S3 compact type remote I/O module and interface module of renewal tool for A0J2 described in Section 1.2.

(1) Specifications comparison between AJ35PTF-32A and interface module (SC-A0JQIF32A)

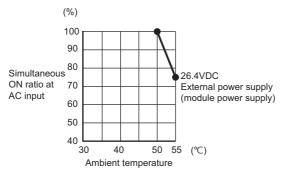
O: Compatible, △: Partially changed, ×: Incompatible

Specifi	ications	AJ35PTF-32A input specifications	SC-A0JQIF32A input specifications	Compatibility	Precautions for replacement
Number of in	put points	32 points	32 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	100 to 120VAC, 50/60Hz	100 to 120VAC, 50/60Hz	0	
Rated input c	urrent	10mA (100VAC 60Hz)	10mA (100VAC 60Hz)	0	
Operating val	Itaga ranga	85 to 132VAC	85 to 132VAC	0	
Operating vol	itage range	(50/60Hz ±5%)	(50/60Hz ±5%)	0	
Maximum nui simultaneous		100% (16 points/common) simultaneously ON	Refer to the derating chart.*1	Δ	Use the module within the range in the derating chart. When the voltage of the external power supply (module power supply) is high, the AC input simultaneous ON ratio is low.
ON voltage/C	N current	80VAC or more/6mA or more	80VAC or more/6mA or more	0	
OFF voltage/	OFF current	40VAC or less/4mA or less	26VAC or less/1.7mA or less	Δ	The OFF voltage/OFF current have been reduced.*2
Inrush curren	t	Max. 300mA, within 0.3ms (132VAC)	Max. 300mA, within 0.3ms (132VAC)	0	
Input resistan	nce	Approx. 10kΩ (60Hz), Approx. 12k (50Hz)	Approx. 10kΩ (60Hz), Approx. 12k (50Hz)	0	
Response	OFF → ON	15ms or less (6ms TYP.)	14ms or less (11ms TYP.)	Δ	In combination with CC-Link input module: 15.5ms or less (12ms TYP.)*3
time	ON → OFF	35ms or less (16ms TYP.)	19ms or less (13ms TYP.)	Δ	In combination with CC-Link input module: 21.5ms or less (14ms TYP.)*3
Common terr		16 points/common (Common terminal: TB17, TB34)	16 points/common (Common terminal: TB17, TB34)	0	
Operation ind	lication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link input module.
External power supply (Module	Voltage	15.6 to 31.2VDC	24VDC ±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for programmable controller operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
power supply)	Current	110mA	210mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External conr method	nection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable wi	re size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	

O: Compatible, △: Partially changed, ×: Incompatible

Specifications	AJ35PTF-32A input specifications	SC-A0JQIF32A input specifications	Compatibility	Precautions for replacement
Applicable solderless terminal	R1.25-3, R2-3 RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of occupied stations	4 stations (4 stations × 8 points)	-	-	When the AJ65SBTCF1-32D is used, the number of occupied stations is 1 station (When using CC-Link, it is 1 station × 32 points).
Weight	0.75kg	0.40kg	Δ	Also consider the weight of the fixed stand of programmable controller.*4
External dimensions	250(H) × 132(W) × 41(D) mm	182(H) × 132(W) × 41(D) mm*5	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

*1 The following figure shows the derating.



*2 Check that the specifications of leakage current of the used sensor and switches are equal to or less than the OFF current value

If leakage current is equal to or more than the OFF current specifications, take measures against it with referring to "Input Module Troubleshooting" in the following handbook.

(Handbook for replacement)

Renewal tool for A0J2 series transition from MELSEC-A0J2(H) series to renewal system using renewal tool (Refer to Appendix 2.6.)

- *3 A value when the AJ65SBTCF1-32D is used.
- *4 The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *5 The external dimensions of the SC-A0JQIF32A do not include those of its projection.

(2) Specifications comparison between AJ35PTF-32D and interface module (SC-A0JQIF32D)

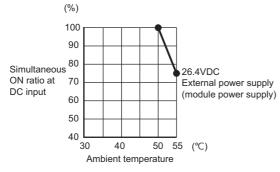
 $\bigcirc : \mathsf{Compatible}, \ \triangle : \mathsf{Partially changed}, \ \times \colon \mathsf{Incompatible}$

Specifi	cations	AJ35PTF-32D input specifications	SC-A0JQIF32D input specifications	Compatibility	Precautions for replacement
Number of in	out points	32 points	32 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12/24VDC	12/24VDC	0	
Rated input c	urrent	Approx. 3mA/Approx. 7mA	Approx. 3mA/Approx. 7mA	0	
Operating vol	tage range	10.2 to 31.2VDC (ripple ratio within 5%)	10.2 to 26.4VDC (ripple ratio within 5%)	Δ	The operating voltage range differs.
Maximum nur simultaneous		100% (16 points/common) simultaneously ON	Refer to the derating chart.*1	Δ	Use the module within the range in the derating chart.
ON voltage/O	N current	9.5VDC or more/2.6mA or more	9.5VDC or more/2.6mA or more	0	
OFF voltage/	OFF current	6VDC or less/1.0mA or less	6VDC or less/1.0mA or less	0	
Input resistan	ice	Approx. 3.4kΩ	Approx. 3.3kΩ	0	
Input form		Sink input (Input current flows off.)	Sink input (Input current flows off.)	0	
Response	OFF → ON	10ms or less (6ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*2
time	ON → OFF	10ms or less (7.5ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*2
Common terminal arrangement		16 points/common (Common terminal: TB17, TB34)	16 points/common (Common terminal: TB17, TB34)	0	
Operation ind	lication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link input module.

O: Compatible, △: Partially changed, ×: Incompatible

Specif	ications	AJ35PTF-32D	SC-A0JQIF32D	Compatibility	Precautions for replacement
External power supply (Module	Voltage	15.6 to 31.2VDC	24VDC ±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link input module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
power supply)	Current	110mA	200mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External con	nection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable w	ire size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable so terminal	olderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of o	ccupied	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D, the number of occupied stations is 1 station (When using CC-Link, it is 1 station × 32 points). (When using CC-Link, it is 1 station × 32 points).
Weight		0.70kg	0.36kg	Δ	Also consider the weight of the fixed stand of programmable controller.*3
External dime	ensions	250(H) × 132(W) × 41(D) mm	182(H) × 132(W) × 41(D) mm* ⁴	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

*1 The following figure shows the derating.



- *2 A value when the AJ65SBTCF1-32D is used.
- *3 The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *4 The external dimensions of the SC-A0JQIF32D do not include those of its projection.

(3) Specifications comparison between AJ35PTF-24R and interface module (SC-A0JQIF24R)

 $\bigcirc : Compatible, \ \triangle : Partially \ changed, \ \times : Incompatible$

Specif	ications	AJ35PTF-24R output specifications	SC-A0JQIF24R output specifications	Compatibility	Precautions for replacement
Number of ou	tput points	24 points	24 points	0	
Insulation method		Photocoupler	Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated switchi current	ng voltage/	24VDC 2A (Resistance load)/ point 240VAC 2A (COS φ =1)/point 5A/common	24VDC 2A (Resistance load)/ point 240VAC 2A (COSφ=1)/point 5A/common	0	
Minimum swit	ching load	5VDC 1mA	5VDC 1mA	0	
	tching voltage	264VAC 125VDC	264VAC 125VDC	0	
Maximum swi		3600 times/hr	3600 times/hr	0	
Mechanical lif	·e	20 million times or more	20 million times or more	0	
		Rated switching voltage/current load 200,000 times or more	Rated switching voltage/current load 200,000 times or more	0	
Electrical life		200,000 times of more 200VAC 1.5A, 240VAC 1A ($COS\phi$ =0.7) 200,000 times or more 200VAC 1A, 240VAC 0.5A ($COS\phi$ =0.35) 200,000 times or more 24VDC 1A, 100VDC 0.1A (L/R =7ms) 200,000 times or more	200,000 times of more 200VAC 1.5A, 240VAC 1A ($\cos \phi = 0.7$) 200,000 times or more 200VAC 0.75A, 240VAC 0.5A ($\cos \phi = 0.35$) 200,000 times or more 24VDC 1A, 100VDC 0.1A ($incert$) ($incert$) 200,000 times or more	0	
Response	OFF→ON	10ms or less	9ms or less	Δ	In combination with CC-Link output module: 9.5ms or less *1
time	ON→OFF	12ms or less	11ms or less	Δ	In combination with CC-Link output module: 12.5ms or less *1
External supply	Voltage	24VDC±10% Ripple voltage 4Vp-p or less	24VDC±10% Ripple voltage 4Vp-p or less	0	
power (Relay coil driving power)	Current	220mA (24VDC All points are ON.)	230mA (24VDC All points are ON.)	0	Review current capacity since current consumption is increased.
Surge suppressor		None	None	0	
Fuse rating		None	None	0	
Fuse blown indication		_		0	
Relay socket		None	None	0	
Common terminal arrangement		8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation ind	ication	Available (Turning ON the output turns LED ON)	None	Δ	Operation indication can be checked with CC-Link output module.

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

Specifi	ications	AJ35PTF-24R	SC-A0JQIF24R	Compatibility	Precautions for replacement
External	Voltage	15.6 to 31.2VDC	_	0	
supply power (Module power supply)	Current	120mA	-	0	No external power supply (module power supply) is required.
External conn	ection method	36-point terminal block connector	36-point terminal block connector	0	
External confi	ection method	(M3 × 6 screws)	(M3 × 6 screws)	O	
		0.75 to 2mm ²	0.75 to 2mm ²		
Applicable wir	e size	(Applicable tightening torque	(Applicable tightening torque	0	
		69N • cm)	69N • cm)		
Applicable sol	lderless	R1.25-3, R2-3, RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
	cupied stations ccupied points)	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32T, the number of occupied stations is 1 station (When using CC-Link, it is 1 station × 32 points).
Weight		0.80kg	0.47kg	Δ	Also consider the weight of fixed stand of programmable controller.*2
External dimensions		250(H) × 132(W) × 41(D) mm*3	182(H) × 132(W) × 41(D)mm*4	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

^{*1:} A value when using the AJ65SBTCF1-32T.

^{*2:} The weight of fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.

^{*3:} External dimensions of the AJ35PTF-24R does not include dimensions of the optical fiber cable connector.

^{*4:} The external dimensions of the SC-A0JQIF24R do not include those of its projection.

(4) Specifications comparison between AJ35PTF-24S and interface module (SC-A0JQIF24S)

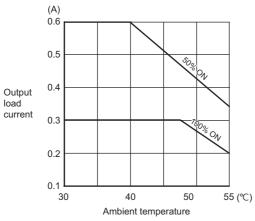
 $\bigcirc : Compatible, \ \triangle : Partially \ changed, \ \times : Incompatible$

Specific	ations	AJ35PTF-24S output specifications	SC-A0JQIF24S output specifications	Compatibility	Precautions for replacement
Number of inp	ut points	24 points	24 points	0	
Insulation met	hod	Photocoupler	Photocoupler	0	
Rated load vol	tage	100 to 240VAC, 40 to 70Hz	100 to 240VAC, 47 to 63Hz	Δ	The available frequency range is small.
Maximum load	l voltage	264VAC	264VAC	0	
Maximum load	current	0.6A/point, 2.4A/common	0.6A/point, 2.4A/common	0	
Minimum load	voltage/	24VAC 100mA, 100V/240VAC	24VAC 100mA, 100V/240VAC		
current		10mA	10mA	0	
Maximum inru	sh current	20A 10ms or less 8A 100ms or less	20A 10ms or less 8A 100ms or less	0	
Leakage curre	nt at OFF	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	0	
Maximum volta	age drop at	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	0	
Temperature d	erating	None	Refer to the derating chart.*1	Δ	Use the module within the range in the derating chart.
Response	OFF → ON	1ms or less	1ms or less	Δ	In combination with CC-Link output module: 2ms or less*2
time	ON → OFF	0.5 cycle + 1ms or less	0.5 cycle + 1ms or less	Δ	In combination with CC-Link output module: 0.5 cycle + 2ms or less*2
Fuse		High speed type fuse 3.2A (one fuse/common) HP-32	None	×	Install a fuse externally from the module (one fuse/common). (A fuse and fuse holder are included.)
Fuse blown in	dication	Available (When a fuse is blown, the LED turns on and a signal is output to the CPU.)	-	-	
Surge	CR absorber	0.022 μ F + 47 Ω	0.015 μ F + 22 Ω	0	
suppressor	Varistor	None	Varistor voltage (400 to 540V)	0	
Common term arrangement	inal	8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation indi	cation	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link output module.

O: Compatible, △: Partially changed, ×: Incompatible

Specifi	cations	AJ35PTF-24S	SC-A0JQIF24S	Compatibility	Precautions for replacement
External power supply (Module	Voltage	15.6 to 31.2VDC	24VDC ±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link output module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
power supply)	Current	200mA	370mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External conn	nection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable wii	re size	0.75 to 2mm ² (Applicable tightening torque 69N - cm)	0.75 to 2mm ² (Applicable tightening torque 69N - cm)	0	
Applicable so terminal	lderless	R1.25-3, R2-3 RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of oc stations	cupied	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32T, the number of occupied stations is 1 station (When using CC-Link, it is 1 station × 32 points). (When using CC-Link, it is 1 station × 32 points).
Weight		0.70kg	0.46kg	Δ	Also consider the weight of the fixed stand of programmable controller.*3
External dime	ensions	250(H) × 132(W) × 41(D) mm	182(H) × 132(W) × 41(D) mm* ⁴	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

*1 Temperature derating chart



- *2 A value when the AJ65SBTCF1-32T is used.
- *3 The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *4 The external dimensions of the SC-A0JQIF24S do not include those of its projection.

(5) Specifications comparison between AJ35PTF-24T and interface module (SC-A0JQIF24T)

 $\bigcirc : Compatible, \ \triangle : Partially \ changed, \ \times : Incompatible$

Specif	ications	AJ35PTF-24T output specifications	SC-A0JQIF24T output specifications	Compatibility	Precautions for replacement
Number of in	put points	24 points	24 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated load vo	oltage	12/24VDC	12/24VDC	0	
Operating loa	ad voltage	10.2 to 31.2VDC	10.2 to 30VDC	0	The operating voltage range differs.
Maximum loa	nd current	0.5A/point, 4A/common	0.5A/point, 4A/common	0	
Maximum inr	ush current	4A 10ms or less	4A 10ms or less	0	
Leakage curr	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vo	ltage drop at	0.9VDC (TYP.) 0.5A	0.9VDC (TYP.) 0.5A	0	
ON Response	OFF → ON	1.5VDC (MAX.) 0.5A 2ms or less	0.8VDC (MAX.) 0.5A 1ms or less	Δ	In combination with CC-Link output module: 2ms or less*1
time	ON → OFF	2ms or less (resistance load)	1ms or less (resistance load)	Δ	In combination with CC-Link output module: 2ms or less (resistance load)*1
External	Voltage	12/24VDC (10.2 to 31.2VDC)	12/24VDC (10.2 to 30VDC)	0	
power supply	Current	23mA (TYP. 24VDC 8 points/ common ON)	5mA (TYP. 24VDC 8 points/ common ON)	0	
Surge suppre	essor	Varistor (52 to 62V)	Varistor (50.4 to 61.6V)	0	
Common terminal arrangement		8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation indication		Available (Turning ON the output turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link output module.
Fuse		None	6.7A (Replacement is not available.) (Fuse breaking capacity: 50A)	0	
Fuse blown in	ndication	None	None	0	

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

Specif	ications	AJ35PTF-24T	SC-A0JQIF24T	Compatibility	Precautions for replacement
External power supply (Module power	Voltage	15.6 to 31.2VDC	24 VDC \pm 10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link output module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
supply)	Current	130mA	70mA	0	
External con method	nection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable w	ire size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N - cm)	0	
Applicable setterminal	olderless	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of o stations	ccupied	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32T, the number of occupied stations is 1 station (When using CC-Link, it is 1 station × 32 points).
Weight		0.73kg	0.36kg	Δ	Also consider the weight of the fixed stand of programmable controller.*2
External dimensions		250(H) × 132(W) × 41(D) mm	182(H) × 132(W) × 41(D) mm*3	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

^{*1} A value when the AJ65SBTCF1-32T is used.

^{*2} The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.

^{*3} The external dimensions of the SC-A0JQIF24T do not include those of its projection.

(6) Specifications comparison between AJ35PTF-28AR and interface module (SC-A0JQIF28AR)

 $\bigcirc \hbox{: Compatible, \triangle: Partially changed, \times: Incompatible}$

Specif	ications	AJ35PTF-28AR input specifications	SC-A0JQIF28AR input specifications	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input v	/oltage	100 to 120VAC, 50/60Hz	100 to 120VAC, 50/60Hz	0	
Rated input of	current	10mA (100VAC 60Hz)	10mA (100VAC 60Hz)	0	
Operating vo	Itage range	85 to 132VAC (50/60Hz ±5%)	85 to 132VAC (50/60Hz ±5%)	0	
Maximum number of simultaneous input points		100% (16 points/common) simultaneously ON	Refer to the derating chart.*1	Δ	Use the module within the range in the derating chart. When the voltage of the external power supply (module power supply) is high, the AC input simultaneous ON ratio is low.
ON voltage/0	ON current	80VAC or more/6mA or more	80VAC or more/6mA or more	0	
OFF voltage/	OFF current	40VAC or less/4mA or less	26VAC or less/1.7mA or less	Δ	The OFF voltage/OFF current have been reduced.*2
Inrush currer	nt	Max. 300mA, within 0.3ms (132VAC)	Max. 300mA, within 0.3ms (132VAC)	0	
Input resistar	nce	Approx. 10 k Ω (60Hz), Approx. 12 k Ω (50Hz)	Approx. 10kΩ (60Hz), Approx. 12kΩ (50Hz)	0	
Response	OFF → ON	15ms or less (6ms TYP.)	14ms or less (11ms TYP.)	Δ	In combination with CC-Link input module: 15ms or less (12ms TYP.)*3
time	ON → OFF	25ms or less (16ms TYP.)	19ms or less (13ms TYP.)	Δ	In combination with CC-Link input module: 21.5ms or less (14ms TYP.)*3
Common terminal arrangement		16 points/common (Common terminal: TB17)	16 points/common (Common terminal: TB17)	0	
Operation inc	dication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link input module.

 $\bigcirc \colon \mathsf{Compatible}, \ \underline{\wedge} \colon \mathsf{Partially \ changed}, \ \times \colon \mathsf{Incompatible}$

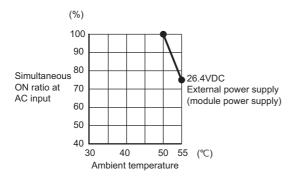
Specifi	ications	AJ35PTF-28AR output specifications	SC-A0JQIF28AR output specifications	Compatibility	Precautions for replacement
Number of in	put points	12 points	12 points	0	
Insulation me	ethod	Photocoupler	Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated load vo	oltage/current	24VDC 2A (resistance load)/ point 240VAC 2A (COS ϕ = 1)/point 5A/common	24VDC 2A (resistance load)/ point 240VAC 2A (COS ϕ = 1)/point 5A/common	0	
Minimum swi	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum sw voltage	itching	264VAC, 125VDC	264VAC, 125VDC	0	
Maximum sw frequency	itching	3600 times/hr	3600 times/hr	0	
Mechanical li	fe	20 million times or more	20 million times or more	0	
		Rated switching voltage/current load 200000 times or more	Rated switching voltage/current load 200000 times or more	0	
Electrical life		200VAC 1.5A, 240VAC 1A $(COS\phi = 0.7)$ 200000 times or more 200VAC 0.75A, 240VAC 0.5A $(COS\phi = 0.35)$ 200000 times or more 24VDC 1A, 100VDC 0.1A (L/R = 7 ms) 200000 times or more	200VAC 1.5A, 240VAC 1A (COS ϕ = 0.7) 200000 times or more 200VAC 0.75A, 240VAC 0.5A (COS ϕ = 0.35) 200000 times or more 24VDC 1A, 100VDC 0.1A (L/R = 7 ms) 200000 times or more	0	
Response	OFF → ON	10ms or less	9ms or less	Δ	In combination with CC-Link input module: 10ms or less*4
time	ON → OFF	12ms or less	11ms or less	Δ	In combination with CC-Link input module: 12ms or less*4
External	Voltage	24VDC ±10% Ripple voltage 4Vp-p or less	24VDC ±10% Ripple voltage 4Vp-p or less	0	
power supply	Current	110mA (24VDC, all points ON)	125mA (24VDC, all points ON)	Δ	The current consumption increases. The current capacity needs to be reconsidered.
Surge suppre	essor	None	None	0	
Common terminal arrangement		8 points/common (Common terminal: B26) 3 points/common (Common terminal: B31) Independent contact (Common terminal: TB33)	8 points/common (Common terminal: B26) 3 points/common (Common terminal: B31) Independent contact (Common terminal: TB33)	0	
Operation ind	lication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link output module.
Fuse		None	None	0	
Fuse blown in Relay socket		– None	– None	-	

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

Specit	ications	AJ35PTF-28AR	SC-A0JQIF28AR	Compatibility	Precautions for replacement
External power supply (Module power	Voltage	15.6 to 31.2VDC	24VDC ± 10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link I/O module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
supply)	Current	120mA	105mA	0	
External con method	nection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable w	ire size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable setterminal	olderless	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of o	ccupied	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		0.68kg	0.43kg	Δ	Also consider the weight of the fixed stand of programmable controller.*5
External dim	ensions	250(H) × 132(W) × 41(D) mm	182(H) × 132(W) × 41(D) mm*6	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

*1 The following figure shows the derating.

When the voltage of the external power supply (module power supply) is high, the AC input simultaneous ON ratio is low.



*2 Check that the specifications of leakage current of the used sensor and switches are equal to or less than the OFF current value.

If leakage current is equal to or more than the OFF current specifications, take measures against it with referring to "Input Module Troubleshooting" in the following handbook.

(Handbook for replacement)

Renewal tool for A0J2 series transition from MELSEC-A0J2(H) series to renewal system using renewal tool (Refer to Appendix 2.5.)

- *3 A value when the AJ65SBTCF1-32D is used.
- *4 A value when the AJ65SBTCF1-32T is used.
- *5 The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *6 The external dimensions of the SC-A0JQIF28AR do not include those of its projection.

(7) Specifications comparison between AJ35PTF-28AS and interface module (SC-A0JQIF28AS)

 $\bigcirc : \mathsf{Compatible}, \ \triangle : \mathsf{Partially changed}, \ \times \colon \mathsf{Incompatible}$

Specifi	cations	AJ35PTF-28AS input specifications	SC-A0JQIF28AS input specifications	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input current		100 to 120VAC, 50/60Hz	100 to 120VAC, 50/60Hz	0	
Rated input current		10mA (100VAC 60Hz)	10mA (100VAC 60Hz)	0	
Operating vol	ltage range	85 to 132VAC (50/60Hz ±5%)	85 to 132VAC (50/60Hz \pm 5%)	0	
Maximum nui		100% (16 points/common) simultaneously ON	100% (16 points/common) simultaneously ON	0	
ON voltage/C	N current	80VAC or more/6mA or more	80VAC or more/6mA or more	0	
OFF voltage/	OFF current	40VAC or less/4mA or less	26VAC or less/1.7mA or less	Δ	The OFF voltage/OFF current have been reduced.*1
Inrush curren	t	Max. 300mA, within 0.3ms (132VAC)	Max. 300mA, within 0.3ms (132VAC)	0	
Input resistan	ice	Approx. $10k\Omega$ (60Hz), Approx. $12k\Omega$ (50Hz)	Approx. 10 k Ω (60Hz), Approx. 12 k Ω (50Hz)	0	
Response	OFF → ON	15ms or less (6ms TYP.)	14ms or less (11ms TYP.)	Δ	In combination with CC-Link input module: 15ms or less (12ms TYP.)*2
time	ON → OFF	25ms or less (16ms TYP.)	19ms or less (13ms TYP.)	Δ	In combination with CC-Link input module: 21.5ms or less (14ms TYP.)*2
Common terri arrangement		16 points/common (Common terminal: TB17)	16 points/common (Common terminal: TB17)	0	
Operation ind	lication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link input module.

 $\bigcirc \, : \, \mathsf{Compatible}, \,\, \underline{\wedge} \, : \, \mathsf{Partially \, changed}, \,\, \times \, : \, \mathsf{Incompatible}$

		AJ35PTF-28AS output	SC-A0JQIF28AS output		∆. Fartially changed, x . Incompatible
Specific	ations	specifications	specifications	Compatibility	Precautions for replacement
Number of inp	ut points	12 points	12 points	0	
Insulation met	hod	Photocoupler	Photocoupler	0	
Rated load vol	tage	100 to 240VAC, 40 to 70Hz	100 to 240VAC, 47 to 63Hz	Δ	The available frequency range is small.
Maximum load	l voltage	264VAC	264VAC	0	
Maximum load	current	0.6A/point, 2.4A/common	0.6A/point, 2.4A/common	0	
Minimum load	voltage/	24VAC 100mA,	24VAC 100mA,	_	
current		100V/240VAC 10mA,	100V/240VAC 10mA,	0	
Maximum inru	sh current	20A 10ms or less, 8A 100ms or less	20A 10ms or less, 8A 100ms or less	0	
Leakage curre	nt at OFF	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	0	
Maximum volta	age drop at	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	0	
Temperature d	erating	None	Refer to the derating chart.*3	Δ	Use the module within the range in the derating chart.
Response	OFF → ON	1ms or less	1ms or less	Δ	In combination with CC-Link output module: 2ms or less*4
time	ON → OFF	0.5 cycle + 1ms or less	0.5 cycle + 1ms or less	Δ	In combination with CC-Link output module: 0.5 cycle + 2ms or less*4
Fuse		High speed type fuse 3.2A (one fuse/common) HP-32	None	×	Install a fuse externally from the module (one fuse/common). (A fuse and fuse holder are included.)
Fuse blown inc	dication	Available (When a fuse is blown, the LED turns on and a signal is output to the CPU.)	-	-	
Surge	CR absorber	0.022 μ F + 47 Ω	0.015 μ F + 22 Ω	0	
suppressor	Varistor None Varistor voltage (400 to 540V)	0	_		
Common term arrangement	inal	8 points/common (Common terminal: TB26) 4 points/common (Common terminal: TB33)	8 points/common (Common terminal: TB26) 4 points/common (Common terminal: TB33)	0	
Operation indi	cation	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link output module.

O: Compatible, △: Partially changed, ×: Incompatible

Speci	ifications	AJ35PTF-28AS	SC-A0JQIF28AS	Compatibility	Precautions for replacement
External power supply (Module	Voltage	15.6 to 31.2VDC	24 VDC $\pm 10\%$ Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link I/O module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
power supply)	Current	140mA	290mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External cor method	nnection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable v	wire size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable s	solderless	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of o	occupied	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		0.65kg	0.43kg	Δ	Also consider the weight of the fixed stand of programmable controller.*5
External din	nensions	250(H) × 132(W) × 41(D) mm	182(H) × 132(W) × 41(D) mm* ⁶	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

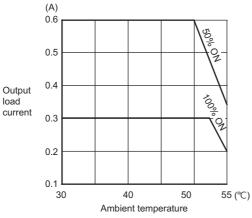
^{*1} Check that the specifications of leakage current of the used sensor and switches are equal to or less than the OFF current value.

If leakage current is equal to or more than the OFF current specifications, take measures against it with referring to "Input Module Troubleshooting" in the following handbook.

(Handbook for replacement)

Renewal tool for A0J2 series transition from MELSEC-A0J2(H) series to renewal system using renewal tool (Refer to Appendix 2.6.)

- *2 A value when the AJ65SBTCF1-32D is used.
- *3 Temperature derating chart



- *4 A value when the AJ65SBTCF1-32T is used.
- *5 The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *6 The external dimensions of the SC-A0JQIF28AS do not include those of its projection.

(8) Specifications comparison between AJ35PTF-28DR and interface module (SC-A0JQIF28DR)

 \bigcirc : Compatible, \triangle : Partially changed, x: Incompatible

Specif	ications	AJ35PTF-28DR input specifications	SC-A0JQIF28DR input specifications	Compatibility	Precautions for replacement
Number of inp	out points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12VDC/24VDC	12VDC/24VDC	0	
Rated input c	urrent	Approx. 3mA/Approx. 7mA	Approx. 3mA/Approx. 7mA	0	
Operating vol	tage range	10.2 to 31.2VDC (Ripple ratio within 5%)	10.2 to 26.4VDC (Ripple ratio within 5%)	Δ	The operating voltage range differs.
Maximum nur simultaneous		100% (16 points/common) simultaneously ON	100% (16 points/common) simultaneously ON	0	
ON voltage/O	N current	9.5VDC or more/2.6mA or more	9.5VDC or more/2.6mA or more	0	
OFF voltage/0	OFF current	6VDC or less/1.0mA or less	6VDC or less/1.0mA or less	0	
Input resistan	се	Approx. 3.4kΩ	Approx. 3.3kΩ	0	
Input form		Sink input (Input current flows off.)	Sink input (Input current flows off.)	0	
Response	OFF→ON	10ms or less (6ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1
time	time	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1	
Common tern arrangement	ninal	16 points/common (Common terminal: TB17)	16 points/common (Common terminal: TB17)	0	
Operation ind	ication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with CC-Link input module.

O: Compatible, △: Partially changed, ×: Incompatible

				O. Compatible,	∴ Partially changed, x: Incompatib
Specif	ications	AJ35PTF-28DR output specifications	SC-A0JQIF28DR output specifications	Compatibility	Precautions for replacement
Number of ou	tput points	12 points	12 points	0	
Insulation me	thod	Photocoupler	Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated switchi current	ng voltage/	24VDC 2A (Resistance load)/ point 240VAC 2A (COS φ =1)/point 5A/common	24VDC 2A (Resistance load)/ point 240VAC 2A (COS φ =1)/point 5A/common	0	
Minimum swit	tching load	5VDC 1mA	5VDC 1mA	0	
	itching voltage	264VAC 125VDC	264VAC 125VDC	0	
Maximum swi		3600 times/hr	3600 times/hr	0	
Mechanical lif	fe	20 million times or more	20 million times or more	0	
		Rated switching voltage/current load 200,000 times or more	Rated switching voltage/current load 200,000 times or more	0	
Electrical life		$200\text{VAC }1.5\text{A, }240\text{VAC }1\text{A}$ $(\text{COS}\phi = 0.7) \ 200,000 \ \text{times or}$ more $200\text{VAC }1\text{A, }240\text{VAC }0.5\text{A}$ $(\text{COS}\phi = 0.35) \ 200,000 \ \text{times or}$ more $24\text{VDC }1\text{A, }100\text{VDC }0.1\text{A}$ $(\text{L/R} = 7\text{ms}) \ 200,000 \ \text{times or}$ more	200 VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 200,000 times or more 200VAC 0.75A, 240VAC 0.5A (COS ϕ =0.35) 200,000 times or more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more	0	
Response	OFF→ON	10ms or less	9ms or less	Δ	In combination with CC-Link output module: 9.5ms or less*2
time	ON→OFF	12ms or less	11ms or less	Δ	In combination with CC-Link output module: 12.5ms or less*2
External supply	Voltage	24VDC±10% Ripple voltage 4Vp-p or less	24VDC±10% Ripple voltage 4Vp-p or less	0	
power (Relay coil driving power)	Current	110mA (24VDC All points are ON.)	125mA (24VDC All points are ON.)	Δ	Review current capacity since current consumption is increased.
Surge suppre	ssor	None	None	0	
Fuse rating		None	None	0	
Fuse blown in	ndication	-	_	0	
Relay socket		None	None	0	
Common tern arrangement	ninal	8 points/common (Common terminal: TB26) 3 points/common (Common terminal: TB31) Independent contact (Common terminal: TB33)	8 points/common (Common terminal: TB26) 3 points/common (Common terminal: TB31) Independent contact (Common terminal: TB33)	0	
Operation ind	lication	Available (Turning ON the output turns LED ON)	None	Δ	Operation indication can be checked with CC-Link output module.

O: Compatible, △: Partially changed, ×: Incompatible

Specif	ications	AJ35PTF-28DR	SC-A0JQIF28DR	Compatibility	Precautions for replacement
External supply power (Module power	Voltage	15.6 to 31.2VDC	24VDC±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for programmable controller operation, connecting a module power supply to the interface module, TB27 or TB36 is required.
supply)	Current	120mA	100mA	0	
External conn	ection method	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable win	re size	0.75 to 2mm ² (Applicable tightening torque 69N• cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable so terminal	Iderless	R1.25-3, R2-3, RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
	cupied stations ccupied points)	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		0.76kg	0.42kg	Δ	Also consider the weight of fixed stand of programmable controller.*3
External dime	nsions	250(H) × 132(W) × 41(D) mm*4	182(H) × 132(W) × 41(D) mm*5	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

- *1: A value when using the AJ65SBTCF1-32D.
- *2: A value when using the AJ65SBTCF1-32T.
- *3: The weight of fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *4: External dimensions of the AJ35PTF-28DR does not include dimensions of the optical fiber cable connector.
- *5: The external dimensions of the SC-A0JQIF28DR do not include those of its projection.

(9) Specifications comparison between AJ35PTF-28DS and interface module (SC-A0JQIF28DS)

 $\bigcirc : \mathsf{Compatible}, \ \underline{\wedge} \colon \mathsf{Partially \ changed}, \ \times \colon \mathsf{Incompatible}$

Specifi	cations	AJ35PTF-28DS input specifications	SC-A0JQIF28DS input specifications	Compatibility	Precautions for replacement
Number of in	put points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12/24VDC	12/24VDC	0	
Rated input of	urrent	Approx. 3mA/Approx. 7mA	Approx. 3mA/Approx. 7mA	0	
Operating vo	ltage range	10.2 to 26.4VDC (ripple ratio within 5%)	10.2 to 26.4VDC (ripple ratio within 5%)	0	
Maximum nui		100% (16 points/common) simultaneously ON	100% (16 points/common) simultaneously ON	0	
ON voltage/C	N current	9.5VDC or more/2.6mA or more	9.5VDC or more/2.6mA or more	0	
OFF voltage/	OFF current	6VDC or less/1.0mA or less	6VDC or less/1.0mA or less	0	
Input resistar	ice	Approx. 3.4kΩ	Approx. 3.3kΩ	0	
Input form		Sink input (Input current flows off.)	Sink input (Input current flows off.)	0	
Response	OFF → ON	10ms or less (6ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6ms or less (2ms TYP.)*1
time	ON → OFF	10ms or less (7.5ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6ms or less (2ms TYP.)*1
Common terr arrangement	ninal	16 points/common (Common terminal: TB17)	16 points/common (Common terminal: TB17)	0	
Operation inc	lication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link input module.

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

				O. Compatible, A. Fartially changed, A. Incompatible		
Specific	ations	AJ35PTF-28DS output specifications	SC-A0JQIF28DS output specifications	Compatibility	Precautions for replacement	
Number of inp	ut points	12 points	12 points	0		
Insulation met	hod	Photocoupler	Photocoupler	0		
Rated load vol	tage	100 to 240VAC, 40 to 70Hz	100 to 240VAC, 47 to 63Hz	0		
Maximum load	l voltage	264VAC	264VAC	0		
Maximum load	current	0.6A/point, 2.4A/common	0.6A/point, 2.4A/common	0		
Minimum load current	voltage/	24VAC 100mA, 100V/240VAC 10mA,	24VAC 100mA, 100V/240VAC 10mA,	0		
Maximum inru	sh current	20A 10ms or less, 8A 100ms or less	20A 10ms or less, 8A 100ms or less	0		
Leakage curre	nt at OFF	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	0		
Maximum volta	age drop at	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	0		
Temperature d	lerating	None	None	_		
Response	OFF → ON	1ms or less	1ms or less	Δ	In combination with CC-Link output module: 2ms or less*2	
time	ON → OFF	0.5 cycle + 1ms or less	0.5 cycle + 1ms or less	Δ	In combination with CC-Link output module: 0.5 cycle + 2ms or less*2	
Fuse		High speed type fuse 3.2A (one fuse/common) HP-32	None	×	Install a fuse externally from the module (one fuse/common). (A fuse and fuse holder are included.)	
Fuse blown in	dication	Available (When a fuse is blown, the LED turns on and a signal is output to the CPU.)	-	-		
Surge	CR absorber	0.022 μ F + +47 Ω	0.015 μ F + +22 Ω	0		
suppressor	Varistor	None	Varistor voltage (400 to 540V)	0		
Common term arrangement	inal	8 points/common (Common terminal: TB26) 4 points/common (Common terminal: TB33)	8 points/common (Common terminal: TB26) 4 points/common (Common terminal: TB33)	0		
Operation indi	cation	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link output module.	

O: Compatible, △: Partially changed, ×: Incompatible

Speci	fications	AJ35PTF-28DS	SC-A0JQIF28DS	Compatibility	Precautions for replacement
External power supply (Module	Voltage	15.6 to 31.2VDC	$24\text{VDC} \pm 10\%$ Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link I/O module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
power supply)	Current	150mA	285mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External con	nection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable w	rire size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable s terminal	olderless	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of o	ccupied	4 stations (4 stations × 8 points)	-	_	When using the AJ65SBTCF1- 32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		0.76kg	0.41kg	Δ	Also consider the weight of the fixed stand of programmable controller.*3
External dim	ensions	250(H) × 132(W) × 41(D) mm	182(H) × 132(W) × 41(D) mm* ⁴	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

^{*1} A value when the AJ65SBTCF1-32D is used.

^{*2} A value when the AJ65SBTCF1-32T is used.

^{*3} The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.

^{*4} The external dimensions of the SC-A0JQIF28DS do not include those of its projection.

(10) Specifications comparison between AJ35PTF-28DT and interface module (SC-A0JQIF28DT)

 $\bigcirc \hbox{: Compatible, \triangle: Partially changed, \times: Incompatible}$

Specif	ications	AJ35PTF-28DT input specifications	SC-A0JQIF28DT input specifications	Compatibility	Precautions for replacement
Number of in	out points	16 points	16 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12VDC/24VDC	12VDC/24VDC	0	
Rated input c	urrent	Approx. 3mA/Approx. 7mA	Approx. 3mA/Approx. 7mA	0	
Operating vol	tage range	10.2 to 31.2VDC (Ripple ratio within 5%)	10.2 to 26.4VDC (Ripple ratio within 5%)	Δ	The operating voltage range differs.
Maximum nui		100% (16 points/common) simultaneously ON	100% (16 points/common) simultaneously ON	0	
ON voltage/C	N current	9.5VDC or more/2.6mA or more	9.5VDC or more/2.6mA or more	0	
OFF voltage/	OFF current	6VDC or less/1.0mA or less	6VDC or less/1.0mA or less	0	
Input resistan	ice	Approx. 3.4kΩ	Approx. 3.3kΩ	0	
Input form		Sink input (Input current flows off.)	Sink input (Input current flows off.)	0	
Response	OFF→ON	10ms or less (6ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1
time	ON→OFF	10ms or less (7.5ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1
Common terri arrangement	ninal	16 points/common (Common terminal: TB17)	16 points/common (Common terminal: TB17)	0	
Operation ind	lication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with CC-Link input module.

O: Compatible, △: Partially changed, ×: Incompatible

Specif	ications	AJ35PTF-28DT output specifications	SC-A0JQIF28DT output specifications	Compatibility	Precautions for replacement
Number of ou	tput points	12 points	12 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load voltage		12VDC/24VDC	12VDC/24VDC	0	
Operating loa	d voltage	10.2 to 31.2VDC	10.2 to 30VDC	Δ	The operating load voltage range differs.
Maximum loa	d current	0.5A/point, 3.2A/common	0.5A/point, 4A/common	0	
Maximum inru	ush current	4A 10ms or less	4A 10ms or less	0	
Leakage curr	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vol	tage drop at	0.9VDC (TYP.) 0.5A 1.5VDC (MAX.) 0.5A	0.5VDC (TYP.) 0.5A 0.8VDC (MAX.) 0.5A	0	
Output metho	od	Sink type	Sink type	0	
Response	Response time OFF→ON 2ms or less 1ms or less Δ ON→OFF 2ms or less (Resistance load) 1ms or less (Resistance load) Δ	2ms or less	1ms or less	Δ	In combination with CC-Link output module: 1.5ms or less*2
time		Δ	In combination with CC-Link output module: 2.5ms or less (Resistance load)*2		
External	Voltage	12VDC/24VDC (10.2 to 31.2VDC)	12VDC/24VDC (10.2 to 30VDC)	Δ	The operating voltage range differs.
supply power	Current	23mA (TYP. 24VDC 8 points/common ON)	5mA (TYP. 24VDC 8 points/common ON)	0	
Surge suppre	ssor	Varistor (52 to 62V)	Varistor (50.4 to 61.6V)	0	
Common terminal arrangement		8 points/common (Common terminal: TB26) 4 points/common (Common terminal: TB33)	8 points/common (Common terminal: TB26) 4 points/common (Common terminal: TB33)	0	
Operation ind	lication	Available (Turning ON the output turns LED ON)	None	Δ	Operation indication can be checked with CC-Link output module.
Fuse		None	None	0	
Fuse blown in	ndication	None	None	0	

O: Compatible, △: Partially changed, ×: Incompatible

Specif	ications	AJ35PTF-28DT	SC-A0JQIF28DT	Compatibility	Precautions for replacement
External supply power (Module	Voltage	15.6 to 31.2VDC	24VDC±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for programmable controller operation, connecting a module power supply to the interface module, TB35 or TB36 is required.
power supply)	Current	110mA	130mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External conn	ection method	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable wir	re size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable sol	Iderless	R1.25-3, R2-3, RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
	cupied stations ccupied points)	4 stations (4 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		0.65kg	0.36kg	Δ	Also consider the weight of fixed stand of programmable controller.*3
External dimensions		250(H) × 132(W) × 41(D)mm*4	182(H) × 132(W) × 41(D)mm*5	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

- *1: A value when using the AJ65SBTCF1-32D.
- *2: A value when using the AJ65SBTCF1-32T.
- *3: The weight of fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *4: External dimensions of the AJ35PTF-28DT does not include dimensions of the optical fiber cable connector.
- *5: The external dimensions of the SC-A0JQIF28DT do not include those of its projection.

(11) Specifications comparison between AJ35PTF-56AR and interface module (SC-A0JQIF56AR)

 $\bigcirc : Compatible, \ \triangle : Partially \ changed, \ \times : Incompatible$

Specifications		AJ35PTF-56AR input specifications	SC-A0JQIF56AR input specifications	Compatibility	Precautions for replacement
Number of inp	out points	32 points	32 points	0	
Insulation met	thod	Photocoupler	Photocoupler	0	
Rated input vo	oltage	100 to 120VAC 50/60Hz	100 to 120VAC 50/60Hz	0	
Rated input co	urrent	10mA (100VAC 60Hz)	10mA (100VAC 60Hz)	0	
Operating vol	tage range	85 to 132VAC (50/60Hz±5%)	85 to 132VAC (50/60Hz±5%)	0	
Maximum nur simultaneous		100% (16 points/common) simultaneously ON	60% (10 points/common) simultaneously ON	Δ	The maximum number of simultaneous input points differs.
ON voltage/O	N current	80VAC or more/6mA or more	80VAC or more/6mA or more	0	
OFF voltage/0	OFF current	40VAC or less/4mA or less	26VAC or less/1.7mA or less	Δ	OFF voltage/OFF current is smaller.*1
Inrush current	ı	Maximum 300mA, Within 0.3ms (132VAC)	Maximum 300mA, Within 0.3ms (132VAC)	0	
Input impedar	nce	Approx. 10k Ω (60Hz), Approx. 12k Ω (50Hz)	Approx. $10k\Omega$ (60Hz), Approx. $12k\Omega$ (50Hz)	0	
Response	OFF→ON	15ms or less (6ms TYP.)	14ms or less (11ms TYP.)	Δ	In combination with CC-Link input module: 15.5ms or less (12ms TYP.)*2
time	ON→OFF	25ms or less (16ms TYP.)	19ms or less (13ms TYP.)	Δ	In combination with CC-Link input module: 21.5ms or less (14ms TYP.)*2
Common term	ninal	16 points/common	16 points/common	0	
arrangement		(Common terminal: TB17, TB34)	(Common terminal: TB17, TB34)	U	
Operation ind	ication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with CC-Link input module.

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

Specif	ications	AJ35PTF-56AR output specifications	SC-A0JQIF56AR output specifications	Compatibility	Precautions for replacement
Number of ou	tput points	24 points	24 points	0	
Insulation me	thod	Photocoupler	Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated switchi	ng voltage/	24VDC 2A (Resistance load)/ point 240VAC 2A (COS ϕ =1)/point 5A/common	24VDC 2A (Resistance load)/ point 240VAC 2A (COS ϕ =1)/point 5A/common	0	
Minimum swit	tching load	5VDC 1mA	5VDC 1mA	0	
Maximum swi	itching voltage	264VAC 125VDC	264VAC 125VDC	0	
Maximum swi		3600 times/hr	3600 times/hr	0	
Mechanical lit	fe	20 million times or more	20 million times or more	0	
		Rated switching voltage/current load 200,000 times or more	Rated switching voltage/current load 200,000 times or more	0	
Electrical life		200VAC 1.5A, 240VAC 1A (COS \$\phi\$ =0.7) 200,000 times or more 200VAC 1A, 240VAC 0.5A (COS \$\phi\$ =0.35) 200,000 times or	200VAC 1.5A, 240VAC 1A (COS \$\phi\$ =0.7) 200,000 times or more 200VAC 0.75A, 240VAC 0.5A (COS \$\phi\$ =0.35) 200,000 times or	0	
		more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more	more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more		
Response	OFF→ON	10ms or less	9ms or less	Δ	In combination with CC-Link output module: 9.5ms or less*3
time	ON→OFF	12ms or less	11ms or less	Δ	In combination with CC-Link output module: 12.5ms or less *3
External	Voltage	24VDC±10% Ripple voltage 4Vp-p or less	24VDC±10% Ripple voltage 4Vp-p or less	0	
power (Relay coil driving power)	Current	220mA (24VDC All points are ON.)	230mA (24VDC All points are ON.)	Δ	Review current capacity since current consumption is increased.
Surge suppressor		None	None	0	
Fuse rating		None	None	0	
Fuse blown indication		-	_	0	
Relay socket		None	None	0	
Common tern	ninal	8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation ind	ication	Available (Turning ON the output turns LED ON)	None	Δ	Operation indication can be checked with CC-Link output module.

O: Compatible, △: Partially changed, ×: Incompatible

Specifi	ications	AJ35PTF-56AR	SC-A0JQIF56AR	Compatibility	Precautions for replacement
External supply power (Module	Voltage	15.6 to 31.2VDC	24VDC±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for programmable controller operation, connecting a module power supply to the interface module, TB35 or TB36 is required.
power supply)	Current	150mA	210mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External conn	ection method	36-point terminal block connector (M3 × 6 screws) 2 pieces	36-point terminal block connector (M3 × 6 screws) 2 pieces	0	
Applicable wir	e size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable sol	Iderless	R1.25-3, R2-3, RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
	cupied stations ccupied points)	8 stations (8 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		1.20kg	0.66kg	Δ	Also consider the weight of fixed stand of programmable controller.*4
External dimensions		250(H) × 190(W) × 41(D)mm*5	182(H) × 190(W) × 41(D)mm*6	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

*1: Check that the specifications of leakage current of the used sensor and switches are equal to or less than the OFF current value.

If leakage current is equal to or more than the OFF current specifications, take measures against it with referring to "Input Module Troubleshooting" in the following handbook.

(Handbook for replacement)

Renewal tool for A0J2 series Transition from MELSEC-A0J2(H) series to renewal system using renewal tool (refer to Appendix 2.5.)

- *2: A value when using the AJ65SBTCF1-32D.
- *3: A value when using the AJ65SBTCF1-32T.
- *4: The weight of fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *5: External dimensions of the AJ35PTF-56AR does not include dimensions of the optical fiber cable connector.
- *6: The external dimensions of the SC-A0JQIF56AR do not include those of its projection.

(12) Specifications comparison between AJ35PTF-56AS and interface module (SC-A0JQIF56AS)

 $\bigcirc \hbox{: Compatible, \triangle: Partially changed, \times: Incompatible}$

Specifi	ications	AJ35PTF-56AS input specifications	SC-A0JQIF56AS input specifications	Compatibility	Precautions for replacement
Number of in	put points	32 points	32 points	0	
Insulation me	ethod	Photocoupler	Photocoupler	0	
Rated input v	/oltage	100 to 120VAC, 50/60Hz	100 to 120VAC, 50/60Hz	0	
Rated input of	current	10mA (100VAC 60Hz)	10mA (100VAC 60Hz)	0	
Operating vol	Itage range	85 to 132VAC (50/60Hz ±5%)	85 to 132VAC (50/60Hz ±5%)	0	
Maximum nu		60% (10 points/common) simultaneously ON	60% (10 points/common) simultaneously ON	0	
ON voltage/C	ON current	80VAC or more/6mA or more	80VAC or more/6mA or more	0	
OFF voltage/	OFF current	40VAC or less/4mA or less	26VAC or less/1.7mA or less	Δ	The OFF voltage/OFF current have been reduced.*1
Inrush curren	nt	Max. 300mA, within 0.3ms (132VAC)	Max. 300mA, within 0.3ms (132VAC)	0	
Input resistar	nce	Approx. $10k\Omega$ (60Hz), Approx. $12k\Omega$ (50Hz)	Approx. 10k Ω (60Hz), Approx. 12k Ω (50Hz)	0	
Response	OFF → ON	15ms or less (6ms TYP.)	14ms or less (11ms TYP.)	Δ	In combination with CC-Link input module: 15ms or less (12ms TYP.)*2
time	ON → OFF	35ms or less (16ms TYP.)	19ms or less (13ms TYP.)	Δ	In combination with CC-Link input module: 10ms or less (6ms TYP.)*2
Common terminal arrangement		16 points/common (Common terminal: TB17, TB34)	16 points/common (Common terminal: TB17, TB34)	0	
Operation inc	dication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link input module.

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

Specific	ations	AJ35PTF-56AS output specifications	SC-A0JQIF56AS output specifications	Compatibility	Precautions for replacement
Number of input points		24 points	24 points	0	
Insulation met	hod	Photocoupler	Photocoupler	0	
Rated load vol	tage	100 to 240VAC, 40 to 70Hz	100 to 240VAC, 47 to 63Hz	Δ	The available frequency range is small.
Maximum load	l voltage	264VAC	264VAC	0	
Maximum load	current	0.6A/point, 2.4A/common	0.6A/point, 2.4A/common	0	
Minimum load current	voltage/	24VAC 100mA, 100V/240VAC 10mA,	24VAC 100mA, 100V/240VAC 10mA,	0	
Maximum inru	sh current	20A 10ms or less, 8A 100ms or less	20A 10ms or less, 8A 100ms or less	0	
Leakage curre	nt at OFF	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	0	
Maximum volta	age drop at	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	0	
Temperature d	erating	None	Refer to the derating chart.*3	Δ	Use the module within the range in the derating chart.
Response	OFF → ON	1ms or less	1ms or less	Δ	In combination with CC-Link output module: 2ms or less*4
time	ON → OFF	0.5 cycle + 1ms or less	0.5 cycle + 1ms or less	Δ	In combination with CC-Link output module: 0.5 cycle + 2ms or less*4
Fuse		High speed type fuse 3.2A (one fuse/common) HP-32	None	×	Install a fuse externally from the module (one fuse/common). (A fuse and fuse holder are included.)
Fuse blown indication		Available (When a fuse is blown, the LED turns on and a signal is output to the CPU.)	-	-	
Surge suppressor	CR absorber	0.022 μ F + +47 Ω	0.015 μ F + +22 Ω	0	
эцррг сээог	Varistor	None	Varistor voltage (400 to 540V)	0	
Common terminal arrangement		8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation indi	cation	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link output module.

O: Compatible, △: Partially changed, ×: Incompatible

Speci	fications	AJ35PTF-56AS	SC-A0JQIF56AS	Compatibility	Precautions for replacement	
External power supply (Module	Voltage	15.6 to 31.2VDC	24 VDC $\pm 10\%$ Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link I/O module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.	
power supply)	Current	230mA	580mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.	
External cor method	nection	Two 36-point terminal block connectors (M3 × 6 screws)	Two 36-point terminal block connectors (M3 × 6 screws)	0		
Applicable w	rire size	0.75 to 2mm ² (Applicable tightening torque 69N• cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0		
Applicable s	olderless	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0		
Number of c	ccupied	8 stations (8 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).	
Weight		1.10kg	0.66kg	Δ	Also consider the weight of the fixed stand of programmable controller.*5	
External dimensions		250(H) × 190(W) × 41(D) mm	182(H) × 190(W) × 41(D) mm*6	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).	

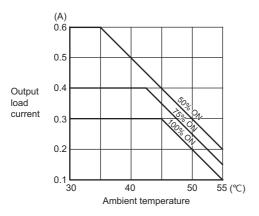
*1 Check that the specifications of leakage current of the used sensor and switches are equal to or less than the OFF current

If leakage current is equal to or more than the OFF current specifications, take measures against it with referring to "Input Module Troubleshooting" in the following handbook.

(Handbook for replacement)

Renewal tool for A0J2 series transition from MELSEC-A0J2(H) series to renewal system using renewal tool (Refer to Appendix 2.6.)

- *2 A value when the AJ65SBTCF1-32D is used.
- *3 Temperature derating chart



- *4 A value when the AJ65SBTCF1-32T is used.
- *5 The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *6 The external dimensions of the SC-A0JQIF56AS do not include those of its projection.

(13) Specifications comparison between AJ35PTF-56DR and interface module (SC-A0JQIF56DR)

 $\bigcirc : \mathsf{Compatible}, \ \underline{\wedge} \colon \mathsf{Partially \ changed}, \ \times \colon \mathsf{Incompatible}$

Specifi	cations	AJ35PTF-56DR input specifications	SC-A0JQIF56DR input specifications	Compatibility	Precautions for replacement
Number of inp	out points	32 points	32 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input vo	oltage	12VDC/24VDC	12VDC/24VDC	0	
Rated input co	urrent	Approx. 3mA/Approx. 7mA	Approx. 3mA/Approx. 7mA	0	
Operating vol	tage range	10.2 to 31.2VDC (Ripple ratio within 5%)	10.2 to 26.4VDC (Ripple ratio within 5%)	Δ	The operating voltage range differs.
Maximum nur simultaneous		60% (10 points/common) simultaneously ON	60% (10 points/common) simultaneously ON	0	
ON voltage/O	N current	9.5VDC or more/2.6mA or more	9.5VDC or more/2.6mA or more	0	
OFF voltage/0	OFF current	6VDC or less/1.0mA or less	6VDC or less/1.0mA or less	0	
Input resistan	се	Approx. 3.4kΩ	Approx. 3.3kΩ	0	
Input form		Sink input (Input current flows off.)	Sink input (Input current flows off.)	0	
Response	OFF→ON	10ms or less (6ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1
time	ON→OFF	10ms or less (7.5ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1
Common terminal arrangement		16 points/common (Common terminal: TB17, TB34)	16 points/common (Common terminal: TB17, TB34)	0	
Operation indication		Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with CC-Link input module.

 $\bigcirc : \mathsf{Compatible}, \ \underline{\wedge} : \mathsf{Partially \ changed}, \ \times : \mathsf{Incompatible}$

Specif	ications	AJ35PTF-56DR output specifications	SC-A0JQIF56DR output specifications	Compatibility	Precautions for replacement
Number of output points		24 points	24 points	0	
Insulation me	thod	Photocoupler	Relay isolation	Δ	Although the insulation methods differ, the performance of the insulation is the same.
Rated switchi	ng voltage/	24VDC 2A (Resistance load)/point 240VAC 2A (COS \$\phi=1)\$/point	24VDC 2A (Resistance load)/point 240VAC 2A (COS ϕ =1)/point	0	
		5A/common	5A/common		
Minimum swit	ching load	5VDC 1mA	5VDC 1mA	0	
Maximum swi	itching voltage	264VAC 125VDC	264VAC 125VDC	0	
Maximum swi frequency	tching	3600 times/hr	3600 times/hr	0	
Mechanical lit	fe	20 million times or more	20 million times or more	0	
		Rated switching voltage/current load 200,000 times or more	Rated switching voltage/current load 200,000 times or more	0	
		200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 200,000 times or	200VAC 1.5A, 240VAC 1A (COS ϕ =0.7) 200,000 times or		
Electrical life		more 200VAC 1A, 240VAC 0.5A (COS ϕ =0.35) 200,000 times or	more 200VAC 0.75A, 240VAC 0.5A (COS ϕ =0.35) 200,000 times or	0	
		more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more	more 24VDC 1A, 100VDC 0.1A (L/R=7ms) 200,000 times or more		
Response	OFF→ON	10ms or less	9ms or less	Δ	In combination with CC-Link output module: 9.5ms or less*2
time	ON→OFF	12ms or less	11ms or less	Δ	In combination with CC-Link output module: 12.5ms or less*2
External supply	Voltage	24VDC±10% Ripple voltage 4Vp-p or less	24VDC±10% Ripple voltage 4Vp-p or less	0	
power (Relay coil driving power)	Current	220mA (24VDC All points are ON.)	230mA (24VDC All points are ON.)	Δ	Review current capacity since current consumption is increased.
Surge suppressor		None	None	0	
Fuse rating		None	None	0	
Fuse blown indication		_		0	
Relay socket		None	None	0	
Common term	ninal	8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation ind	ication	Available (Turning ON the output turns LED ON)	None	Δ	Operation indication can be checked with CC-Link output module.

O: Compatible, △: Partially changed, ×: Incompatible

Specifi	ications	AJ35PTF-56DR	SC-A0JQIF56DR	Compatibility	Precautions for replacement
External supply power (Module	Voltage	15.6 to 31.2VDC	24VDC±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for programmable controller operation, connecting a module power supply to the interface module, TB35 or TB36 is required.
power supply)	Current	150mA	200mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External conn	ection method	36-point terminal block connector (M3 × 6 screws) 2 pieces	36-point terminal block connector (M3 × 6 screws) 2 pieces	0	
Applicable wir	e size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable sol terminal	derless	R1.25-3, R2-3, RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
	cupied stations ccupied points)	8 stations (8 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		1.16kg	0.62kg	Δ	Also consider the weight of fixed stand of programmable controller.*3
External dimensions		250(H) × 190(W) × 41(D)mm*4	182(H) × 190(W) × 41(D)mm*5	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

- *1: A value when using the AJ65SBTCF1-32D.
- *2: A value when using the AJ65SBTCF1-32T.
- *3: The weight of fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *4: External dimensions of the AJ35PTF-56DR does not include dimensions of the optical fiber cable connector.
- $^{\star}5$: The external dimensions of the SC-A0JQIF56DR do not include those of its projection.

(14) Specifications comparison between AJ35PTF-56DS and interface module (SC-A0JQIF56DS)

 $\bigcirc \colon \mathsf{Compatible}, \ \triangle \colon \mathsf{Partially \ changed}, \ \times \colon \mathsf{Incompatible}$

Specifi	cations	AJ35PTF-56DS input specifications	SC-A0JQIF56DS input specifications	Compatibility	Precautions for replacement
Number of input points		32 points	32 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input v	oltage	12/24VDC	12/24VDC	0	
Rated input c	urrent	Approx. 3mA/Approx. 7mA	Approx. 3mA/Approx. 7mA	0	
Operating vol	ltage range	10.2 to 26.4VDC (ripple ratio within 5%)	10.2 to 26.4VDC (ripple ratio within 5%)	0	
Maximum nui		60% (10 points/common) simultaneously ON	60% (10 points/common) simultaneously ON	0	
ON voltage/C	N current	9.5VDC or more/2.6mA or more	9.5VDC or more/2.6mA or more	0	
OFF voltage/	OFF current	6VDC or less/1.0mA or less	6VDC or less/1.0mA or less	0	
Input resistan	ice	Approx. 3.4kΩ	Approx. 3.3kΩ	0	
Input form		Sink input (Input current flows off.)	Sink input (Input current flows off.)	0	
Response	OFF → ON	10ms or less (6ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2ms TYP.)*1
time	ON → OFF	10ms or less (7.5ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2ms TYP.)*1
Common terminal arrangement		16 points/common (Common terminal: TB17, TB34)	16 points/common (Common terminal: TB17, TB34)	0	
Operation ind	lication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link input module.

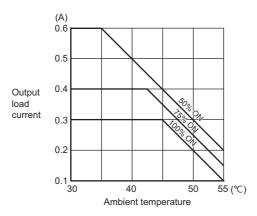
O: Compatible, △: Partially changed, ×: Incompatible

Specific	cations	AJ35PTF-56DS output specifications	SC-A0JQIF56DS output specifications	Compatibility	Precautions for replacement
Number of inp	ut points	24 points	24 points	0	
Insulation met	hod	Photocoupler	Photocoupler	0	
Rated load vo	Itage	100 to 240VAC, 40 to 70Hz	100 to 240VAC, 47 to 63Hz	Δ	The available frequency range is small.
Maximum load	d voltage	264VAC	264VAC	0	
Maximum load	d current	0.6A/point, 2.4A/common	0.6A/point, 2.4A/common	0	
Minimum load	voltage/	24VAC 100mA,	24VAC 100mA,	0	
current		100V/240VAC 10mA,	100V/240VAC 10mA,	Ü	
Maximum inru	sh current	20A 10ms or less, 8A 100ms or less	20A 10ms or less, 8A 100ms or less	0	
Leakage curre	ent at OFF	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	1.5mA (120VAC, 60Hz) 3mA (240VAC, 60Hz)	0	
Maximum volt	age drop at	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	1.5V or less (0.1 to 0.6A) 1.8V or less (0.1A or less) 2.0V or less (10 to 50mA)	0	
Temperature of	derating	None	Refer to the derating chart.*2	Δ	Use the module within the range in the derating chart.
Response	OFF → ON	1ms or less	1ms or less	Δ	In combination with CC-Link output module: 2ms or less*3
time	ON → OFF	0.5 cycle + 1ms or less	0.5 cycle + 1ms or less	Δ	In combination with CC-Link output module: 0.5 cycle + 2ms or less*3
Fuse		High speed type fuse 3.2A (one fuse/common) HP-32	None	×	Install a fuse externally from the module (one fuse/common). (A fuse and fuse holder are included.)
Fuse blown in	dication	Available (When a fuse is blown, the LED turns on and a signal is output to the CPU.)	-	-	
Surge suppressor	CR absorber	0.022 μ F + +47 Ω	0.015 μ F + +22 Ω	0	
auphi casoli	Varistor	None	Varistor voltage (400 to 540V)	0	
Common term arrangement	ninal	8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation ind	cation	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with the CC-Link output module.

 $\bigcirc : \mathsf{Compatible}, \ \triangle : \mathsf{Partially changed}, \ \times : \mathsf{Incompatible}$

Specif	ications	AJ35PTF-56DS	SC-A0JQIF56DS	Compatibility	Precautions for replacement
External power supply (Module	Voltage	15.6 to 31.2VDC	24VDC ±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for CC-Link I/O module operation, connecting a module power supply to TB35 and TB36 of the interface module is required.
power supply)	Current	230mA	570mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External con method	nection	36-point terminal block connector (M3 × 6 screws)	36-point terminal block connector (M3 × 6 screws)	0	
Applicable w	ire size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable so terminal	olderless	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
Number of o	ccupied	8 stations (8 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		1.06kg	0.61kg	Δ	Also consider the weight of the fixed stand of programmable controller.*4
External dim	ensions	250(H) × 190(W) × 41(D) mm	182(H) × 190(W) × 41(D) mm* ⁵	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

- *1 A value when the AJ65SBTCF1-32D is used.
- *2 Temperature derating chart



- *3 A value when the AJ65SBTCF1-32T is used.
- *4 The weight of the fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *5 The external dimensions of the SC-A0JQIF56DS do not include those of its projection.

(15) Specifications comparison between AJ35PTF-56DT and interface module (SC-A0JQIF56DT)

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

Specifi	cations	AJ35PTF-56DT input specifications	SC-A0JQIF56DT input specifications	Compatibility	Precautions for replacement
Number of inp	out points	32 points	32 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated input vo	oltage	12VDC/24VDC	12VDC/24VDC	0	
Rated input co	urrent	Approx. 3mA/Approx. 7mA	Approx. 3mA/Approx. 7mA	0	
Operating vol	tage range	10.2 to 31.2VDC (Ripple ratio within 5%)	10.2 to 26.4VDC (Ripple ratio within 5%)	Δ	The operating voltage range differs.
Maximum nur simultaneous		60% (10 points/common) simultaneously ON	60% (10 points/common) simultaneously ON	0	
ON voltage/O	N current	9.5VDC or more/2.6mA or more	9.5VDC or more/2.6mA or more	0	
OFF voltage/0	OFF current	6VDC or less/1.0mA or less	6VDC or less/1.0mA or less	0	
Input resistan	се	Approx. 3.4kΩ	Approx. 3.3kΩ	0	
Input form		Sink input (Input current flows off.)	Sink input (Input current flows off.)	0	
Response	OFF→ON	10ms or less (6ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1
time	ON→OFF	10ms or less (7.5ms TYP.)	5ms or less (1ms TYP.)	Δ	In combination with CC-Link input module: 6.5ms or less (2.5ms TYP.)*1
Common term arrangement	inal	16 points/common (Common terminal: TB17, TB34)	16 points/common (Common terminal: TB17, TB34)	0	
Operation ind	ication	Available (Turning ON the input turns LED ON)	None	Δ	Operation indication can be checked with CC-Link input module.

 \bigcirc : Compatible, \triangle : Partially changed, \times : Incompatible

		A JOSEPH FORT - 4 - 4	00.40.10155007	1	
Specif	ications	AJ35PTF-56DT output specifications	SC-A0JQIF56DT output specifications	Compatibility	Precautions for replacement
Number of ou	tput points	24 points	24 points	0	
Insulation me	thod	Photocoupler	Photocoupler	0	
Rated load vo	oltage	12VDC/24VDC	12VDC/24VDC	0	
Operating loa	d voltage	10.2 to 31.2VDC	10.2 to 30VDC	Δ	The operating load voltage range differs.
Maximum loa	d current	0.5A/point, 3.2A/common	0.5A/point, 4A/common	0	
Maximum inru	ush current	4A 10ms or less	4A 10ms or less	0	
Leakage curre	ent at OFF	0.1mA or less	0.1mA or less	0	
Maximum vol	tage drop at	0.9VDC (TYP.) 0.5A 1.5VDC (MAX.) 0.5A	0.5VDC (TYP.) 0.5A 0.8VDC (MAX.) 0.5A	0	
Output metho	od	Sink type	Sink type	0	
Response	OFF→ON	2ms or less	1ms or less	Δ	In combination with CC-Link output module: 1.5ms or less*2
time	ON→OFF	2ms or less (Resistance load)	1ms or less (Resistance load)	Δ	In combination with CC-Link output module: 2.5ms or less (Resistance load)*2
External	Voltage	12VDC/24VDC (10.2 to 31.2VDC)	12VDC/24VDC (10.2 to 30VDC)	Δ	The operating voltage range differs.
supply power	Current	23mA (TYP. 24VDC 8 points/common ON)	5mA (TYP. 24VDC 8 points/common ON)	0	
Surge suppre	ssor	Varistor (52 to 62V)	Varistor (50.4 to 61.6V)	0	
Common tern arrangement	ninal	8 points/common (Common terminal: TB9, TB19, TB29)	8 points/common (Common terminal: TB9, TB19, TB29)	0	
Operation ind	ication	Available (Turning ON the output turns LED ON)	None	Δ	Operation indication can be checked with CC-Link output module.
Fuse		None	None	0	
Fuse blown in	ndication	None	None	0	

O: Compatible, △: Partially changed, ×: Incompatible

Specifi	ications	AJ35PTF-56DT	SC-A0JQIF56DT	Compatibility	Precautions for replacement
External supply power (Module	Voltage	15.6 to 31.2VDC	24VDC±10% Ripple voltage 4Vp-p or less	Δ	To deliver a power for programmable controller operation, connecting a module power supply to the interface module, TB35 or TB36 is required.
power supply)	Current	160mA	260mA	Δ	The current consumption increases. The current capacity needs to be reconsidered.
External conn	ection method	36-point terminal block connector (M3 × 6 screws) 2 pieces	36-point terminal block connector (M3 × 6 screws) 2 pieces	0	
Applicable wir	e size	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0.75 to 2mm ² (Applicable tightening torque 69N • cm)	0	
Applicable sol	Iderless	R1.25-3, R2-3, RAV1.25-3, RAV2-3	1.25-3, 1.25-YS3A, 2-S3, 2-YS3A, V1.25-3, V1.25-YS3A, V2-S3, V2-YS3A	0	
	cupied stations ccupied points)	8 stations (8 stations × 8 points)	-	-	When using the AJ65SBTCF1-32D and AJ65SBTCF1-32T, the number of occupied stations is 2 stations (When using CC-Link, it is 1 station × 32 points).
Weight		1.09kg	0.49kg	Δ	Also consider the weight of fixed stand of programmable controller.*3
External dimensions		250(H) × 190(W) × 41(D)mm*4	182(H) × 190(W) × 41(D)mm*5	×	Check the dimensions since they depend on the installation type (building-up/horizontal/separate type).

- *1: A value when using the AJ65SBTCF1-32D.
- *2: A value when using the AJ65SBTCF1-32T.
- *3: The weight of fixed stand of programmable controller depends on replacement type of renewal tool for A0J2.
- *4: External dimensions of the AJ35PTF-56DT does not include dimensions of the optical fiber cable connector.
- *5: The external dimensions of the SC-A0JQIF56DT do not include those of its projection.

Appendix 3 Related Manuals

Appendix 3.1 Replacement handbooks

(1) Renewal catalogue

No	Manual Name	Manual Number	Model Code
1	MELSEC-A/QnA Series Transition Guide	L08077E	_
2	MELSEC-AnS/QnAS (Small Type) Series Transition Guide	L08236E	_

(2) Handbook for transition

No.	Manual Name	Manual Number	Model Code
	Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook (Fundamentals)	L08043ENG	-
1	Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook (Fundamentals)	L08219ENG	_
	Transition from MELSEC-AnS/QnAS (Small Type) Series to L Series Handbook (Fundamentals)	L08258ENG	-
	Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook (Intelligent Function Modules)	L08046ENG	-
2	Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook (Intelligent Function Modules)	L08220ENG	-
	Transition from MELSEC-AnS/QnAS (Small Type) Series to L Series Handbook (Intelligent Function Modules)	L08259ENG	-
3	Transition from MELSEC-A/QnA (Large Type), AnS/QnAS (Small Type) Series to Q Series Handbook (Network Modules)	L08048ENG	-
3	Transition from MELSEC-AnS/QnAS (Small Type) Series to L Series Handbook (Network Modules)	L08260ENG	-
4	Transition from MELSEC-A/QnA (Large Type), AnS/QnAS (Small Type) Series to Q Series Handbook (Communications)	L08050ENG	-
4	Transition from MELSEC-AnS/QnAS (Small Type) Series to L Series Handbook (Communications)	L08261ENG	-
5	Transition from MELSEC-A0J2H Series to Q Series Handbook	L08060ENG	-
6	Transition from MELSECNET/MINI-S3, A2C(I/O) to CC-Link Handbook	L08061ENG	-
7	Transition from MELSEC-I/OLINK to CC-Link/LT Handbook	L08062ENG	_
8	Transition from MELSEC-I/OLINK to AnyWire DB A20 Handbook	L08263ENG	_
9	Transition of CPUs in MELSEC Redundant System Handbook (Transition from Q4ARCPU to QnPRHCPU)	L08117ENG	_

(3) Renewal examples

No.	Manual Name	Manual Number	Model Code
1	MELSEC-A/QnA (Large), AnS/QnAS (Small) Transition Examples	L08121E	_

Appendix 3.2 MELSECNET/MINI-S3

No.	Manual Name	Manual Number	Model Code
1	MELSECNET/MINI-S3 Master Module Type AJ71PT32-S3, AJ71T32-S3, A1SJ71PT32-S3, A1SJ71T32-S3 User's Manual	IB-66565	13JE64
2	Type A2CCPU(P21/R21), A2CCPU-DC24V, A2CCPUC24(-PRF), A2CJCPU User's Manual	IB-66545	13JE85
3	A2C, MELSECNET/MINI-S3 I/O MODULE User's Manual	SH-3546	13JL00
4	Analog-Digital Converter Module type A68ADC User's Manual	IB-66247	13J782
5	Digital-Analog Converter Module type A64DAVC/A64DAIC User's Manual	IB-66248	13J783
6	Pt100 input module type A64RD3C/4C User's Manual	IB-66312	13J671
7	High Speed Counting Module type AD61C User's Manual	IB-66246	13J779
8	High speed counter unit type AD62C User's Manual	IB-66400	13JE17
9	RS-232C interface unit type AJ35PTF-R2 User's Manual	IB-66219	13J771
10	Operating boxes type AJ35PT-OPB-M1/AJ35T-OPB-P1 User's Manual	IB-66218	13J770
11	Transmission converter unit type AJ35PTC(PP)-CNV-(SI/GI) User's Manual	IB-66349	13J669

Appendix 3.3 CC-Link

No.	Manual Name	Manual Number	Model Code
1	Open Field Network CC-Link, CC-Link/LT Catalog	L-08038E	-
2	CC-Link and CC-Link/LT Compatible Product databook	L-08039E	-
3	MELSEC-Q CC-Link System Master/Local Module User's Manual	SH-080394E	13JR64
4	MELSEC-L CC-Link System Master/Local Module User's Manual	SH-080895ENG	13JZ41
5	CC-Link System Compact Type Remote I/O Module User's Manual	SH-4007	13JL72
6	CC-Link System Remote I/O Module User's Manual	IB-66728	13J878
7	MELSECNET/MINI-S3 - CC-Link Module Wiring Conversion Adapter User's Manual A6ADP-1MC16D/A6ADP-1MC16T/A6ADP-2MC16D	IB-0800373	13JY20
8	AJ65BT-64AD Analog-Digital Converter Module User's Manual	SH-3614	13J893
9	Analog-Digital Converter Module type AJ65SBT-64AD User's Manual	SH-080106	13JR18
10	Analog-Digital Converter Module Type AJ65SBT2B-64AD User's Manual	SH-080979ENG	13JZ57
11	Analog-Digital Converter Module type AJ65VBTCU-68ADVN/ADIN User's Manual	SH-080401E	13JR65
12	Digital-Analog Conversion Module type AJ65BT-64DAV/DAI User's Manual	SH-3615	13J895
13	Digital-Analog Converter Module type AJ65SBT-62DA User's Manual	SH-080107	13JR19
14	Digital-Analog Converter Module Type AJ65SBT2B-64DA User's Manual	SH-080768ENG	13JZ19
15	Digital-Analog Converter Module type AJ65VBTCU-68DAVN User's Manual	SH-080402E	13JR66
16	Pt 100 Temperature Input Module Type AJ65BT-64RD3/AJ65BT-64RD4 User's Manual	SH-4001	13JL54
17	RTD Input Module Type AJ65SBT2B-64RD3 User's Manual	SH-080770ENG	13JZ21
18	High-Speed Counter Module type AJ65BT-D62/AJ65BT-D62D/ AJ65BT-D62D-S1 User's Manual	IB-66823	13JL45
19	CC-Link System RS-232 Interface Module User's Manual (Nonprocedural Protocol Mode) (AJ65BT-R2N)	SH-080685ENG	13JZ00
20	CC-Link System RS-232 Interface Module User's Manual (MELSOFT Connection Mode) (AJ65BT-R2N)	SH-080687ENG	13JZ01
21	CC-Link System Repeater Optical Repeater Module User's Manual AJ65SBT-RPS/AJ65SBT-RPG	IB-0800089	13JQ85

Appendix 3.4 Products manufactured by Mitsubishi Electric Engineering Co., Ltd.

No.	Catalog name	Catalog Number
1	Programmable Controller Upgrade Tool General Catalog	SAN C044·068R

Appendix 3.5 Products manufactured by Mitsubishi Electric System & Service Co., Ltd.

No.	Data/catalog	Number
1	Renewal tool for A0J2 series Transition from MELSEC-A0J2(H) series to renewal system using renewal tool	X903071003
2	Replace A0J2(H) system with Q series using existing wiring!	X900707-115

Memo

Memo		

WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.

However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place. Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

- (1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
- (2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
 - 1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
 - 2. Failure caused by unapproved modifications, etc., to the product by the user.
 - 3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
 - 4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
 - 5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
 - 6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
 - 7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

- (1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
- (2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

- (1) Damages caused by any cause found not to be the responsibility of Mitsubishi.
- (2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products.
- (3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.
- (4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.



Programmable Controller

Ot/Di	Outro office	T-1/5
Country/Region USA	MITSUBISHI ELECTRIC AUTOMATION, INC.	Tel/Fax Tel: +1-847-478-2100
USA	500 Corporate Woods Parkway, Vernon Hills, IL 60061, U.S.A.	Fax: +1-847-478-2253
Mexico	MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch Mariano Escobedo #69, Col. Zona Industrial, Tlalnepantla Edo. Mexico, C.P.54030	Tel: +52-55-3067-7500
Brazil	MITSUBISHI ELECTRIC DO BRASIL COMÉRCIO E SERVIÇOS LTDA. Avenida Adelino Cardana, 293, 21 andar, Bethaville, Barueri SP, Brazil	Tel: +55-11-4689-3000 Fax: +55-11-4689-3016
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Czech Republic	MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch Avenir Business Park, Radlicka 751/113e, 158 00 Praha5, Czech Republic	Tel : +420-251-551-470 Fax : +420-251-551-471
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Sweden	MITSUBISHI ELECTRIC EUROPE B.V. (Scandinavia) Fjelievägen 8, SE-22736 Lund, Sweden	Tel: +46-8-625-10-00 Fax: +46-46-39-70-18
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UAE	MITSUBISHI ELECTRIC EUROPE B.V. Dubai Branch Dubai Silicon Oasis, P.O.BOX 341241, Dubai, U.A.E.	Tel : +971-4-3724716 Fax : +971-4-3724721
South Africa	ADROIT TECHNOLOGIES 20 Waterford Office Park, 189 Witkoppen Road, Fourways, South Africa	Tel : +27-11-658-8100 Fax : +27-11-658-8101
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Thailand	MITSUBISHI ELECTRIC FACTORY AUTOMATION (THAILAND) CO., LTD. 12th Floor, SV.City Building, Office Tower 1, No. 896/19 and 20 Rama 3 Road, Kwaeng Bangpongpang, Khet Yannawa, Bangkok 10120, Thailand	Tel : +66-2682-6522 Fax : +66-2682-6020
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