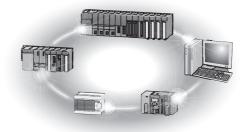


# Programmable Controller

# CC-Link System Compact Type Remote I/O Module User's Manual



# • SAFETY PRECAUTIONS •

(Read these precautions before using this product.)

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

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

In this manual, the safety precautions are classified into two levels: "/!\ WARNING " and "/!\ CAUTION".



Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.

Under some circumstances, failure to observe the precautions given under "ACAUTION" 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 manual and then keep the manual in a safe place for future reference.

# [Design Precautions]

# **⚠ WARNING**

- In the case of a communication failure in the network, the status of the error station will be as follows:
  - (1) All inputs from remote I/O stations are turned off.
  - (2) All outputs from remote I/O stations are turned off.
  - Check the communication status information and configure an interlock circuit in the sequence program to ensure that the entire system will operate safely.
  - Incorrect output or malfunction due to a communication failure may result in an accident.
- Outputs may remain on or off due to a failure of a remote I/O module. Configure an external circuit for monitoring output signals that could cause a serious accident.

# **A** CAUTION

- Use the module in an environment that meets the general specifications in this manual.
   Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.
- Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm (3.94 inches) or more between them. Failure to do so may result in malfunction due to noise.

# [Installation Precautions]

# **↑** CAUTION

- Do not directly touch any conductive parts of the module. Doing so can cause malfunction or failure of the module.
- Securely fix the module with a DIN rail or mounting screws. 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.
- Securely connect the cable connectors. Poor contact may cause malfunction.

# [Wiring Precautions]

# **⚠ WARNING**

• Shut off the external power supply for the system in all phases before wiring.

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

# **↑** CAUTION

- Individually ground the FG terminal of the programmable controller with a ground resistance of  $100\Omega$  or less. Failure to do so may result in electric shock or malfunction.
- Tighten any unused terminal screws within the specified torque range (0.42 to 0.50N•m). Failure to do so may cause a short circuit due to contact with a solderless terminal.
- 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.
- Check the rated voltage and terminal layout before wiring to the module, and connect the cables correctly. Connecting a power supply with a different voltage rating or incorrect wiring may cause a fire or failure.
- Tighten the terminal screw 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, fire, or malfunction.
- When fixing the CC-Link dedicated cable and the power cable through the pipes for transmission or power supply line of the waterproof type remote I/O module, securely tighten the nuts with a wrench. Undertightening can cause water intrusion, resulting in failure. (AJ65SBTW□-16□ only.)
- Tighten the communication adapter mounting screw or the waterproof cap within the specified torque range. Undertightening can cause short circuit, fire, or malfunction. Overtightening can damage the screw or the cap, resulting in short circuit or malfunction. (AJ65FBTA□-16□ only.)
- This product meets IP67 standard under the condition that the waterproof plugs, waterproof caps, and communication adapter are all installed. (AJ65FBTA□-16□ only.)
- Do not connect the cable to an incorrect connector. The I/O connector, communication connector, and power connector have the same interface. Doing so can cause malfunction or failure of the module. (AJ65FBTA□-16□ only.)

# [Wiring Precautions]

# **↑** CAUTION

- Prevent foreign matter such as dust or wire chips from entering the module. Such foreign matter can cause a fire, failure, or malfunction.
- 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.
- Do not install the control lines together with the communication cables, or bring them close to each other. Failure to do so may cause malfunctions due to noise.
- When an overcurrent caused by an error of an external device or a failure of the programmable controller flows for a long time, it may cause smoke and fire. To prevent this, configure an external safety circuit, such as a fuse.
- 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.

# [Starting 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 for the system in all phases before cleaning the module or retightening the terminal screws or module mounting screws. Failure to do so may result in electric shock.
- Set the sink/source selector switch after shutting off the power supply at all phases. Failure to do so may result in failures or malfunctions in the opponent device.

# **↑** CAUTION

- Do not disassemble or modify the modules. Doing so may cause failure, malfunction, injury, or a fire
- Do not drop or apply strong shock to the module. Doing so may damage the module.
- Shut off the external power supply for the system in all phases before mounting or removing a 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 terminal block to/from the module more than 50 times (IEC 61131-2 compliant).
- 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]

# **↑** CAUTION

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

# CONDITIONS OF USE FOR THE PRODUCT

- (1) MELSEC 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 ELECTRIC 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 ELECTRIC USER'S, 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 Electric 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 Electric 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 Electric representative in your region.
- (3) Mitsubishi Electric shall have no responsibility or liability for any problems involving programmable controller trouble and system trouble caused by DoS attacks, unauthorized access, computer viruses, and other cyberattacks.

### **REVISIONS**

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

Print Date	* Manual Number	Revision
June 1998	SH(NA)-4007-A	First printing
Nov. 1998	SH(NA)-4007-B	Additional model AJ65SBTB1-8D, AJ65SBTC4-16D, AJ65SBTW4-16D, AJ65SBTB1-8T,
		AJ65SBTC4-16DT, AJ65SBTW4-16DT  Addition
		Section 7.3, 7.4
		Correction Section 1.1, 1.2, 1.4, Chapter 2, 4, 5, 6, Section 7.1, Appendix 1
Apr. 1999	SH(NA)-4007-C	Addition Contents, Section 8.2.2
June 1999	SH(NA)-4007-D	Additional model
		AJ65SBTB1-32T1, AJ65SBTCF1-32D, AJ65SBTCF1-32T, AJ65SBTCF1-32DT
Nov. 1999	SH(NA)-4007-E	Addition
		Section 1.4, 4.1.6, 4.1.7, 4.4, 5.1.8, 5.1.9, 5.1.10, 5.1.11, 5.3, 6.1, 6.4, 7.4, Appendix 1.6, 1.7, 1.8
		Correction
		Section 1.1, 1.2, 1.3, 1.5, 1.6, Chapter 2, Chapter 3, Section 4.2.1, 4.3.1, 6.2.1, 6.3.1, Section 7.1, 7.4, 8.2.1, Appendix 1
		Additional model
		AJ65SBTB1-32DT, AJ65SBTCF1-32D, AJ65SBTCF1-32T, AJ65SBTCF1-32DT, AJ65SBTB2-8A, AJ65SBTB2-16A, AJ65SBTB2-8R, AJ65SBTB2-16R, AJ65SBTB2-8S, AJ65SBTB2-16S
Dec. 1999	SH(NA)-4007-F	Addition
		Section 1.2, 4.1.6, 4.1.7, 5.1.8, 5.1.9, 5.1.10, 5.1.11
Mar. 2000	SH(NA)-4007-G	Additional model
		AJ65SBTB2N-8A, AJ65SBTB2N-16A, AJ65SBTB3-8D, AJ65SBTB3-16D,
		AJ65SBTB2-8T, AJ65SBTB2-16T, AJ65SBTB2N-8R, AJ65SBTB-16R, AJ65SBTB2N-8S, AJ65SBTB2N-16S, AJ65SBTB32-8DT,
		AJ65SBTB32-16DT, AJ65SBTB1-16DT, AJ65SBTB1-16DT1, AJ65SBTB1-32DT1
		Addition
		Section 4.1.8, 4.1.9, 4.1.10, 4.1.11, Section 5.1.12, 5.1.13, 5.1.14, 5.1.15,
		5.1.16, 5.1.17, Section 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, Appendix 1.9, 1.10
Oct. 2000	SH(NA)-4007-H	Additional model
		AJ65VBTCU3-8D1, AJ65VBTCU3-16D1, AJ65VBTCU2-8T,
		AJ65VBTCU2-16T, AJ65VBTCF1-32DT1 Addition
		Section 4.5, 5.4, 6.5, 7.2.3, 7.2.4, Appendix 1.13
		Correction Section 1.1, 1.4, 1.5, Chapter 2, Section 4.3.1, 7.1
		Deletion
		AJ65SBTB2-8A, AJ65SBTB2-16A, AJ65SBTB2-8R, AJ65SBTB2-16R,
		AJ65SBTB2-8S, AJ65SBTB2-16S

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Print Date	* Manual Number	Revision
Jan. 2001	SH(NA)-4007-I	Additional model
		AJ65FBTA4-16D, AJ65FBTA4-16DE, AJ65FBTA42-16DT,
		AJ65FBTA42-16DTE
		Addition
		Section 1.6, 7.4, Appendix 1.14
		Correction
		Section 1.2, 1.4, 1.5, Chapter 2,3, Section 4.5.2, 5.3.1, 5.4.1, 5.4.2, 6.5.1, 7.1, Appendix 1.13
Jul. 2001	SH(NA)-4007-J	Additional model
		AJ65FBTA2-16T, AJ65FBTA2-16TE
		Correction
		Section 1.2, 1.4, 1.5, 4.1.6, 4.1.7, 4.2.1, 4.2.2, 4.3.1, 6.2.1, 6.2.2, 6.3.1,
0.001	011/014) 40071/	6.5.1, 6.6.1, 6.6.2, 7.2.3, Appendix 1.14
Sep. 2001	SH(NA)-4007-K	Additional model
		AJ65SBTB1-16DT2, AJ65SBTB1-32DT2
		Correction
Jan. 2002	SH(NA)-4007-L	Section 1.4, 6.1.1, 8.2.1, Appendix 1.13
Jan. 2002	311(NA)-4007-L	Additional model
		AJ65SBTB1-8T1, AJ65SBTB2-8T1, AJ65SBTB2-16T1, AJ65SBTC1-32T1, AJ65SBTB1-16DT3, AJ65SBTB1-32DT3, AJ65SBTB32-8DT2,
		AJ65SBTB32-16DT2, AJ65SBTC4-16DT2, AJ65SBTC1-32DT2,
		AJ65SBTC1-32DT3
		Correction
		Section 1.3, 1.4, 1.5, 5.5.2, 6.1.1, 7.7, 8.2.1, Appendix 1.13
		Changed item numbers
		Section 5.1.4 to Section 5.1.9 $\rightarrow$ Section 5.1.5 to Section 5.1.10 Section 5.1.10 to Section 5.1.13 $\rightarrow$ Section 5.1.13 to Section 5.1.16
		Section 6.1.5 to Section 6.1.6 → Section 6.1.9 to Section 6.1.10
		Section 6.2.2 to Section 6.2.3 → Section 6.2.3 to Section 6.2.4
Dec. 2002	SH(NA)-4007-M	Correction
14 0000	011/010 4007 01	Section 2, Section 4 to Section 6, Section 8.2.1
May 2003	SH(NA)-4007-N	Correction
Jun. 2004	SH(NA)-4007-O	Section 1.3, 1.6
Jun. 2004	SH(NA)-4007-0	Additional model
		AJ65VBTS3-16D, AJ65VBTS3-32D, AJ65VBTS2-16T, AJ65VBTS2-32T, AJ65VBTS32-16DT, AJ65VBTS32-32DT, AJ65VBTCE3-8D,
		AJ65VBTCE3-16D, AJ65VBTCE2-8T, AJ65VBTCE2-16T,
		AJ65VBTCE32-16DT
		Addition
		Section 1.6.1 to 1.6.3, 4.5.3 to 4.5.5, 5.4.3 to 5.4.5, 6.5.2 to 6.5.4, 7.8, 7.9
		Appendix 1.15, 1.16
		Correction Chapter 1, 2, Section 4.4.1, 4.5, 5.1, 5.4, 6.1, 6.5, 6.2.2, 6.4.1, 6.5.1, 7.2 to
		7.4
Oct. 2004	SH(NA)-4007-P	Correction
		Section 1.1, 1.3 to 1.5, Chapter 2, 3, 4 to 6, Section 7.1, 7.4.2, 7.6, 7.7,
		7.9.2, APPENDIX

Print Date	* Manual Number	Revision
May 2005	SH(NA)-4007-Q	Additional model
		AJ65VBTCE3-32D, AJ65SBTC4-16DN, AJ65SBTC4-16DE,
		AJ65VBTCE32-32DT
		Addition
		Section 4.3.3, 4.4.3, 4.4.4, 6.3.2
		Correction
		SAFETY PRECAUTION, About Manuals, Compliance with the EMC and
		Low Voltage Directives, Section 1.1, 1.2, 1.4, 1.5, Chapter 2,
		Chapter 4 to 6, Section 7.1, 7.5, 7.7, 7.8.2, 7.9.2, Appendix 1.1, 1.2, 1.4, 1.5 to 1.10, 1.14
		Changed item numbers  The order of section numbers has been changed in Chanters 4 through 6
Sep. 2005	SH(NA)-4007-R	The order of section numbers has been changed in Chapters 4 through 6
ССР. 2000	011(14/1)-4007-11	Correction
		Chapter 4, through 6 have been changed for the external connection diagrams
Sep. 2006	SH(NA)-4007-S	Additional model
<u> </u>	,	AJ65SBTB1B-16TE1, AJ65SBTB1-32TE1, AJ65SBTB1-32DTE1
		Addition
		Section 5.1.13, 5.1.14, 6.1.13
		Correction
		SAFETY PRECAUTION, Section 1.2, 1.4, Chapter 2, Section 7.1, 8.2.1,
		8.2.2, Appendix 1.8
		F.G symbol is generally revised.
		Changed item numbers
		Section 5.1.13 $\rightarrow$ Section 5.1.15
		Section 5.1.14 → Section 5.1.16
		Section 5.1.15 → Section 5.1.17 Section 5.1.16 → Section 5.1.18
Jan. 2007	SH(NA)-4007-T	
		Additional model AJ65SBTB3-16D5, AJ65SBTB1-32D5
		Addition Section 4.1.8, 4.1.11
		Correction
		Section 1.2, 1.4, Chapter 2, Section 5.1.17, 5.1.18, 8.2.2
		Chapter 4 to 6 have been changed for specifications and external
		connection diagrams.
		Changed item numbers
		Section 4.1.8 → Section 4.1.9
		Section 4.1.9 → Section 4.1.10

Print Date	* Manual Number	Revision
Mar. 2007	SH(NA)-4007-U	Additional model
		AJ65DBTB1-32D, AJ65DBTB1-32T1, AJ65DBTB1-32R, AJ65DBTB1-
		32DT1, AJ65DBTB1-32DR
		Addition
		Section 4.1.12, 5.1.19, 5.1.20, 6.1.14, 6.1.15, 7.10, 7.10.1, 7.10.2, 7.10.3,
		7.10.4, 7.11, Appendix 1.15
		Correction
		Section 1.2, 1.3, 1.4, 1.5, Chapter 2, Section 4.3.1, 5.1.17, 5.1.18, 6.4.1,
		6.4.2, 6.6.1, 6.6.2, 7.1
Sep. 2007	SH(NA)-4007-V	Additional model
		AJ65SBTB32-16DR, AJ65SBTB3-16KD, AJ65SBTB1-32KD,
		AJ65SBTB32-16KDT2, AJ65SBTB32-16KDT8, AJ65SBTB1-32KDT2,
		AJ65SBTB1-32KDT8
		Addition
		Section 4.1.8, 4.1.11, 6.1.9, 6.1.10, 6.1.11, 6.1.15, 6.1.17, Appendix 1.16
		Correction
		Section 1.2, 1.3, 1.4, Chapter 2, Section 6.6.3, 7.1
		Changed item numbers
		Section 4.1.8 → Section 4.1.9
		Section 4.1.9 → Section 4.1.10
		Section 4.1.10 → Section 4.1.12
		Section 4.1.11 → Section 4.1.13
		Section 4.1.12 → Section 4.1.14
		Section 6.1.9 → Section 6.1.12
		Section 6.1.10 → Section 6.1.13
		Section 6.1.11 $\rightarrow$ Section 6.1.14 Section 6.1.12 $\rightarrow$ Section 6.1.16
		Section 6.1.13 → Section 6.1.18
		Section 6.1.14 → Section 6.1.19
		Section 6.1.15 → Section 6.1.20
Oct. 2007	SH(NA)-4007-W	Additional model
		AJ65SBTB32-16KDR
		Addition
		Section 6.1.12
		Correction
		Section 1.2, 1.4, Chapter 2
		<u>-</u>
		Changed item numbers Section 6.1.12 → Section 6.1.13
		Section 6.1.13 $\rightarrow$ Section 6.1.14
		Section 6.1.14 → Section 6.1.15
		Section 6.1.15 → Section 6.1.16
		Section 6.1.16 → Section 6.1.17
		Section 6.1.17 → Section 6.1.18
		Section 6.1.19 → Section 6.1.20
		Section 6.1.20 → Section 6.1.21

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Print Date	* Manual Number	Revision
Oct. 2008	SH(NA)-4007-X	Additional model
		AJ65VBTCFJ1-32DT1
		Addition
		Section 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 4.4.1, 4.4.5, 5.2.1, 5.2.2, 5.3.1,
		5.3.1, 6.5.3
		Correction
	011/014 \ 4007 \ 4	Section 1.3
Jan. 2010	SH(NA)-4007-Y	This manual was revised in accordance with IEC 60617.
		Additional model
		AJ65VBTCE3-16DE, AJ65VBTCE3-32DE
		Addition Section 1.2.1.1.1.1.6.2.1.7.4.2.2.4.2.2.7.1
		SAFETY PRECAUTION, Section 1.3.1, 1.4, 1.6.2, 1.7, 4.3.2, 4.3.3, 7.1, 7.2.3, 7.2.4, 7.5, 7.7
		Correction
		CONDITIONS OF USE FOR THE PRODUCT, Section 4.3.4, 4.3.5
Mar. 2011	SH(NA)-4007-Z	This manual was revised in accordance.
Dec. 2011	SH(NA)-4007-AA	Additional model
		AJ65VBTCE3-16TE, AJ65VBTCE3-16DTE, AJ65VBTCE3-32DTE
		Addition
		Section 5.3.3, 6.3.2, 6.3.4
		Correction
		Chapter 3, Section 1.3.1 to 1.3.3, 1.4, 1.5, 4.6.3, 5.1.19, 6.1.1, 6.1.2, 6.1.7 to 6.1.12, 6.1.20, 6.2.1, 6.2.2, 6.3.1, 6.3.3, 6.4.1, 6.4.2, 6.6.1 to 6.6.3,
		7.1, 7.2.2, 7.8.2, 8.1
		Changed item numbers
		Section 6.3.2 → Section 6.3.3
Jun. 2012	SH(NA)-4007-AB	Addition
		Appendix 2
		Correction
		ABOUT MANUALS, COMPLIANCE WITH EMC AND LOW VOLTAGE
		DIRECTIVES, Chapter 2, 3, Section 1.5, 1.6.2, 6.5.3, 7.2.1, 7.6, 7.7, 8.2.1,
Nov. 2012	SH(NA)-4007-AC	Appendix 1.11
1404. 2012	Si i(iv/)-4001-70	Correction Section 4.6.1.4.6.2.5.5.1.5.6.1.5.6.2.6.5.2.6.5.2.6.6.1.6.6.2
Jun. 2013	SH(NA)-4007-AD	Section 4.6.1, 4.6.2, 5.5.1, 5.6.1, 5.6.2, 6.2.2, 6.5.2, 6.6.1, 6.6.2
23 2010		Correction Section 8.2.1, 8.2.2
Dec. 2013	SH(NA)-4007-AE	Correction
		Section 4.1.1 to 4.1.14, 4.4.3, 4.4.4, 4.4.6, 4.4.7, 4.5.1, 5.1.1 to 5.1.20,
		5.4.3, 5.4.4, 5.5.1, 6.1.1 to 6.1.21, 6.4.1 to 6.4.6, 6.5.1 to 6.5.3
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Print Date	* Manual Number	Revision
Oct. 2014	SH(NA)-4007-AF	Correction
		About Manuals, Section 1.3.2, 1.6.2, 1.7, Chapter 2, 4, 5, 6, Section 7.2.1,
		7.2.6, 7.5, 7.7, 7.8.2, Appendix 1, 2
Mar. 2017	SH(NA)-4007-AG	Correction
		Section 1.3.2
Jul. 2018	SH(NA)-4007-AH	Correction
		Section 1.3.2, 1.5, 4.2.1, 4.2.2, 4.4.2, 4.6.3, 5.1.11, 5.1.12, 5.1.14, 5.2.1,
		5.2.2, 5.6.2, 6.1.19, 6.2.1, 6.2.2, 6.6.2, 6.6.3, 7.1, 7.6, 7.8.2, 8.2.2, Appendix 1.13
Jul. 2022	SH(NA)-4007-AI	
0di. 2022	011(10/1) 4007 711	CONDITIONS OF USE FOR THE PROPUSE. Section 1.3.3.1.5.1.6.1
		CONDITIONS OF USE FOR THE PRODUCT, Section 1.3.3, 1.5, 1.6.1, 7.2.1, 8.2.2
Dec. 2022	SH(NA)-4007-AJ	Correction
	,	Section 1.1, 1.5, 8.1, Appendix 1.8, 1.10
		Coolon 1.1, 1.0, 0.1, Appoint 1.0, 1.10

Japanese Manual Version SH-3307-AM

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### INTRODUCTION

Thank you for purchasing the MELSEC-A series programmable controllers.

Before using this product, please read this manual carefully and develop familiarity with the functions and performance of the MELSEC-A series programmable controller to handle the product correctly.

Make sure that the end users read this manual.

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### **ABOUT MANUALS**

The following manuals are also related to this product.

Order each manual as needed, referring to the following list.

### Relevant manuals

Manual name	Manual number (model code)
CC-Link System Master/Local Module Type AJ61BT11/A1SJ61BT11 User's Manual  System configuration, performance specifications, functions, handling, wiring, and troubleshooting of the  AJ61BT11 and A1SJ61BT11  (Sold separately)	IB-66721 (13J872)
CC-Link System Master/Local Module Type AJ61QBT11/A1SJ61QBT11 User's Manual System configuration, performance specifications, functions, handling, wiring, and troubleshooting of the AJ61QBT11 and A1SJ61QBT11 (Sold separately)	IB-66722 (13J873)
MELSEC-Q CC-Link System Master/Local Module User's Manual System configuration, performance specifications, functions, handling, wiring, and troubleshooting of the QJ61BT11N (Sold separately)	SH-080394E (13JR64)
MELSEC-L CC-Link System Master/Local Module User's Manual  System configuration, performance specifications, functions, handling, wiring, and troubleshooting of the  LCPU with built-in CC-Link and LJ61BT11 (Sold separately)	SH-080895ENG (13JZ41)
MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Startup)  Specifications, procedures before operation, system configuration, wiring, and communication examples of the CC-Link system master/local module  (Sold separately)	SH-081269ENG (13JX10)
MELSEC iQ-R CC-Link System Master/Local Module User's Manual (Application)  Functions, parameter settings, programming, troubleshooting, I/O signals, and buffer memory of the CC-Link system master/local module (Sold separately)	SH-081270ENG (13JX19)

### COMPLIANCE WITH EMC AND LOW VOLTAGE DIRECTIVES

### (1) Method of ensuring compliance

To ensure that Mitsubishi Electric programmable controllers maintain EMC and Low Voltage Directives when incorporated into other machinery or equipment, certain measures may be necessary. Please refer to one of the following manuals.

- User's manual for the CPU module or head module used
- · Safety Guidelines

(This manual is included with the CPU module, base unit, or head module.)

The CE mark on the side of the programmable controller indicates compliance with EMC and Low Voltage Directives.

### (2) Additional measures

To ensure that this product maintains EMC and Low Voltage Directives, please refer to one of the manuals listed under (1).

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# **MEMO**

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### 1 OVERVIEW

This manual describes the specifications of the compact remote I/O module (hereinafter referred to as the "compact remote I/O module") used as the remote I/O station of the CC-Link system.

### 1.1 Features

The following are the features of the compact remote I/O module:

(1) The remote I/O module is reduced in size yet retains all the functions of the conventional module

The conventional remote I/O module has furthermore been reduced in size. [External dimension (comparative example)]

	Compact remote I/O module		Conventional remote I/O module			
Module model name	AJ65SBTB1-8 □	AJ65SBTB1-16 ☐ AJ65SBTB2-8 ☐ AJ65SBTB2N-8 ☐ AJ65SBTC1-32 ☐ AJ65SBTC4-16 ☐ AJ65SBTCF1-32 ☐ AJ65SBTB3-8 ☐ AJ65SBTB3-8 ☐	AJ65SBTB1-32 [] AJ65SBTB1B-16[] AJ65SBTB2-16 [] AJ65SBTB2N-16 [] AJ65SBTB3-16 [] AJ65SBTB3-16 []	AJ65BTB1-16 🗔	AJ65BTB2-16 □	AJ65BTC1-32 □
Height	50 (1.97)		65 (2.56)			
Width	87.3 (3.44)	118 (4.65)	179 (7.04)	151.9 (5.98)	197.5 (7.78)	165.0 (6.5)
Depth	40 (1.57)		46 (1.81)			

Unit:mm (inch)

### (2) More models in the compact remote I/O module lineup

The compact remote I/O modules for the CC-Link system is divided into six types including terminal block type, one-touch connector type, waterproof-type, FCN connector type, spring clamp terminal block type, and sensor connector (e-CON) type.

In addition, the number of I/O points is divided into three types (8 points, 16 points, and 32 points), allowing the user to select a module that is most appropriate for the environment and objective.

(3) 4-wire compact remote I/O module featuring easy connection of a 4-wire sensor

A 4-wire sensor can be easily connected via the common pin provided on each plug without installing a relay terminal block.

For a 4-wire compact remote I/O module, one sensor is connected to each plug. Therefore, sensors can be exchanged by plug, reducing work steps.

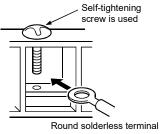
(4) Terminal block connection provides easy connection of 2-wire and 3-wire sensors or loads

Since the terminal block connection allows connection of 2-wire and 3-wire sensors or loads, common connections are not needed and it makes connection easier.

### (5) Wiring work can be minimized

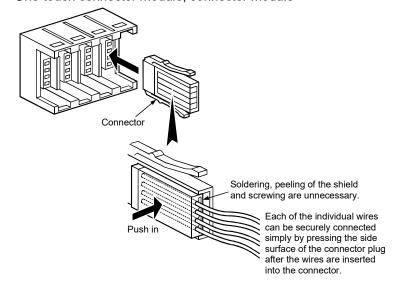
- (a) Terminal-block module
  - The number of wiring steps can be dramatically reduced by adopting the use of self-tightening screws on the terminal block.
- (b) One-touch connector module, connector module The number of wiring steps can be dramatically reduced by adopting use of the pressure-displacement wire-connection method (soldering, peeling of shield and screwing not necessary).
- (c) FCN connector module The number of wiring steps can be dramatically reduced by adopting 40-pin connector for I/O part.
- (d) Spring clamp terminal block module The number of wiring steps can be dramatically reduced by adopting spring clamps (screwing not necessary).

### <Terminal-block module>

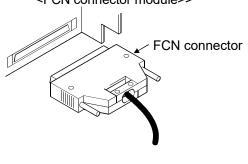


The round solderless terminal can be connected simply by loosening the screw on the terminal block.

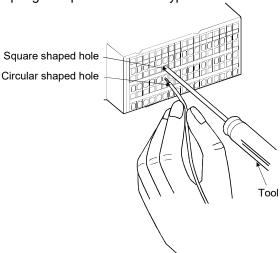
### <One-touch connector module, connector module>



### <FCN connector module>>



# <Spring clamp terminal block type >



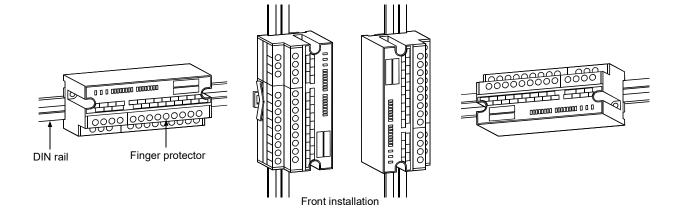
# (6) Waterproof remote I/O modules with improved resistance against water and oil

The waterproof remote I/O module, low profile waterproof remote I/O module adopts a protection structure compatible with IP67, providing even safer usage in areas in which water and oil are present.

- (7) Up to a maximum of 64 remote I/O modules can be connected In the CC-Link system, a maximum of 64 remote I/O modules can be connected per master station. Since each remote I/O module occupies 32 points, a maximum of 2048 link
- (8) Modules can be exchanged without stopping the CC-Link system With the adoption of a two-piece terminal block for the CC-Link cable connection, modules may be exchanged without stopping the CC-Link system.
- (9) Direct installation to the machine is feasible The terminal-block remote I/O module may be installed directly to the machine, since the charged area is protected by a finger protector in the upper area of the terminal block.
- (10) The module can be installed in six orientations
   The compact remote I/O module can be installed in six different orientations.
   (Restrictions may apply to some installation orientations.)
   The module can also be installed using the DIN rail.



points can be set.

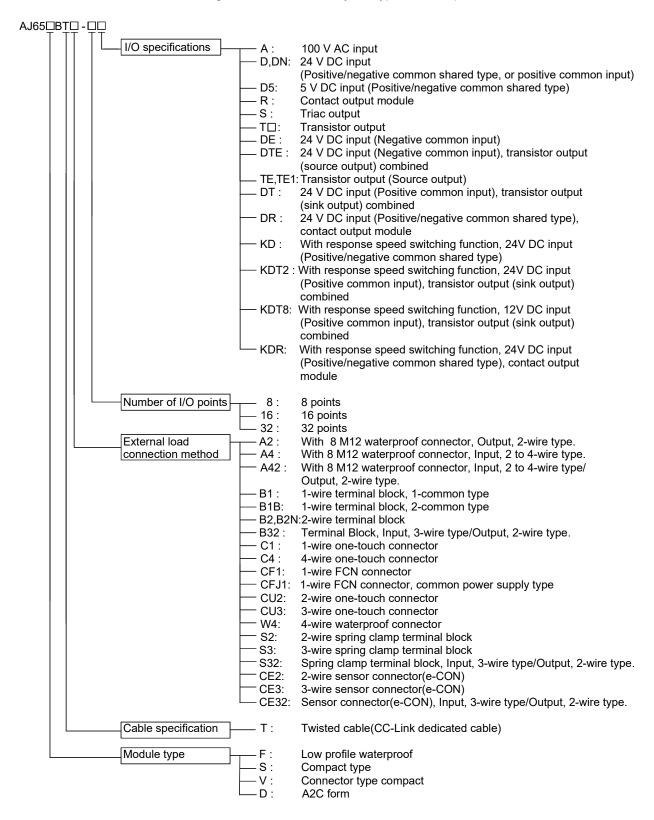




(11) Transistor output module with improved protection functions The transistor output module is designed to achieve an even greater degree of module protection by adopting overload protection, overheat protection and overvoltage protection as standard. As a result, the programmable controller system's reliability is further improved.

### 1.2 Identifying the Compact Remote I/O Module Type

The following shows how to identify the type of a compact remote I/O module:



### 1.3 Precautions for use of remote I/O modules

This section describes the precautions for use of remote I/O modules applicable in the CC-Link system and their specifications.

- This is a remote I/O module designed specifically for the CC-Link system.
   Do not connect the module to other data-link systems, such as the MELSECNET/MINI.
- 32 points are assigned per station for a compact remote I/O module.
   For 16-point modules the 16 points in the second half and for 8-points module the 24 points in the second half remain empty but are not usable.
- Do not install the main circuit lines, high-voltage cables, and load cables other than
  those connected to the programmable controller together.
   If doing so, the remote I/O module (especially, AJ65SBTB1-16D1, AJ65SBTB132D1, AJ65VBTCU3-8D1, AJ65VBTCU3-16D1, and AJ65SBTC1-32D1) will be
  susceptible to noise, surge, and induction.
- When a mechanical contact, such as a relay, is connected to the AJ65SBTB1-16D1, AJ65SBTB1-32D1, AJ65VBTCU3-8D1, AJ65VBTCU3-16D1, or AJ65SBTC1-32D1, chattering may be input as a signal.

### 1.3.1 Input module

(1) Input response time and pulse width

The input module may take noise for inputs due to the signal pulse width. The pulse width of the AJ65SBTB1-32KD□, AJ65SBTB3-16KD□, or AJ65SBTB32-16KD□ is as shown in the following table depending on the response speed set by the input response speed switching switch. In case of setting the response speed, fully consider the operating environment.

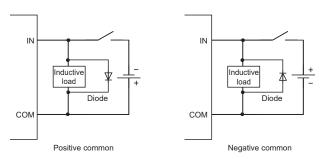
Response speed setting	Minimum value of pulse width that can take noise for		
value (ms)	inputs (ms)		
0.2	0.006		
1.5	0.8		
5	3		
10	6		

When setting "0.2ms" as the response speed under an environment with noise, an input signal line (including a common line) should be 3m or less.

- (2) Precautions when using the DC input module
  - (a) Measures against back EMF

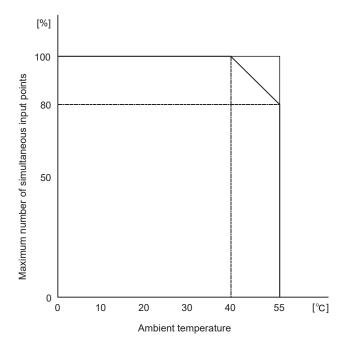
When an inductive load is connected, connect a diode to the load in parallel. Use a diode that meets the following conditions.

- Reverse breakdown voltage is equal to or more than 10 times as large as the circuit voltage.
- Forward current is equal to or more than 2 times as large as the load current.



(3) Precautions when using the AJ65SBTC1-32D or AJ65SBTC1-32D1
The maximum number of simultaneous input points of the AJ65SBTC1-32D or AJ65SBTC1-32D1 varies depending on the ambient temperature.
Refer to the derating curve below

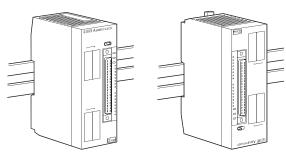
Derating curve for the AJ65SBTC1-32D or AJ65SBTC1-32D1



### (4) Precautions when using the AJ65VBTCF1-32DT1

The maximum number of simultaneous input points of the AJ65VBTCF1-32DT1 changes according to the installation orientation.

Installation orientations without limits
 When the module is mounted as shown below, the maximum number of simultaneous input points is not limited.

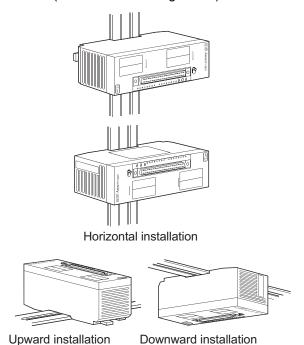


Vertical installation

### 2) Installation orientations with limits

When the module is mounted as shown below, the maximum number of simultaneous input points is reduced to 60% at an ambient temperature of 55°C.

(Refer to the derating curve.)



0 10 20 30 4045 55 [°C]

Ambient temperature

Derating curve

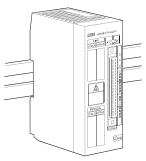
### (5) Precautions when using the AJ65VBTCFJ1-32DT1

The maximum number of simultaneous input points of the AJ65VBTCFJ1-32DT1 changes according to the installation orientation.

### 1) Vertical installation (basic)

When the module is mounted as shown below, the maximum number of simultaneous input points is reduced to 65% at an ambient temperature of 55°C.

(Refer to the derating curve (1).)

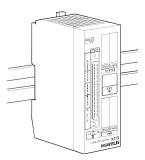


Vertical installation (basic)

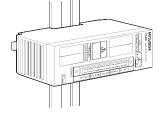
### 2) For installations other than front installation (basic orientation)

When the module is mounted as shown below, the maximum number of simultaneous input points is reduced to 40% at an ambient temperature of 55°C.

(Refer to the derating curve (2).)



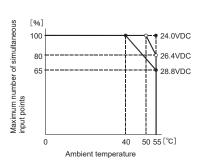
Vertical installation (upside down)



Horizontal installation



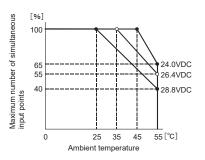
Downward installation



Derating curve (1)



Upward installation

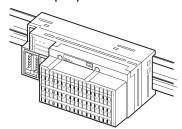


Derating curve (2)

### (6) Precautions when using the AJ65VBTS3-16D

The maximum number of simultaneous input points of the AJ65VBTS3-16D changes according to the installation orientation.

Installation orientations without limits
 When the module is mounted as shown below, the maximum number of simultaneous input points is not limited.

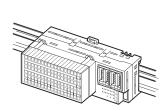


Vertical installation (basic)

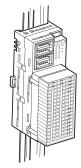
#### 2) Installation orientations with limits

When the module is mounted as shown below, the maximum number of simultaneous input points is reduced to 75% at an ambient temperature of 55°C.

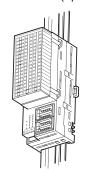
(Refer to the derating curve)



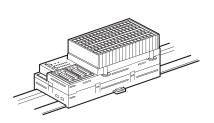
Vertical installation (upside down)



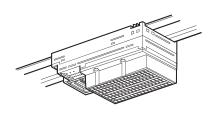
Horizontal installation (basic)



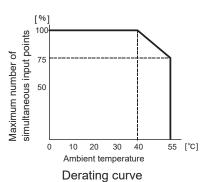
Horizontal installation (upside down)



Upward installation

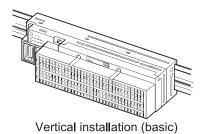


Downward installation



1-9

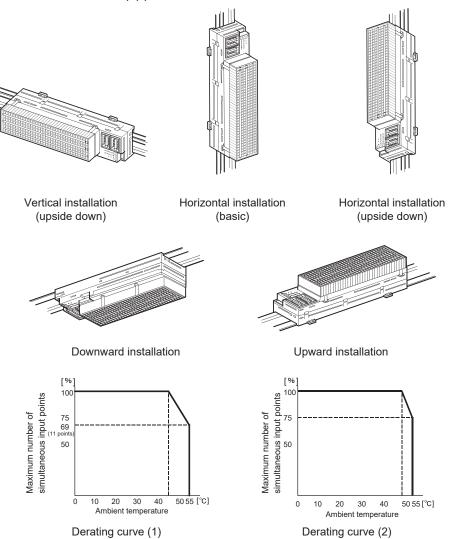
- (7) Precautions when using the AJ65VBTS3-32D or AJ65VBTS32-32DT
  The maximum number of simultaneous input points of the AJ65VBTS3-32D or AJ65VBTS32-32DT changes according to the installation orientation.
  - Installation orientations without limits
     When the module is mounted as shown below, the maximum number of simultaneous input points is not limited.



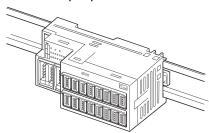
2) Installation orientations with limits

When the module is mounted as shown below, the maximum number of simultaneous input points of the AJ65VBTS3-32D is reduced to 69% (11 points/common) at an ambient temperature of 55°C. (Refer to the derating curve (1).)

That of the AJ65VBTS32-32DT is reduced to 75%. (Refer to the derating curve (2).)



- (8) Precautions when using the AJ65VBTCE3-16D or AJ65VBTCE3-16DE The maximum number of simultaneous input points of the AJ65VBTCE3-16D or AJ65VBTCE3-16DE changes according to the installation orientation.
  - Installation orientations without limits
     When the module is mounted as shown below, the maximum number of
     simultaneous input points is not limited.

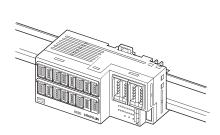


Vertical installation (basic)

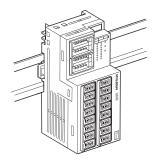
2) Installation orientations with limits

When the module is mounted as shown below, the maximum number of simultaneous input points is reduced to 62.5% at an ambient temperature of 55°C.

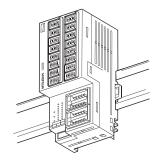
(Refer to the derating curve.)



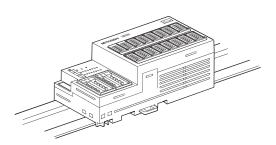
Vertical installation (upside down)



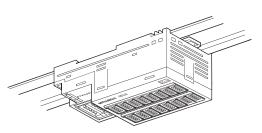
Horizontal installation (basic)



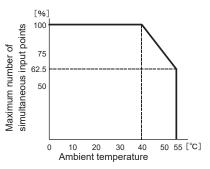
Horizontal installation (upside down)



Upward installation



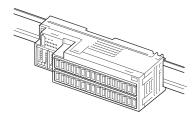
Downward installation



Derating curve

1 - 11 1 - 11

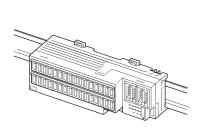
- (9) Precautions when using the AJ65VBTCE3-32D or AJ65VBTCE3-32DE The maximum number of simultaneous input points of the AJ65VBTCE3-32D or AJ65VBTCE3-32DE changes according to the installation orientation.
  - Installation orientations without limits
     When the module is mounted as shown below, the maximum number of simultaneous input points is not limited.



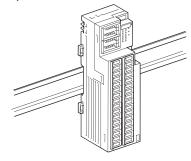
Vertical installation (basic)

2) Installation orientations with limits When the module is mounted as shown below, the maximum number of simultaneous input points is reduced to 75% at an ambient temperature of 55°C.

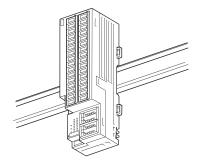
(Refer to the derating curve.)



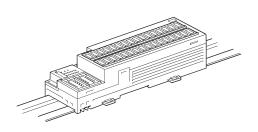
Vertical installation (upside down)



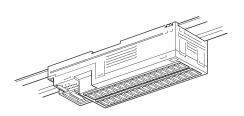
Horizontal installation (basic)



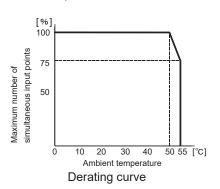
Horizontal installation (upside down)



Upward installation



Downward installation

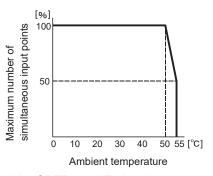


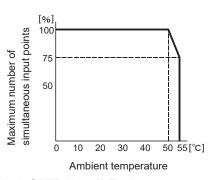
1 - 12

(10) Precautions when using the AJ65SBTB1-32KD or AJ65SBTB1-32KDT2 The maximum number of simultaneous input points of the AJ65SBTB1-32KD or AJ65SBTB1-32KDT2 changes according to the input voltage and ambient temperature.

If the input voltage is higher than 26.4V, the maximum number of simultaneous input points is as shown in the following figures.

(If the input voltage is 26.4V or lower, derating is not required.)





AJ65SBTB1-32KD derating curve

AJ65SBTB1-32KDT2 derating curve

(11) Precautions when using a 3-wire or 4-wire module

When supplying power from a 3-wire or 4-wire module to an external device, such as a sensor, total current must be equal to or less than the value of "supply current for connected device" specified for the module.

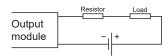
### 1.3.2 Output module

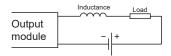
- (1) Maximum switching frequency when the module drives inductive load The output must be on for one second or longer and off for one second or longer.
- (2) Load for connection

When connecting a counter or timer that has a DC-DC converter to a transistor output module (maximum load current 0.1A) as a load, select an output module whose maximum load current is larger than inrush current of the load.

Selecting an output module by average current of the load may cause a failure of the module because inrush current flows at a constant frequency at power-on or during operation due to the connected load.

If an output module needs to be selected by average current of the load, take either of the following actions to reduce an influence from inrush current.





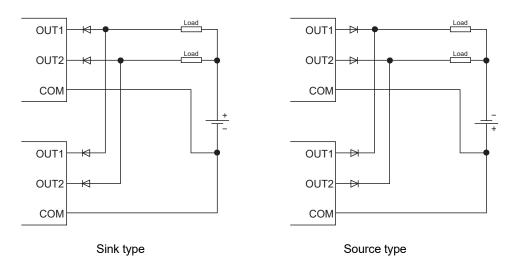
- · Connecting a resistor to the load in series
- · Connecting an inductor to the load in series

- (3) Precaution for using the transistor output module
  - (a) Action against reverse current

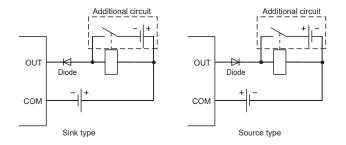
If a transistor output module is wired as shown below, reverse current flows in an output element, causing a failure of the element.

When wiring a transistor output module, connect a diode as shown below.

• When connecting transistor output modules in parallel



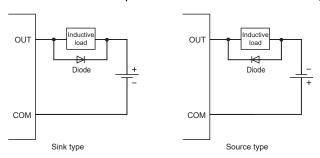
• When incorporating an additional circuit parallel to a transistor output module



### (b) Measures against back EMF

When an inductive load is connected, connect a diode to the load in parallel. Use a diode that meets the following conditions.

- Reverse breakdown voltage is equal to or more than 10 times as large as the circuit voltage.
- Forward current is equal to or more than 2 times as large as the load current.



(4) Modules that require an external short-circuit protection circuit

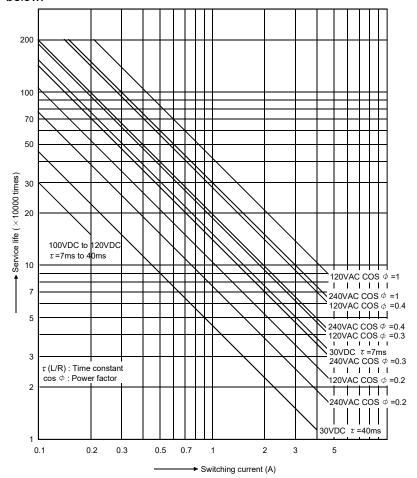
The following modules have no short-circuit protection function. Configure a short-circuit protection circuit external to the programmable controller when they are used.

• AJ65SBTB1-8T1	• AJ65SBTB2-8T1	• AJ65SBTB1-16T1	• AJ65SBTB2-16T1
• AJ65SBTB1B-16TE1	• AJ65VBTS2-16T	• AJ65SBTB1-32T1	• AJ65SBTB1-32TE1
• AJ65DBTB1-32T1	• AJ65VBTS2-32T	• AJ65SBTC1-32T1	
• AJ65SBTB32-8DT2	• AJ65SBTB1-16DT2	• AJ65SBTB1-16DT3	• AJ65SBTB32-16DT2
• AJ65SBTB32-16KDT2	• AJ65SBTB32-16KDT8	• AJ65SBTB1-32DT2	• AJ65SBTB1-32KDT2
• AJ65SBTB1-32DT3	• AJ65SBTB1-32KDT8	• AJ65SBTB1-32DTE1	• AJ65DBTB1-32DT1
• AJ65VBTS32-16DT	• AJ65VBTS32-32DT	• AJ65SBTC4-16DT2	• AJ65SBTC1-32DT2
• AJ65SBTC1-32DT3			

- (5) Precautions when using a 3-wire module When supplying power from a 3-wire module to an external device, such as a sensor, the total current value must be equal to or less than the value of "supply current for connected device" specified for the module.
- (6) Precautions for using the contact output module When using the contact output module, consider the following.
  - Relay life
  - Effects to relay life due to connected load
  - Measures against back EMF
  - (a) Relay life

Applicable module: AJ65SBTB2N-8R, AJ65SBTB2N-16R, AJ65DBTB1-32R, AJ65DBTB1-32DR

The relay life depends on the operating environment. Select a module according to the operating environment. The relay lives shown below are the actual service values, not the guaranteed values. Replace the module well in advance since the actual switching life may be shorter than the one shown below.



Operating environment	Switching life	
Rated switching voltage/current, rated load	100 thousand times	
200VAC 1.5A, 240VAC 1A (COS $\phi$ =0.7)	100 thousand times	
200VAC 1A, 240VAC 0.5A (COS $\phi$ =0.35)	100 thousand times	
24VDC 1A, 100VDC 0.1A (L/R=7ms)	100 thousand times	

### **POINT**

When using the module for the application in which the relay contact is frequently switched, the relay life span should be considered. Therefore, it is recommended to use a triac output module.

### (b) Effects to relay life due to connected load

The actual relay life may be significantly shortened compared to the one shown above, depending on the type of a load connected and the characteristics of inrush current.

Also, the inrush current may cause contact welding.

Take the following measures to prevent shortening of the relay life and the contact welding.

- Select a load so that the inrush current will be within the rated current of the module.
- Connect an external relay that can withstand the inrush current.

The following table shows the relation between the load and the inrush current. Select a load so that the inrush current (i) and the rated current (io) will be within the rated switching current specified for the output module used. The inrush current may flow for a longer time depending on the load.

Load type	Signal waveform diagram	Inrush current (i)/rated current (io)	Signal waveform diagram	Inrush current (i)/rated current (io)
Inductive load	Load of a solenoid  i i ii Inrush current io: Rated current 0.07 to 0.1 seconds	Approx. 10 to 20 times	Load of an electromagnetic contactor  i: Inrush current io: Rated current  0.017 to 0.033 seconds (1 to 2 cycles)	Approx. 3 to 10 times
Lamp load	Load of an incandescent bulb  i i: Inrush current io: Rated current Approx. 0.33 seconds	Approx. 3 to 10 times	Load of a mercury lamp  i i: Inrush current io: Rated current 180 to 300 seconds (3 to 5 minutes)	Approx. 3 times*1
	Load of a fluorescent  i io i: Inrush current io: Rated current Within 10 seconds	Approx. 5 to 10 times	_	_
Capacitive load	Capacitive load*2  i i ii li	Approx. 20 to 40 times	_	

### (c) Measures against back EMF

Configure a contact protection circuit for extending the contact life, preventing noise when the contact is cut off, and suppressing the generation of carbide and nitric acid due to arc discharge.

An Incorrect contact protection circuit may cause contact welding.

Also, when using the contact protection circuit, the recovery time may be long.

The following table shows the representative examples of the contact protection circuit.

	Circuit example	Method for selecting elements	Remarks
Capacitor + Resistor method (CR method)	Capacitor Inductive load	Refer to the following for constants of the capacitor and resistor. Note that the following values may differ depending on a nature of the load and a variation of characteristics of it.  • Capacitor 0.5 to 1 (µF) against contact current of 1A	If a load is from a relay or solenoid, the recovery time delays. A capacitor suppresses electric discharge while a contact is off, and a resistor restricts a flow of current while a contact is on.
	Capacitor Inductive load Resistor	• Resistor 0.5 to 1 (Ω) against contact voltage of 1V  Use a capacitor whose withstand voltage is 200 to 300V. In AC circuit, use a capacitor having no polarity.	
Diode method	Diode A Inductive load	Use a diode that meets both conditions shown below.  • Reverse breakdown voltage is equal to or more than 10 times as large as the circuit voltage.  • The forward current is equal to or more than 2 times as large as the load current.	The recovery time is later than the CR method.
Diode + Zener diode method	Diode A Inductive load	Use zener voltage for the zener diode equal to or more than the power supply voltage.	The diode method is effective when the recovery time is too late.

\*1: When using AC power, impedance of CR must be larger enough than that of the load. (prevention of a malfunction due to leak current from the CR)

(To the next page)

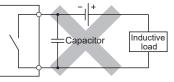
	Circuit example	Method for selecting elements	Remarks
Varistor method	Varistor Inductive load	Select a cut voltage (Vc) for the varistor to meet the following condition.  • Vc > power voltage × 1.5(V)  • Vc > power voltage × 1.5(V)  × √2 (When using AC power)  This method is not effective when the Vc is too high	The recovery time delays slightly.

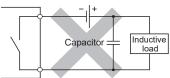
#### **POINT**

(1) Avoid providing contact protection circuits shown below.

These circuits are effective for preventing an arc at shut-off. However, the contact welding may occur because the charge current flows to capacitor when the contact turns on or off.

A DC inductive load is usually harder for switching than a resistor load, but if a proper protection circuit is configured, the performance will be similar to the resistor load.





- (2) A protection circuit must be provided closely to a load or contact (module). If their distance is far, the protection circuit may not be effective. Appropriate distance is within 50cm.
- (7) Precautions for using the triac output module

  Because of characteristics of a triac, a sudden change of voltage or current may
  cause unstable operations of a triac used for the triac output module.

  Whether the voltage or current change causes a problem differs depending on a

Whether the voltage or current change causes a problem differs depending on an individual part (each triac), thus check the following when using the triac output module.

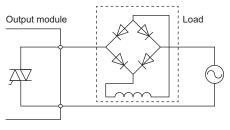
(a) Checking of the load current

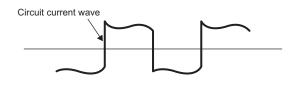
When the current consumption is equal to or smaller than the minimum load current and the margin is low by using an inductive load such as a solenoid valve, a triac may not turn on or off properly. In that case, an action such as connecting a bleeder resistance is required.

For detail on actions, refer to Section 8.2.2.

(b) Precautions on a full-wave rectifier load

The load current of a full-wave rectifier load forms waves similar to rectangular waves as shown below.





A triac may not operate properly if the current forms rectangular waves associated with sudden current changes. To avoid it, use a load with which the load current does not form rectangular waves.

(c) Measures for connecting an inductive load

To connect an inductive load, take measures to reduce noise to the side where
the load is connected as shown below.

	Circuit example	Method for selecting elements	Remarks
Varistor method	Output module  Varistor  Varistor  Varistor	Select a cut voltage (Vc) for the varistor to meet the following condition.  • Vc > Power supply voltage × 1.5(V) × √2  This method is not effective when the Vc is too high.	The recovery time delays slightly.
Capacitor + Resistor method (CR method)	Output module  Capacitor Inductive load	Refer to the following for constants of the capacitor and resistor. Note that the following values may differ depending on a nature of the load and a variation of characteristics of it.  • Capacitor: 0.5 to 1 (μF) against load current of 1A  • Resistor: 0.5 to 1(Ω) against power supply voltage of 1V  Use a capacitor whose withstand voltage is equal to or more than the rated voltage.  Use a capacitor having no polarity.	If a load is from a relay or solenoid, the recovery time delays.

(d) Measures for connecting an inductive load (when installing a contact between the load and the output terminal)

To install a contact (such as an interlock) between the load and the output terminal, take measures to reduce noise as shown below.

Though measures (varistor method, capacitor + resistor method) are normally taken to the load side, in some cases, it is more efficient to take the measures to the module side considering the contact effect.

	Circuit example	Method for selecting elements	Remarks
Varistor method	• Measure taken to the load side Output module Contact Varistor Inductive load	Select a cut voltage (Vc) for the varistor to meet the following condition.  • Vc > Power supply voltage × 1.5(V) × √2  This method is not effective when the Vc is too high.	The recovery time delays slightly.
	Measure taken to the module side     Output module     Contact     Varistor     Inductive load		

I/O combined module

## 1.3.3 Modules with protection functions

This section describes the protection functions of the following modules.

(1) Modules with overload protection function, overvoltage protection function, and overheat protection function

AJ65FBTA42-16DT, AJ65FBTA42-16DTE, AJ65VBTCE3-16DTE, AJ65VBTCE3-32DTE

Output module	AJ65SBTB1-8T, AJ65SBTB1-16T, AJ65SBTB1-32T, AJ65SBTB2-8T, AJ65SBTB2-16T, AJ65SBTC1-32T, AJ65SBTCF1-32T, AJ65VBTCU2-8T, AJ65VBTCU2-16T, AJ65VBTCE2-8T, AJ65VBTCE2-16T
I/O combined module	AJ65SBTB1-16DT, AJ65SBTB1-32DT, AJ65SBTB1-16DT1, AJ65SBTB1-32DT1, AJ65SBTB32-8DT, AJ65SBTB32-16DT, AJ65SBTC4-16DT, AJ65SBTC1-32DT, AJ65SBTC1-32DT1, AJ65SBTW4-16DT, AJ65SBTCF1-32DT, AJ65VBTCF1-32DT1, AJ65VBTCE32-16DT, AJ65VBTCE32-32DT
	(2) Modules with overload protection function and overheat protection function
Output module	AJ65SBTB1-8TE, AJ65SBTB1-16TE, AJ65FBTA2-16T, AJ65FBTA2-16TE, AJ65VBTCE3-16TE

Function	Description
Common to protection functions	When an overcurrent continues to flow and generates overheat, overheat
	protection is activated.
	2. The functions are provided for protecting only the circuits inside the module.
	A load error may deteriorate output elements or discolour the module case or
	printed circuit board due to increase in temperature within the module. If a load
	error occurs, turn off the corresponding output immediately and eliminate the
	error cause.
Overload protection function	1. When the output module detects an overcurrent, the current limiter*1 is activated
	to limit the output current.
	2. The overload protection function of the following modules is activated under the
	condition of 1 to 3A per point and limits the output current.
	AJ65SBTB1-8TE, AJ65SBTB1-16TE, AJ65VBTCE2-8T, AJ65VBTCE2-16T,
	AJ65VBTCE3-16TE, AJ65VBTCU2-8T, AJ65VBTCU2-16T, AJ65SBTCF1-32T,
	AJ65VBTCE32-16DT, AJ65VBTCE3-16DTE, AJ65VBTCE32-32DT,
	AJ65VBTCE3-32DTE, AJ65SBTCF1-32DT, AJ65VBTCF1-32DT1,
	AJ65VBTCFJ1-32DT1
	3. The overload protection function of the following modules is activated under the
	condition of 1 to 6A per point and limits the output current.
	AJ65SBTB1-8T, AJ65SBTB2-8T, AJ65SBTB1-16T, AJ65SBTB2-16T,
	AJ65SBTB1-32T, AJ65SBTC1-32T, AJ65FBTA2-16T, AJ65SBTB32-8DT,
	AJ65SBTB1-16DT, AJ65SBTB1-16DT1, AJ65SBTB32-16DT, AJ65SBTB1-
	32DT, AJ65SBTB1-32DT1, AJ65SBTC4-16DT, AJ65SBTC1-32DT,
	AJ65SBTC1-32DT1, AJ65FBTA42-16DT, AJ65SBTW4-16DT
	4. The overload protection function of the following modules is activated under the
	condition of 5 to 14A per point and limits the output current.
	AJ65FBTA2-16TE, AJ65FBTA42-16DTE
	5. The overload protection function is automatically reset when the load current
	drops to the rated value.
Overvoltage protection function	1. This function protects elements from an abrupt surge caused when a coil load is
	used.

Function	Description
Function Overheat protection function	Description  1. The overheat protection function of the following modules is activated in units of two points.  AJ65SBTB1-8TE, AJ65SBTB1-16TE, AJ65VBTCE3-16TE, AJ65VBTCE3-16DTE, AJ65VBTCE3-32DTE  (For example, when this function is activated for either Y0 or Y1 output signal, Y0 and Y1 simultaneously turn off. When the overheat condition continues, the heat is conducted to other loads and the corresponding protection functions may also be activated.)  If this function is activated while an output signal is on, the voltage oscillates between 0V and the load voltage. When the load voltage is 24VDC, the average voltage during oscillation is approximately 7VDC. (The voltage does not oscillate when an output signal is off.) To ensure that output turns off when the overheat protection function becomes activated, use an external load that turns off at higher than 7VDC under overheat condition.  2. For the modules with the overheat protection function other than the above, the
	function is activated in units of one point.
	When this function becomes activated, an output signal turns off.
	3. The overheat protection function is automatically reset when the temperature
	falls below the pre-set value.

<sup>\*1:</sup> The limiter is a function that limits an overcurrent to a certain current value to keep it flowing.

1 OVERVIEW

### 1.4 Specification List

Specification list for each compact remote I/O module is shown below.

#### (1) Input module

Model	Input format	No. of points per module	Insulation method	Rated input voltage	nput current		ration tage OFF voltage		esponse ne ON → OFF	Input display	External connection	Common connection	Internal current consumption	External dimensions	Reference			
AJ65SBTB1-8D		8 points			Approx.	14V or	6V or		or less	_		8 points 1 common	30mA	*1	4.1.3			
AJ65SBTB1-16D					7mA	more	less						35mA		4.1.5			
AJ65SBTB1-16D1		16 points			Approx. 5mA	15V or more	3V or less	0.2ms	or less			16 points	40mA	*2	4.1.6			
AJ65DBTB1-32D					Approx. 5mA	15V or more	5V or less	10ms	or less		1-wire	1 COMMON	45mA	* 3	4.1.14			
AJ65SBTB1-32D	DC input				Approx.	14V or more	6V or less	1.5ms	or less		terminal block		45mA		4.1.10			
AJ65SBTB1-32KD	(Positive/ Negative				7mA	14V or more	5.5V or less	*	14				75mA	*3	4.1.11			
AJ65SBTB1-32D1	common)	32 points			Approx. 5mA	15V or more	3V or less	0.2ms	or less			32 points	50mA	*3	4.1.12			
AJ65SBTB1-32D5					Approx. 4mA	3.5V or more	1.5V or less	4.5	1			1 common	35mA		4.1.13			
AJ65SBTC1-32D						14V or more	6V or less	1.5ms	or less		1-wire		45 4		4.4.6			
AJ65SBTC1-32D1						15V or more	3V or less	0.2ms	0.2ms or less	one-touch connector		45mA		4.4.7				
AJ65SBTC4-16D	DO:4		io											*2	4.4.2			
AJ65SBTC4-16DN	DC input (Positive common)		Photocoupler insulation	24VDC	Approx.					display	4-wire one-touch	16 nointa	35mA	* 2	4.4.3			
AJ65SBTC4-16DE	DC input (Negative common)	DC input (Negative	(Negative	(Negative	/e	eldnoo		5mA	14V or	_	1.5ms c	.5ms or less	LED d	connector	1 common			4.4.4
AJ65SBTW4-16D				<u>1017</u>		Photo			more					4-wire waterproof connector		120mA	*4	4.6.3
AJ65SBTCF1-32D	DC input (Positive/	32 points									1-wire FCN connector	32 points 1 common	45mA	*2	4.5.1			
AJ65SBTB3-8D	negative common)	8 points			Approx.	14V or	6V or					8 points 1 common	40mA	*2	4.1.4			
AJ65SBTB3-16D					7mA	more	less				3-wire		45mA		4.1.7			
AJ65SBTB3-16KD		16 points			Approx. 7mA	14V or more	5.5V or less	*	14		terminal block	16 points	50mA	*3	4.1.8			
AJ65SBTB3-16D5					Approx. 4mA	3.5V or more	1.5V or less	1.5ms	or less			. 55	30mA		4.1.9			
AJ65VBTCU3-8D1	DC input (Positive	8 points			Approx.	15V or	3V or	0.0==	ar lasa		3-wire	8 points 1 common	35mA	* 5	4.4.1			
AJ65VBTCU3-16D1	common)	16 points			5mA	more	less	∪.∠ms	or less		one-touch connector	16 points 1 common	40mA	*6	4.4.5			
AJ65SBTB2N-8A	AC input	8 points		100 to 120VAC	Approx.	80V or	30V or	20ma	or less		2-wire terminal	8 points 1 common	35mA	*2	4.1.1			
AJ65SBTB2N-16A	AC IIIput	16 points		50/60Hz	7mA	more	less	20115	01 1033		block	16 points 1 common	40mA	* 3	4.1.2			

- \* 1 : 87.3 (3.44) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 2 : 118 (4.65) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 3 : 179 (7.05) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 4 : 184.7 (7.27) (W) × 57.9 (2.28) (H) × 86 (3.39) (D)mm (inch)
- \* 5 : 41 (1.61) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- \* 6 : 60 (2.36) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- $*7:60 (2.36) (W) \times 200 (7.87) (H) \times 48 (1.89) (D)mm (inch)$
- \* 8 : 137 (5.39) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 9 : 222 (8.74) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 10 : 100 (3.94) (W) × 40 (1.57) (H) × 43.5 (1.71) (D)mm (inch)
- \* 11 : 100 (3.94) (W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch)
- \* 12 : 155 (6.10) (W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch)
- \* 13 : 64 (2.52) (W) × 170 (6.70) (H) × 80 (3.15) (D)mm (inch)
- \* 14 : 0.2ms or less/1.5ms or less/5ms or less/10ms or less (Depending on the input response speed setting value)

Model	Input	No. of points per module	Insulation method	Rated input voltage	urrent		ration tage		esponse ne	Input display	External	Common	Internal current consumption	External dimensions	Reference
Model	format	No. of per m	Insul	Rated	Input current	ON voltage	OFF voltage	$\begin{array}{c} OFF \to \\ ON \end{array}$	ON → OFF	Input	connection	connection	Inte cur consul	Exte dimer	Refer
AJ65FBTA4-16D	DC input (Positive common)				Approx.						2 to 4-wire		40mA	*7	4.6.1
AJ65FBTA4-16DE	DC input (Negative common)	16 points			7mA						waterproof connector	16 points	40mA	* /	4.6.2
AJ65VBTS3-16D											Spring	1 common	35mA	*8	4.2.1
AJ65VBTS3-32D		32 points	Photocoupler insulation							ay	clamp terminal block 3-wire type		40mA	*9	4.2.2
AJ65VBTCE3-8D	DC input (Positive common)	8 points	upler ir	24VDC		14V or more	6V or less	1.5ms	or less	D display		8 points 1 common	30mA	* 10	4.3.1
AJ65VBTCE3-16D	Common	16 points	hotoco		Approx. 5mA					CED	Sensor	16 points 1 common	35mA	* 11	4.3.2
AJ65VBTCE3-32D		32 points	ш.								connector (e-CON)	32 points 1 common	40mA	* 12	4.3.3
AJ65VBTCE3-16DE	DO Imput	16 points									3-wire type	16 points 1 common	35mA	* 11	4.3.4
AJ65VBTCE3-32DE	(Negative common)	32 points										32 points 1 common	40mA	* 12	4.3.5

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- \* 2 : 118 (4.65) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 3 : 179 (7.05) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 4 : 184.7 (7.27) (W) × 57.9 (2.28) (H) × 86 (3.39) (D)mm (inch)
- \* 5 : 41 (1.61) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- \* 6 : 60 (2.36) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- \* 7 : 60 (2.36) (W) × 200 (7.87) (H) × 48 (1.89) (D)mm (inch)
- \* 8 : 137 (5.39) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 9 : 222 (8.74) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 10 : 100 (3.94) (W) × 40 (1.57) (H) × 43.5 (1.71) (D)mm (inch)
- \* 11 : 100 (3.94) (W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch)
- \* 12 : 155 (6.10) (W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch)
- \* 13 : 64 (2.52) (W) × 170 (6.70) (H) × 80 (3.15) (D)mm (inch)
- \* 14 : 0.2ms or less/1.5ms or less/5ms or less/10ms or less (Depending on the input response speed setting value)

#### (2) Output module

		oints dule	5 5	ъ _ e	Maxir	num load		esponse	<b>≒</b> ≥	e ssor		_	al tr otion	lal	Jce	
Model	Output format	No. of points per module	Insulation	Rated load voltage	1 point	urrent 1 common	$\begin{array}{c} \text{tir} \\ \text{OFF} \rightarrow \\ \text{ON} \end{array}$	ON → OFF	Output display	Surge	External connection	Common	Internal current consumption	External	Reference	
AJ65SBTB1-8T		8 points				2.4 A					1-wire	8 points 1 common	35mA	*1	5.1.1	
AJ65SBTB1-16T	Transistor	16 points			0.5 A	3.6 A					terminal block	16 points 1 common	50mA	*2	5.1.5	
AJ65SBTB1-32T	output * 14 (sink type)					4.8 A					DIOCK		65mA	*3	5.1.9	
AJ65SBTC1-32T	(Silik type)	32 points			0.1 A	3.2 A					1-wire one-touch connector	32 points 1 common	60mA	*2	5.4.3	
AJ65SBTB1-8T1		8 points				2.4 A					1-wire	8 points 1 common	35mA	*1	5.1.2	
AJ65SBTB1-16T1	Transistor	16 points			0.5 A	3.6 A					terminal	16 points 1 common	50mA	*2	5.1.6	
AJ65DBTB1-32T1	output * 13		'n			8 A					block		65mA	* 12	5.1.19	
AJ65SBTB1-32T1	(sink type)	20 mainta	ılatic			4.8 A					4	32 points	65mA	*3	5.1.10	
AJ65SBTC1-32T1		32 points	Photocoupler insulation	12/24 VDC	0.1 A	3.2 A	0.5ms or less	1.5ms or less		Zener diode	1-wire one-touch connector	1 common	60mA	*2	5.4.4	
AJ65SBTB1-8TE		8 points	otocol		0.4.4	0.8 A						8 points 1 common	35mA	*1	5.1.11	
AJ65SBTB1-16TE	output * 13 (source type)	output * 13	16 points	Ph		0.1 A	1.6 A			splay		1-wire	16 points 1 common	50mA	*2	5.1.12
AJ65SBTB1B- 16TE1			16 points			0.5 A	4 A					terminal block	8 points 1 common	50mA	*3	5.1.13
AJ65SBTB1- 32TE1		32 points	s		0.5 A	4.8A			LED display			32 points 1 common	65mA	*3	5.1.14	
AJ65SBTB2-8T	Transistor	8 points			0.5 A	2.4 A			_			8 points 1 common	45mA	*2	5.1.3	
AJ65SBTB2-16T	output * 14 (sink type)	16 points			0.5 A	3.6 A						16 points 1 common	55mA	*3	5.1.7	
AJ65SBTB2-8T1	Transistor	8 points			0.5 A	2.4 A					2-wire	8 points 1 common	45mA	*2	5.1.4	
AJ65SBTB2-16T1	output * 12 (sink type)	16 points			0.5 A	3.6 A					terminal block	16 points 1 common	55mA	*3	5.1.8	
AJ65SBTB2N-8R		8 points	insulation			4 A					DIOCK	8 points 1 common	85mA	*2	5.1.15	
AJ65SBTB2N-16R	Contact output	16 points	Relay in	24VDC 240VAC	2 A	8 A	10ms or less	12ms or less		None		16 points 1 common	120mA	*3	5.1.16	
AJ65DBTB1-32R		32 points	sulation			4 A					1-wire terminal block	8 points	80mA	* 12	5.1.20	
AJ65SBTB2N-8S	Triac output	8 points	Photocoupler insulation	100 to 240VAC	0.6 A	2.4 A	1ms	1ms + 0.5		CR	2-wire terminal	1 common	55mA	*2	5.1.17	
AJ65SBTB2N-16S	* 16	16 points	Photoc	50/60Hz	0.0 A	4.8 A	or less	cycle or less		Absorber	block	32 points 1 common	85mA	*3	5.1.18	

- \* 1 : 87.3 (3.44) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 2 : 118 (4.65) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 3 : 179 (7.05) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 4 : 184.7 (7.27) (W) × 57.9 (2.28) (H) × 86 (3.39) (D)mm (inch)
- \* 5 : 41 (1.61) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- \* 6 : 60 (2.36) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- \* 7 : 60 (2.36) (W) × 200 (7.87) (H) × 48 (1.89) (D)mm (inch)
- \* 8: 137 (5.39) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 9: 222 (8.74) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 10 : 100 (3.94) (W) × 40 (1.57) (H) × 43.5 (1.71)(D)mm (inch)
- \* 11 : 100 (3.94) (W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch)
- \* 12 : 64 (2.52) (W) × 170 (6.70) (H) × 80 (3.15) (D)mm (inch)
- \* 13 : Leakage current when the transistor output is OFF (0.1mA or less)
- \* 14 : Leakage current when the transistor output is OFF (0.25mA or less)
- \* 15 : Leakage current when the transistor output is OFF (0.3mA or less)
- \* 16 : Leakage current when the triac output is OFF 1.5mA rms or less (100VAC rms 60Hz), 3mA rms or less (200VAC rms 60Hz)

Model	Output	No. of points per module	Insulation	Rated load voltage	Maxir cı	num load urrent	Output r		Output display	Surge	External	Common	Internal current consumption	External	Reference
iviodei	format	No. of per m	Insul	Ra log volt	1 point	1 common	$\begin{array}{c} OFF \to \\ ON \end{array}$	$\begin{array}{c} ON \to \\ OFF \end{array}$	Out	Sul	connection	connection	Inte cun consui	External dimension	Refer
AJ65SBTCF1-32T	Transistor	32 points				3.2 A	0.5ms or less	1.5ms or less			1-wire FCN connector	32 points 1 common	60mA	* 2	5.5.1
AJ65VBTCU2-8T	output * 13 (sink type)	8 points			0.1 A	0.8 A	1ms	1ms			2-wire one-touch	8 points 1 common	35mA	* 5	5.4.1
AJ65VBTCU2-16T	` ,					1.6 A	or less	or less			connector		40mA	* 6	5.4.2
AJ65FBTA2-16T	Transistor output * 14 (sink type)	16 points			0.5 A		0.5ms	1.5ms			2-wire waterproof		50mA	* 7	5.6.1
AJ65FBTA2-16TE	Transistor output * 15 (source type)	TO POINTS	nsulation		1.0 A	4.0 A	or less	or less	ılay		connector	16 points 1 common	50mA	*7	5.6.2
AJ65VBTS2-16T			leri	12/24					disp	Zener	Spring		45mA	* 8	5.2.1
AJ65VBTS2-32T	Transistor output * 12	32 points	Photocoupler insulation	VDC	0.5 A				LED display	diode	clamp terminal block 2-wire type		60mA	* 9	5.2.2
AJ65VBTCE2-8T	(sink type)	8 points				0.8 A	1ms	1ms			Sensor connector	8 points 1 common	35mA	* 10	5.3.1
AJ65VBTCE2-16T							or less	or less			(e-CON) 2-wire type				5.3.2
AJ65VBTCE3- 16TE	Transistor output * 13 (source type)	16 points			0.1 A	1.6 A					Sensor connector (e-CON) 3-wire type	16 points 1 common	45mA	* 11	5.3.3

- \* 1 : 87.3 (3.44) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 2 : 118 (4.65) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \* 3 : 179 (7.05) (W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)
- \*4:184.7 (7.27) (W) × 57.9 (2.28) (H) × 86 (3.39) (D)mm (inch)
- \* 5 : 41 (1.61) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- \* 6 : 60 (2.36) (W) × 115 (4.53) (H) × 62 (2.44) (D)mm (inch)
- \* 7:60 (2.36) (W) × 200 (7.87) (H) × 48 (1.89) (D)mm (inch)
- \* 8: 137 (5.39) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 9: 222 (8.74) (W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)
- \* 10 : 100 (3.94) (W) × 40 (1.57) (H) × 43.5 (1.71)(D)mm (inch)
- \* 11 : 100 (3.94) (W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch)
- \* 12 : 64 (2.52) (W) × 170 (6.70) (H) × 80 (3.15) (D)mm (inch)
- \* 13 : Leakage current when the transistor output is OFF (0.1mA or less)
- $\ast$  14 : Leakage current when the transistor output is OFF (0.25mA or less)
- \* 15 : Leakage current when the transistor output is OFF (0.3mA or less)
- \* 16 : Leakage current when the triac output is OFF 1.5mA rms or less (100VAC rms 60Hz), 3mA rms or less (200VAC rms 60Hz)

# (3) Combined I/O module In the combined I/O module, the input side and the output side are structure as a pair.

#### (a) Input side

Division	Model	Input	of points r module	Insulation method	Rated input voltage	nput current	Oper volt	ation age		esponse ne	display	External	Common	Internal current consumption	External dimensions	Reference	
Divi	Model	format	No. of per m	Insul	Ratec volt	Input o	ON voltage	OFF voltage	OFF → ON	ON → OFF	Input o	connection	connection	Inte curi consul	Exte	Refe	
	AJ65SBTC1-32DT						14V or more	6V or less	1.5ms	or less						6.4.3	
	AJ65SBTC1-32DT1		16				15V or more	3V or less	0.2ms	or less		1-wire	32 points 1 common	50. 4		6.4.4	
	AJ65SBTC1-32DT2		points				14V or more	6V or less	1.5ms	or less		one-touch connector	(shared with output)	50mA	* 1	6.4.5	
	AJ65SBTC1-32DT3					Approx. 5mA	15V or more	3V or less	0.2ms	or less			, ,			6.4.6	
	AJ65SBTC4-16DT	•				•						4-wire one-touch	16 points	40mA		6.4.1	
	AJ65SBTC4-16DT2	DC input (Positive	8 points								connector	1 common (shared with	4011171		6.4.2		
	AJ65SBTW4-16DT		(Positive	(Positive	points				14V or	6V or	1.5ms or less			4-wire waterproof connector	output)	90mA	* 3
	AJ65SBTB1-16DT	common)	8 points		Approx.	more	less	1.01113	01 1033			16 points 1 common (shared with output)	50mA	* 1	6.1.3		
	AJ65SBTB1-32DT		16 points	7mA								32 points 1 common (shared with output)	32mA	* 2	6.1.13		
	AJ65SBTB1-16DT1		8 points VDC				3V or	0.2ms or	or less			16 points 1 common (shared with output)	55mA	* 1	6.1.4		
	AJ65SBTB1-32DT1				ıtion		Approx. 5mA	15V or more	less	0.21113	01 1033			32 points 1 common (shared with output)	60mA	* 2	6.1.14
<del>g</del>	AJ65DBTB1-32DT1			16 points	insula				5V or less	10ms	or less	olay	1-wire	16 points 1 common	55mA	* 5	6.1.20
Input side	AJ65SBTB1-32DTE1	DC input (Negative common)	points	8 points	Photocoupler insulation		Approx. 7mA		6V or			ED display	terminal block	32 points 1 common (shared with output)	50mA	* 2	6.1.19
	AJ65SBTB1-16DT2		ı		Photoc			14V or more	less	1.5ms or less			16 points 1 common (shared with output)	50mA	* 1	6.1.5	
	AJ65SBTB1-32DT2	,	16					5.5V or					32 points 1 common (shared	60mA	* 2	6.1.15	
	AJ65SBTB1-32KDT2		points					less	*	· 11			with output)	65mA		6.1.16	
	AJ65SBTB1-16DT3		8 points			Approx. 5mA	15V or more	3V or less	0.2ms	or less			16 points 1 common (shared with output)	55mA	* 1	6.1.6	
	AJ65SBTB1-32DT3		16		12	Approx.	5.6V or	2.4V or					32 points 1 common (shared	60mA	*2	6.1.17	
	AJ65SBTB1-32KDT8	DC input	points		VDC	11mA	more	less	*	11			with output)	65mA	_	6.1.18	
	AJ65SBTB32-8DT	(Positive common)	4 points										8 points 1 common (shared with output)	45mA	* 1	6.1.1	
	AJ65SBTB32-16DT		8 points		24	Approx.	14V or	6V or less	1.5ms	or less		Input 3-wire	16 points 1 common (shared with output)	50mA	* 2	6.1.7	
	AJ65SBTB32-8DT2		4 points		VDC							Output 2-wire terminal	8 points 1 common (shared with output)	45mA	* 1	6.1.2	
	AJ65SBTB32-16DT2							E E\' -				block	16 painta	50mA		6.1.8	
	AJ65SBTB32-16KDT2	T2	8 points					5.5V or less	*	11			16 points 1 common (shared	55mA	* 2	6.1.9	
	AJ65SBTB32-16KDT8				12 VDC	Approx. 11mA	5.6V or more	2.4V or less	*	11			with output)	55mA		6.1.10	

<sup>\* 1 : 118 (4.65) (</sup>W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)

(Depending on the input response speed setting value)

<sup>\* 2 : 179 (7.05) (</sup>W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)

<sup>\*</sup> 3 : 184.7 (7.27) (W) × 57.9 (2.28) (H) × 86 (3.39) (D)mm (inch)

<sup>\* 4 : 41 (1.61) (</sup>W) × 115 (4.53) (H) × 67 (2.64) (D)mm (inch)

<sup>\* 5 : 64 (2.52) (</sup>W) × 170 (6.70) (H) × 80 (3.15) (D)mm (inch)

<sup>\*</sup> 6 : 60 (2.36) (W) × 200 (7.87) (H) × 48 (1.89) (D)mm (inch)

<sup>\*7:137 (5.39) (</sup>W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)

<sup>\*8 : 222 (8.74) (</sup>W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)

<sup>\*9 : 100 (3.94) (</sup>W) × 50 (1.97) (H) × 41.5 (1.63) (D)mm (inch)

<sup>\* 10 : 155 (6.10) (</sup>W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch)

<sup>\* 11 : 0.2</sup>ms or less/1.5ms or less/5ms or less/10ms or less

Division	Model	Input format	of points module	Insulation method Rated input voltage Input current			Operation Input response time			lisplay	External	Common	Internal current consumption	External dimensions	Reference	
Divis	Model	input ioimat	No. of per m	Insul	Rated volta	Input o	ON voltage	OFF voltage	OFF → ON	ON → OFF	Input display	connection	connection	Internal current consumpti	Exte	Refer
	AJ65SBTB32-16DR		8			Ammen	14V or	6V or less	1.5ms	or less		Input 3-wire Output	8 points 1 common	85mA		6.1.11
	AJ65SBTB32- 16KDR	DC input (Positive/	points	ooints  16 points		Approx. 7mA	more	5.5V or less	*	11		2-wire terminal block		100mA	*2	6.1.12
	AJ65DBTB1-32DR	negative common)					15V or more	5V or less	10ms (	or less		1-wire terminal block		60mA	* 5	6.1.21
	AJ65SBTCF1-32DT		16 points			Approx. 5mA	14V or more	6V or less	1.5ms	or less		16 points 1-wire 1 common		* 1	6.5.1	
	AJ65VBTCF1-32DT1		F			OIT# C	15V or 3V or				one-touch			*4	6.5.2	
	AJ65VBTCFJ1- 32DT1	DC input (Positive					more	less	0.2ms	or less		connector	50mA		6.5.3	
	AJ65FBTA42-16DT	common)		sulati		Approx. 7mA					ay	2 to 4-wire	8 points		* 6	6.6.1
Input side	AJ65FBTA42-16DTE	DC input (Negative common)	8 points	Photocoupler insulation	24 VDC					LED display	waterproof connector	1 common (Shared with output)	45mA		6.6.2	
	AJ65VBTS32-16DT			Photoco							l LE	Spring clamp terminal	16 points 1 common (shared with output)	40mA	* 7	6.2.1
	AJ65VBTS32-32DT	DC input	16 points	_			4.0.7					block 3-wire type	16 points 1 common	50mA	* 8	6.2.2
	AJ65VBTCE32-16DT	(Positive common)	8 points			Approx.	14V or more	6V or less	1.5ms	or less			16 points 1 common (shared with output)	40mA	* 9	6.3.1
	AJ65VBTCE32-32DT	16	5mA						Sensor connector	32 points 1 common (shared with output)	45mA	* 10	6.3.3			
	AJ65VBTCE3-16DTE	DC input	8 points									(e-CON) 3-wire type	16 points 1 common (shared with output)	40mA	* 9	6.3.2
	AJ65VBTCE3-32DTE	(Negative common)	16 points										32 points 1 common (shared with output)	45mA	* 10	6.3.4

<sup>\* 1 : 118 (4.65) (</sup>W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)

1 - 29 1 - 29

<sup>\* 2 : 179 (7.05) (</sup>W) × 50 (1.97) (H) × 40 (1.57) (D)mm (inch)

<sup>\* 3 : 184.7 (7.27) (</sup>W) × 57.9 (2.28) (H) × 86 (3.39) (D)mm (inch) \* 9 : 100 (3.94) (W) × 50 (1.97) (H) × 41.5 (1.63) (D)mm (inch)

<sup>\* 4 : 41 (1.61) (</sup>W) × 115 (4.53) (H) × 67 (2.64) (D)mm (inch) \* 5 : 64 (2.52) (W) × 170 (6.70) (H) × 80 (3.15) (D)mm (inch)

<sup>\* 6 : 60 (2.36) (</sup>W) × 200 (7.87) (H) × 48 (1.89) (D)mm (inch)

<sup>\*7 : 137 (5.39) (</sup>W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)

<sup>\*8 : 222 (8.74) (</sup>W) × 50 (1.97) (H) × 51.5 (2.03) (D)mm (inch)

<sup>\* 10 : 155 (6.10) (</sup>W) × 50 (1.97) (H) × 45.5 (1.79) (D)mm (inch) \* 11 : 0.2ms or less/1.5ms or less/5ms or less/10ms or less

<sup>(</sup>Depending on the input response speed setting value)

## (b) Output side

Division	Model	Output	No. of points per module	Insulation method	Rated load voltage		num load urrent		tput se time	Output display	Surge suppressor	External	Common	Internal current consumption External dimensions Reference
Divis	Wodel	format	No. of per m	Insul	Ratec	1 point	1 common	OFF → ON	ON → OFF	Output	uddns InS	connection	connection	Internal consur Exte dimer Refer
	AJ65SBTC1-32DT	Transistor												
	AJ65SBTC1-32DT1	output * 13 (sink type)	16			0.1A	1.6A					1-wire	32 points 1 common	
	AJ65SBTC1-32DT2	Transistor	points			U. IA	1.0A					one-touch connector	(shared with input)	
	AJ65SBTC1-32DT3	output * 12 (sink type)												
	AJ65SBTC4-16DT	Transistor output * 13 (sink type)				04						4-wire one-touch		
	AJ65SBTC4-16DT2	Transistor output * 12 (sink type)	8 points		24		2.4A					connector		
	AJ65SBTW4-16DT				VDC							4-wire waterproof connector		
	AJ65SBTB1-16DT	<b>-</b>	8 points										16 points 1 common (shared with input)	
	AJ65SBTB1-32DT	Transistor output * 13 (sink type)	16 points				3.6A					ener 1-wire	32 points 1 common (shared with input)	
	AJ65SBTB1-16DT1		8 points				2.4A	0.5ms or less					16 points 1 common (shared with input)	
	AJ65SBTB1-32DT1			_		/DC 0.5A	3.6A						32 points 1 common (shared with input)	
ide	AJ65DBTB1-32DT1	Transistor output * 12 (sink type)	16 points	nsulatior	12/24 VDC		4A		1 Ema				16 points 1 common	
Output side	AJ65SBTB1-32DTE1	Transistor output * 12 (source type)	r	notocoupleri	Photocoupler insulation ADC		3.6A		1.5ms or less		Zener diode	terminal block	32 points 1 common (shared with input)	See input side
	AJ65SBTB1-16DT2		8 points		24		2.4A						16 points 1 common (shared with input)	
	AJ65SBTB1-32DT2		16		VDC		3.6A						32 points 1 common	
	AJ65SBTB1-32KDT2	Transistor output * 12	points							(share 16 1 c			(shared with input) 16 points	
	AJ65SBTB1-16DT3	(sink type)	8 points				2.4A					1 common (shared with input)		
	AJ65SBTB1-32DT3		16				0.04						32 points	
	AJ65SBTB1-32KDT8		points		12 VDC		3.6A						1 common (shared with input)	
	AJ65SBTB32-8DT	Transistor output * 13	4 points				1.2A						8 points 1 common (shared with input)	
	AJ65SBTB32-16DT	(sink type)	8 points				2.4A						16 points 1 common (shared with input)	
	AJ65SBTB32-8DT2		4 points		24 VDC		1.2A					Input 3-wire Output 2-wire	8 points 1 common (shared with input)	
	AJ65SBTB32-16DT2	Transistor output * 12										terminal block	16 nainta	
	AJ65SBTB32-16KDT2	(sink type)					2.4A						16 points 1 common (shared with input)	
	AJ65SBTB32-16KDT8				12 VDC									

 $<sup>\</sup>ast$  12 : Leakage current when the transistor output is OFF (0.1mA or less)

st 13 : Leakage current when the transistor output is OFF (0.25mA or less)

 $<sup>\</sup>ast$  14 : Leakage current when the transistor output is OFF (0.3mA or less)

Division	Model	Output format	No. of points per module	per module Insulation method			mum load urrent		tput se time	Output display	Surge suppressor	External	Common	Internal current consumption	External dimensions	Reference
Divi		o a p ac romac	No. of per m	Insul met	Rated load voltage	1 point	1 common	OFF → ON	ON → OFF	Output	ıddns nS	connection	connection	Internal consu	Exte	Refe
	AJ65SBTB32-16DR		8	ay ition	0.4							Input 3-wire Output	4 points			
	AJ65SBTB32-16KDR	Contact output	points		VDC 240	2A 4A	4A	10ms or less	12ms or less		None	2-wire terminal block	1 common			
	AJ65DBTB1-32DR		16 points		VAC						1-wire terminal block	8 points 1 common				
	AJ65SBTCF1-32DT	Transistor			12/24		0.5ms or less	1.5ms or less			1-wire	40				
	AJ65VBTCF1-32DT1	output *12	16 points		VDC	0.1A	1.6A	1ms	1ms			FCN	16 points 1 common	See input side		
	AJ65VBTCFJ1- 32DT1	(sink type)	•					or less	or less			connector				
Ф	AJ65FBTA42-16DT	Transistor output * 13 (sink type)		Photocoupler insulation	24 VDC	0.5A	2.4A	0.5ms	1.5ms	LED display	-	2-wire waterproof	(shared with input)			
Output side	AJ65FBTA42-16DTE	Transistor output * 14 (source type)	8 points			1.0A		or less	s or less			connector				
	AJ65VBTS32-16DT			coupler		0.5A	4.0A				Zener diode	Spring clamp terminal	16 points 1 common (shared with input)			
	AJ65VBTS32-32DT	Transistor	16 points	Photo	12/24 VDC						4.040	block 2-wire type	16 points 1 common			
	AJ65VBTCE32-16DT	output * 12 (sink type)	utput * 12				0.8A	1ms	1ms			Sensor connector	16 points 1 common (shared with input)			
	AJ65VBTCE32-32DT				24	0.1A	1.6A	or less	or less			(e-CON) 2-wire type	32 points 1 common (shared with input)			
	AJ65VBTCE3- 16DTE	Transistor	8 points		VDC	0.17	0.8A					Sensor connector	16 points 1 common (shared with input)			
	AJ65VBTCE3- 32DTE	output * 12 (source type)	16 points				1.6A					(e-CON) 3-wire type	32 points 1 common (shared with input)			

 $<sup>\</sup>ast$  12 : Leakage current when the transistor output is OFF (0.1mA or less)

 $<sup>\</sup>ast$  13 : Leakage current when the transistor output is OFF (0.25mA or less)

<sup>\* 14 :</sup> Leakage current when the transistor output is OFF (0.3mA or less)

### 1.5 Parts Sold Separately

Plugs for one-touch connector type modules are sold separately. Please purchase them as necessary.

	Mitsubishi model name	Part model name (manufacturer)	Speci	fications		Color of the cover
		,	Applicable cable size (core)	Applicable cable size (diameter)	Maximum rated current	
	A6CON-P214	33104-6000FL (3M Japan Limited)	0.14 to 0.2mm <sup>2</sup>	φ 1.0 to 1.4mm	2A * 5	Transparent
Plug for one-touch connector	A6CON-P220	33104-6100FL (3M Japan Limited)	(26 to 24 AWG)	φ 1.4 to 2.0mm	27110	Yellow
	A6CON-P514	33104-6200FL (3M Japan Limited)	0.3 to 0.5mm <sup>2</sup>	φ 1.0 to 1.4mm	3A * 5	Red
	A6CON-P520	33104-6300FL (3M Japan Limited)	(22 to 20 AWG)	φ 1.4 to 2.0mm	JA * 3	Blue
One-touch connector for	A6CON-L5P	35505-6000- BOM GF (3M	Communication line 0.5mm <sup>2</sup> (20 AWG)	φ 2.2 to 3.0mm		Red
communication * 2	7100011 201	Japan Limited)	Shielded cable 0.5mm <sup>2</sup> (20 AWG)			1100
One-touch connector for power	A6CON-PW5P	35505-6080-A00 GF (3M Japan Limited)	0.75mm <sup>2</sup> (0.66 to 0.98mm <sup>2</sup> ) (18 AWG) Wire diameter: 0.16mm or	φ 2.2 to 3.0mm	74 . 5	Gray
supply and FG * 2 * 4	A6CON-PW5P- SOD	35505-6180-A00 GF (3M Japan Limited)	more Insulating coating material: PVC (heat-resistant)	φ 2.0 to 2.3mm	7A * 5	Blue
Dustproof cap * 1	A6CAP-DC1	_	(AJ65SBTW□-16□ only)		_	_
Waterproof cap * 1	A6CAP-WP1	_	Protection construction (AJ65SBTW□-16	_	_	
waterproof cap ** 1	A6CAP-WP2		Protection of degree (AJ65FBTA□-16□	_	_	
	A6CON1		Soldering type (Straigh	_	_	
FCN connector	A6CON2	_	Crimp-contact type (Strai	_	_	
	A6CON3		Pressure-displacement type	_	_	
Online connector for communication * 3	A6CON4 A6CON-LJ5P	35720-L200-B00 AK (3M Japan	Soldering type (Straight-out/d	liagonal-out type)		
Online connector for power supply and FG * 3	A6CON-PWJ5P	Limited) 35720-L200-A00 AK (3M Japan Limited)	_		_	_
One-touch connector	A6CON-TR11		With terminating resist	tor (110Ω)	_	_
plug with terminating resistor (1 piece)	A6CON-TR11N	_	With terminating resistor (110	DΩ) (built-in type)	_	_
Metal installation fitting for the connector type	fitting for the		For modules with a wid (AJ65VBTCU□-8□, AJ65V AJ65VBTCU-68 10 M4×8 SWPW attached ho	_	_	
module (set of 5)	A6PLT-J65V2	_	For modules with a wid (AJ65VBTCU□- 10 M4×8 SWPW attached ho	16□)	_	_

<sup>\*1</sup> The A6CON-P□□ and A6CAP-□□1 (manufactured by Mitsubishi) are available in packs of 20 pieces.

 $<sup>\</sup>pm 2$  The A6CON- $\Box$ 5P (manufactured by Mitsubishi) is available in packs of 10 pieces.

<sup>\*3</sup> The A6CON-□J5P (manufactured by Mitsubishi) is available in packs of 5 pieces.

<sup>\*5</sup> Keep the current within the allowable range of the connected cable.

Mitsubishi model name	3-8D 2-8T 2N-8R 31-6DT 31-32DT2
Input :	3-8D 2-8T 2N-8R 31-6DT 31-32DT2
A6CVR-8 Output: AJ65SBTB1-8T AJ65SBTB1-8TE AJ65SBTB1-8T1    Repeater: AJ65SBT-RPT	3-8D 2-8T 2N-8R 31-6DT 31-32DT2
Repeater : AJ65SBT-RPT	3-8D 2-8T 2N-8R 31-6DT 31-32DT2
Input :	3-8D 2-8T 2N-8R 31-6DT 31-32DT2
AJ65SBTC4-16D AJ65SBTC4-16DN AJ65SBTC4-16DE AJ65SBTB  AJ65SBTB2-8A AJ65SBTB2N-8A  Output: AJ65SBTB1-16T AJ65SBTB1-32D AJ65SBTB1-16DT3 AJ65SBTB  Compact type remote I/O module (10 pieces)  AGCVR-32  AJ65SBTB1-32T AJ65SBTB1-32T AJ65SBTB1-32T AJ65SBTB2-16T AJ65SBTB.  AJ65SBTB1-32T AJ65SBTB1-32T AJ65SBTB1-32T AJ65SBTB2-16T AJ65SBTB.  AJ65SBTB1-32T AJ65SBTB1-32T AJ65SBTB2-16T AJ65SBTB.  AJ65SBTB1-32T AJ65SBTB1-32T AJ65SBTB2-16T AJ65SBTB.  AJ65SBTB1-32T AJ65SBTB2-16T AJ65SBTB.	3-8D 2-8T 2N-8R 31-6DT 31-32DT2
AJ65SBTB2-8A AJ65SBTB2N-8A Output: AJ65SBTB1-16T AJ65SBTB1-32T AJ65SBTB1-16T1 AJ65SBTB.  AJ65SBTB1-16TE AJ65SBTB2-8R AJ65SBTB2-8S AJ65SBTB.  AJ65SBTB2N-8S AJ65SBTB2-8T1 Combined: AJ65SBTC1-32DT AJ65SBTC1-32DT1 AJ65SBTB2-8DT AJ65SBTB.  AJ65SBTB1-16DT1 AJ65SBTB1-16DT2 AJ65SBTB32-8DT AJ65SBTB.  AJ65SBTB1-16DT1 AJ65SBTB1-16DT2 AJ65SBTB32-8DT AJ65SBTB.  Optical Repeater: AJ65SBT-RPS AJ65SBT-RPG  Compact type remote I/O module (10 pieces)  A6CVR-32  A6CVR-32  AGCVR-32  AJ65SBTB1-32T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB.	2-8T 2N-8R 1-6DT 21-32DT2
A6CVR-16  Output: AJ65SBTB1-16T AJ65SBTC1-32T AJ65SBTB1-16T1 AJ65SBTB.  AJ65SBTB1-16TE AJ65SBTB2-8R AJ65SBTB2-8S AJ65SBTB.  AJ65SBTB2N-8S AJ65SBTB2-8T1  Combined: AJ65SBTC1-32DT AJ65SBTC1-32DT1 AJ65SBTC4-16DT AJ65SBTB.  AJ65SBTB1-16DT1 AJ65SBTB1-16DT2 AJ65SBTB32-8DT AJ65SBTB.  Cover for the compact type remote I/O module (10 pieces)  A6CVR-32  Output: AJ65SBTB1-32D AJ65SBTB1-32D1 AJ65SBTB2-16A AJ65SBTB.  AJ65SBTB1-32T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB.	2N-8R 31-6DT 31-32DT2
A6CVR-16  A365SBTB1-16TE AJ65SBTB2-8R AJ65SBTB2-8S AJ65SBTB2 AJ65SBTB2-8T1  Combined: AJ65SBTC1-32DT AJ65SBTC1-32DT1 AJ65SBTC1-32DT1 AJ65SBTB1-16DT2 AJ65SBTB1-16DT2 AJ65SBTB1-16DT2 AJ65SBTB1-16DT2 AJ65SBTB1-16DT3 AJ65SBTB1	2N-8R 31-6DT 31-32DT2
A6CVR-16  AJ65SBTB2N-8S  AJ65SBTB2-8T1  Combined: AJ65SBTC1-32DT  AJ65SBTC1-32DT1  AJ65SBTC1-32DT1  AJ65SBTB1-16DT2  AJ65SBTB1-16DT2  AJ65SBTB1-16DT2  AJ65SBTB1-16DT3  AJ65SBTB	1-6DT 1-32DT2
Combined: AJ65SBTC1-32DT AJ65SBTC1-32DT1 AJ65SBTC4-16DT AJ65SBTB  AJ65SBTB1-16DT1 AJ65SBTB1-16DT2 AJ65SBTB32-8DT AJ65SBTB  Cover for the compact type remote I/O module (10 pieces)  Combined: AJ65SBTC1-32DT1 AJ65SBTC1-32DT1 AJ65SBTB1-16DT2 AJ65SBTB1-16DT3	1-32DT2
AJ65SBTB1-16DT1   AJ65SBTB1-16DT2   AJ65SBTB32-8DT   AJ65SBTC	1-32DT2
Protective cover for the compact type remote I/O module (10 pieces)   AGCVR-32   AGCVR-32   AJ65SBTC1-32DT3   AJ65SBTC4-16DT2   AJ65SBTB1-16DT3   AJ65SBTB1-16DT3   AJ65SBTB1-32DT   AJ65SBTB1-	
AJ65SBTC1-32D13   AJ65SBTC4-16D12   AJ65SBTB1-16D13   AJ65SBTB1	
Compact type	32-8DT2
remote I/O module (10 pieces)	
module (10 pieces) A6CVR-32 AJ65SBTB3-16D AJ65SBTB1-32T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB2 AJ65SBTB1-32T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB1-32T1 AJ65SBT	2N-16A
(10 pieces) A6CVR-32 Output: AJ65SBTB1-32T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB. AJ65SBTB1-32T AJ65SBTB1-32T1 AJ65SBTB2-16T AJ65SBTB1-32T AJ65SBTB2-16T AJ65SBTB1-32T AJ6	
AJ65SBTB2-16S AJ65SBTB2N-16R AJ65SBTB2N-16S AJ65SBTB	2-16R
O 1' 1 A MOCORTRA MORE A MOCORTRA MOCORTA A MOCORTRA MOCORTRA	2-16T1
Combined: AJ65SBTB1-32DT AJ65SBTB1-32DT1 AJ65SBTB1-32DT2 AJ65SBTB	32-16DT
AJ65SBTB1-32DT3 AJ65SBTB32-16DT2	
A6CVR-VCE8 Input: AJ65VBTCE3-8D	
Output: AJ65VBTCE2-8T	
Input: AJ65VBTCE3-16D AJ65VBTCE3-16DE	
A6CVR-VCE16 Output: AJ65VBTCE2-16T AJ65VBTCE3-16TE	
Combined : AJ65VBTCE32-16DT AJ65VBTCE3-16DTE	
Input: AJ65VBTS3-16D	
A6CVR-VS16 Output: AJ65VBTS2-16T	
Combined : AJ65VBTS32-16DT	
Input: AJ65DBTB1-32D	
DIN adapter A6DIN1C Output: AJ65DBTB1-32T1 AJ65DBTB1-32R	
Combined: AJ65DBTB1-32DT1 AJ65DBTB1-32DR	
Input: AJ65DRTR1-32D	
Common A2CCOM-TB Output A.I65DRTB1-32T1 A.I65DRTB1-32R	
terminal block Combined : AJ65DBTB1-32DT1 AJ65DBTB1-32DR	

#### 1.6 Recommended Connection Device List

## 1.6.1 Recommended connection devices for low profile waterproof remote I/O module

The following shows communication devices needed for use of the low profile waterproof type remote I/O module (AJ65FBTA $\square$ -16 $\square$ ).

# (1) Communications Module Waterproof Plug (Male / Female) · · · 4-pin / 5-pin can be used.

(a) For LINK In Side (Female)

Model name	Maker	Specifications	Connection cable diameter
ELKA 4012 PG9	HIRSCHMANN	M12-4-pin Female Straight Type	φ6.0 to 8.0mm
ELKA 5012 PG9	HIRSCHMANN	M12-5-pin Female Straight Type	φ6.0 to 8.0mm
CM02A-8DP5S(03)	DDK Ltd.	M12-4-pin Female Straight Type	φ7.2 to 7.9mm
ELWIKA 4012 PG9	HIRSCHMANN	M12-4-pin Female Right-angle Type	φ6.0 to 8.0mm
ELWIKA 5012 PG9	HIRSCHMANN	M12-5-pin Female Right-angle Type	φ6.0 to 8.0mm

#### (b) For LINK OUT Side (Male)

Model name	Maker	Specifications	Connection cable diameter
ELST 4012 PG9	HIRSCHMANN	M12-4-pin Male Straight Type	φ6.0 to 8.0mm
ELST 5012 PG9	HIRSCHMANN	M12-5-pin Male Straight Type	φ6.0 to 8.0mm
CM02A-8DJ5P(03)	DDK Ltd.	M12-4-pin Female Straight Type	φ7.2 to 7.9mm
ELWIST 4012 PG9	HIRSCHMANN	M12-4-pin Male Right-angle Type	φ6.0 to 8.0mm
ELWIST 5012 PG9	HIRSCHMANN	M12-5-pin Male Right-angle Type	φ6.0 to 8.0mm

# (2) Power Supply Module - Waterproof Plug (Female) · · · 5-pin only can be used.

Model name	Maker	Specifications	Connection cable diameter		
ELKA 5012 PG7	LUDCCUMANN	MAC E min Formala Straight Tyres	φ4.0 to 6.0mm		
ELKA 5012 PG9	HIRSCHMANN	M12-5-pin Female Straight Type	φ6.0 to 8.0mm		
ELWIKA 5012 PG7	LUDCCUMANN	MAC E min Fernale Dight angle Type	φ4.0 to 6.0mm		
ELWIKA 5012 PG9	HIRSCHMANN	M12-5-pin Female Right-angle Type	φ6.0 to 8.0mm		

(3) I/O connector waterproof plug (male) · · · 4-pin/5-pin can be used. The plug for LINK OUT side (male) mentioned in Section (1) (b) can be used.

## (4) I/O Connector Y Branch Connector

Model name	Maker	Remarks		
SAC-3P-M12Y	DUOTNIY CONTACT Cook 1 8 Co 1/C			
SAC-5P-M12Y	PHOENIX CONTACT GmbH & Co. KG	_		
XS2R series	OMRON Corporation	_		
VA-4YG-2	CORRENS Corporation	_		

### (5) CC-Link Cable

Model name	Maker	Remarks		
FA-CBL series	· ·	CC-Link dedicated cable with waterproof		
		connector		
Cable with M12 Connector	Shinwa Co.,Ltd	The CA series cannot be used.		

1 OVERVIEW

# 1.6.2 Recommended connection devices for low profile sensor connector (e-CON) remote I/O module

The following shows communication devices needed for use of the sensor connector (e-CON) remote I/O module (AJ65VBTCE $\square$ - $\square$ ).

For how to wire the sensor connector (e-CON), refer to the catalog of the corresponding maker.

## (1) I/O sensor connector (e-CON) plug \*1

		Sp	ecifications		Color of
Model name	Maker	Applicable cable size (core)	Applicable cable size (diameter)	Maximum rated current	the cover
ECN-A014R	(Mitsubishi	0.08 to 0.20mm <sup>2</sup> (28 to 24 AWG)	φ0.9 to 1.0mm		Red
ECN-A004Y		0.20 to 0.30mm <sup>2</sup> (24 to 22 AWG)	φ1.0 to 1.15mm		Yellow
ECN-A024BL		0.30 to 0.50mm <sup>2</sup> (22 to 20 AWG)	φ1.15 to 1.3mm		Blue
ECN-M014R	Electric System	0.44 to 0.20	φ0.8 to 1.0mm	2A * 2	Red
ECN-M024Y	Service Co., Ltd.)		φ1.0 to 1.2mm		Yellow
ECN-M034OR		(26 to 24 AWG)	φ1.2 to 1.6mm		Orange
ECN-M044GN		0.20 to 0.50mm²	φ1.0 to 1.2mm		Green
ECN-M054BL		0.30 to 0.50mm <sup>2</sup> (22 to 20 AWG)	φ1.2 to 1.6mm		Blue
ECN-M064GY		(22 to 20 AVVG)	φ1.6 to 2.0mm		Gray

<sup>\*1</sup> The ECN- $\Box\Box\Box\Box$  is available in packs of 20 pieces.

<sup>\*2</sup> Keep the current within the allowable range of the connected cable.

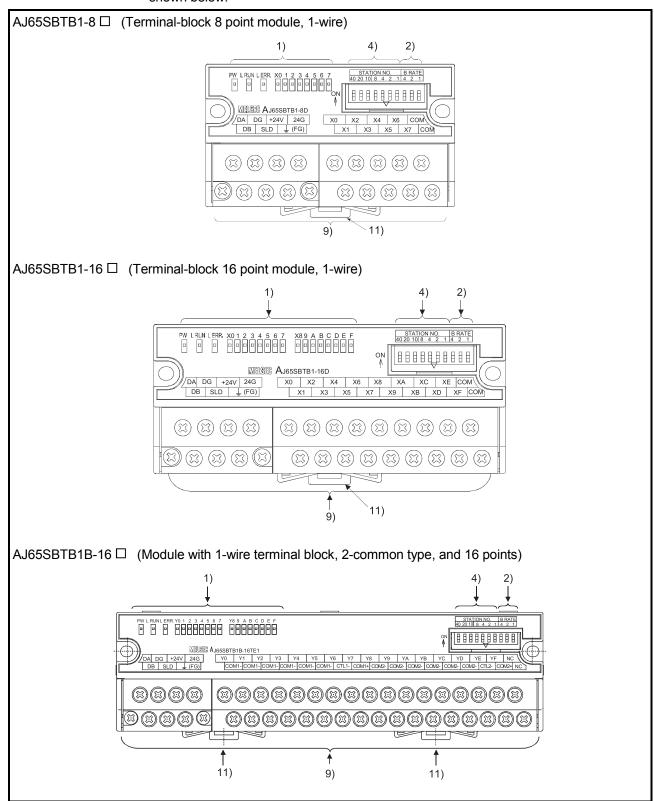
## 1.7 About the Generic, Abbreviated and Technical Terms Used in This Manual

The abbreviated and technical terms used in this manual are listed below:

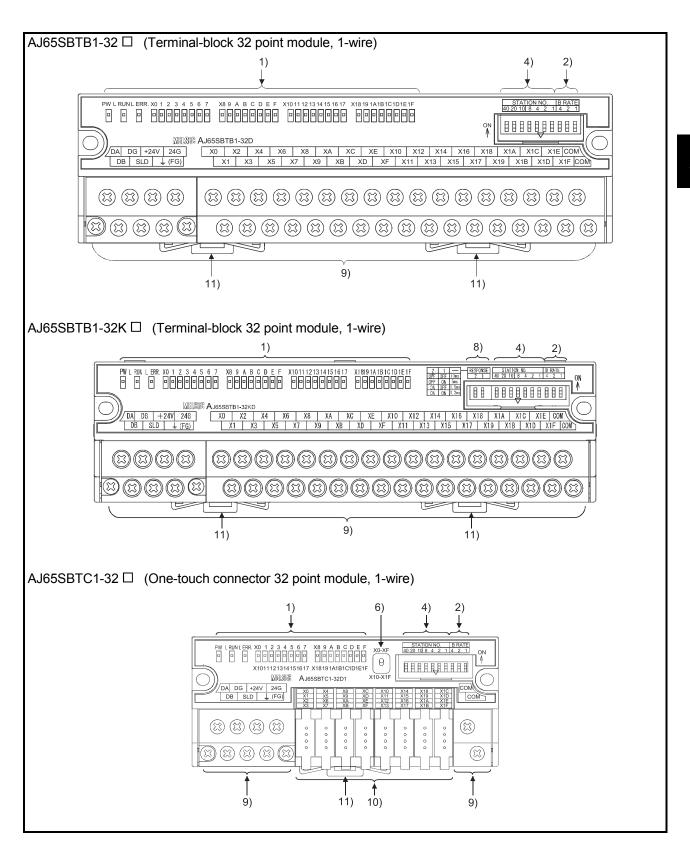
Generic/abbreviated/ technical term	Description
Master/local module	Generic term for the AJ61BT11, A1SJ61BT11, AJ61QBT11, A1SJ61QBT11, QJ61BT11, QJ61BT11N, L26CPU-BT, L26CPU-PBT, LJ61BT11, and RJ61BT11 CC-Link system master/local modules
Compact remote I/O module	Generic term for the AJ65SBT□□-□□ CC-Link system compact remote I/O modules
Conventional remote I/O module	Generic term for the AJ65BT□□-□□ CC-Link system remote I/O modules
Remote I/O module	Generic term for the AJ65BT \( \Pi - \Pi \Pi \) /AJ65SBT \( \Pi - \Pi \Pi \) /AJ65F \( \Pi - \Pi \Pi \) CC-Link system remote I/O modules
Input module	Generic term for the AJ65SBT□□-□A/D(1) remote I/O modules
Output module	Generic term for the AJ65SBT□□-□R/T /T1/TE remote I/O modules
Combined module	Generic term for the AJ65SBT□□-□DT(1) remote I/O modules
Waterproof type remote I/O module	Generic term for the AJ65SBTW4-16□ remote I/O modules
Low profile waterproof type remote I/O module	Generic term for the AJ65FBTA□-16□ remote I/O modules
Spring clamp terminal block type remote I/O module	Generic term for the AJ65VBTS□-□□ remote I/O modules
Sensor connector (e-CON) type remote I/O module	Generic term for the AJ65VBTCE□-□□ remote I/O modules

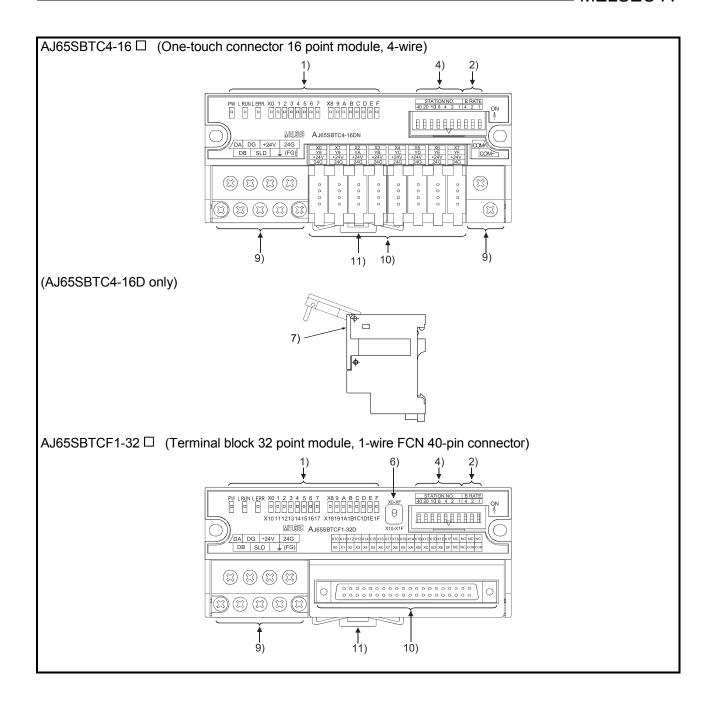
### 2 NAMES AND SETTINGS FOR EACH PART

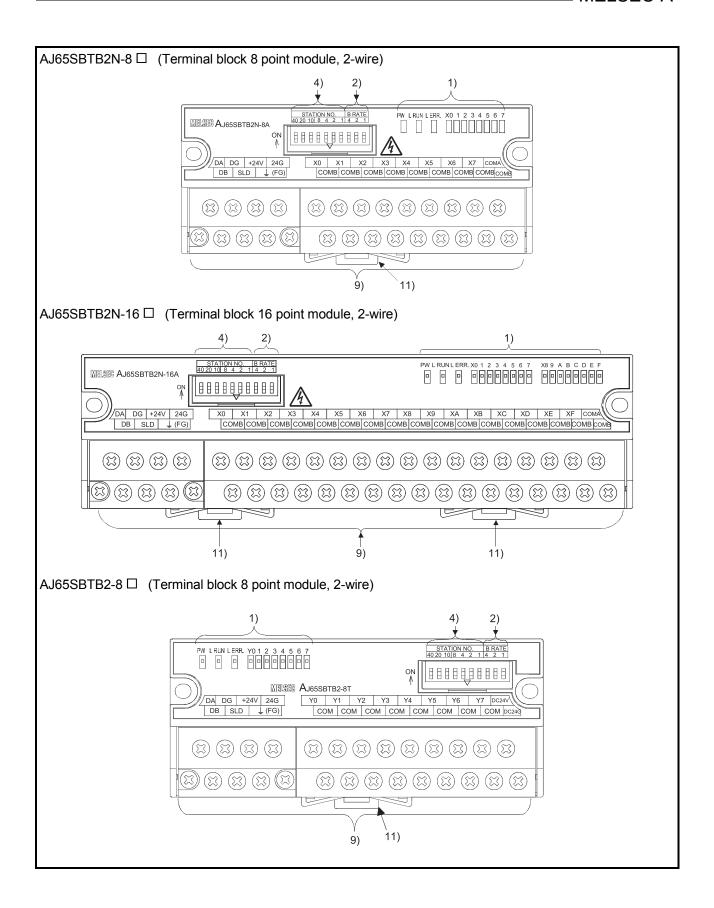
The names and settings for the components of the compact remote I/O module are shown below:

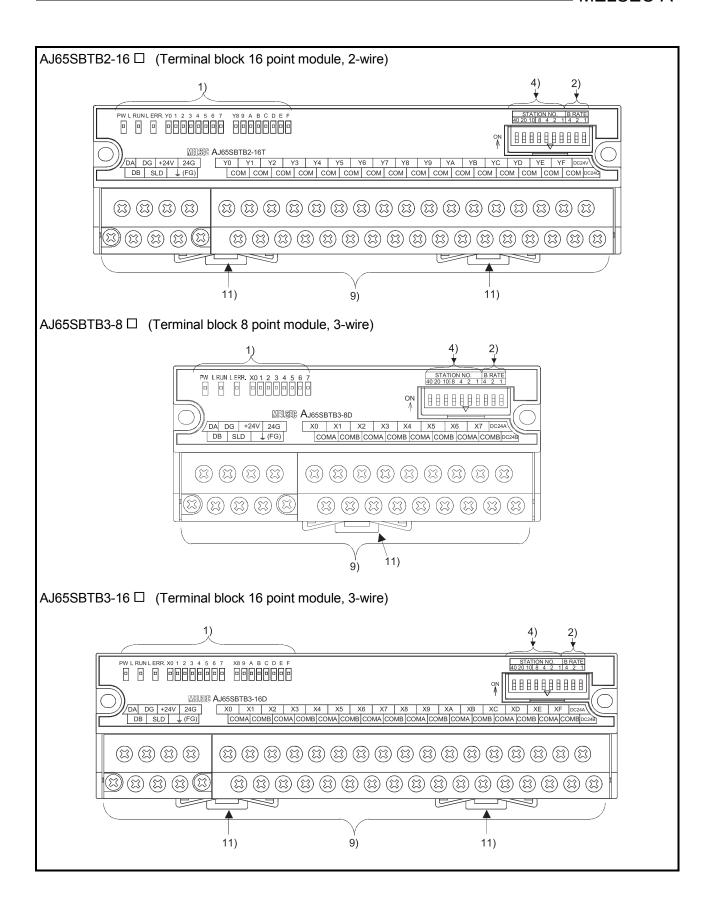


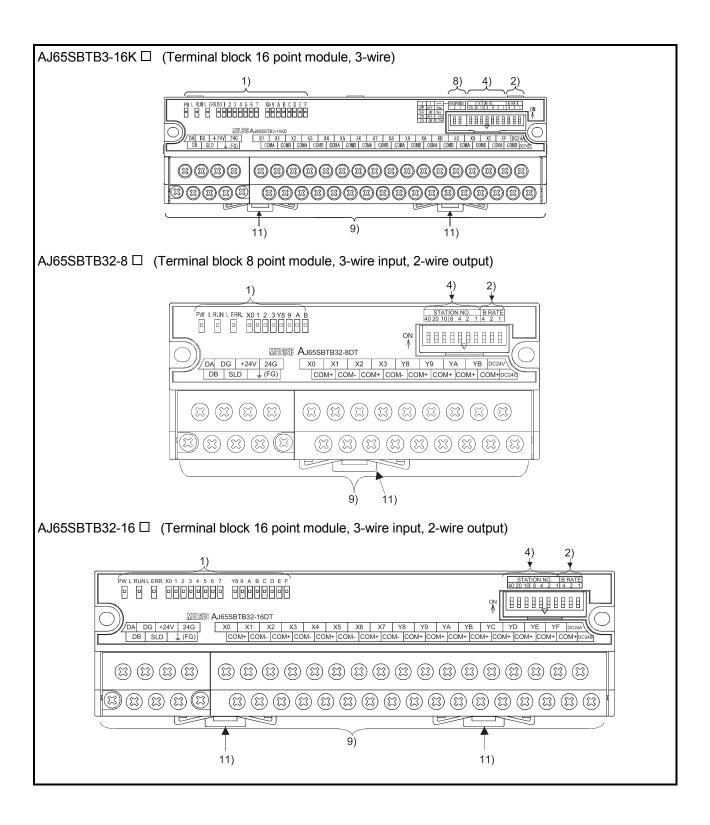
2 - 1 2 - 1

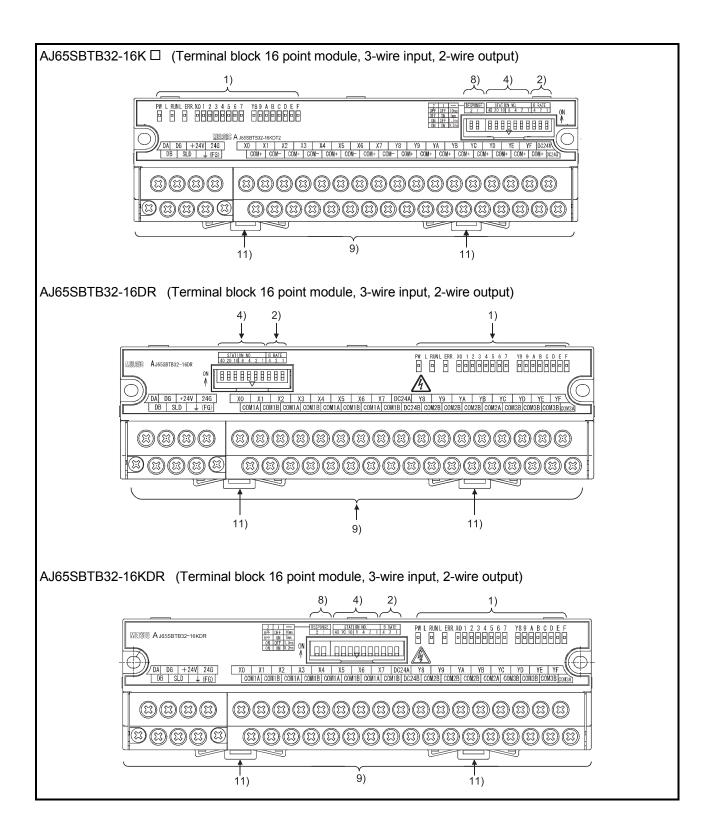


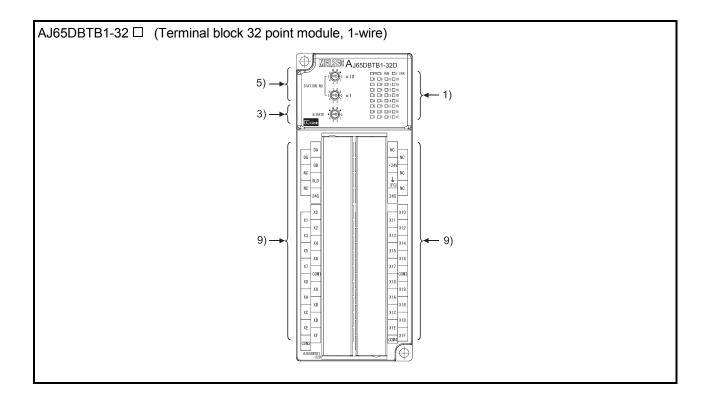












No.	Item	Description									
1)	Operation status indicator LED	LED	name	Details							
		PW		On: Power being supplied							
		F	<b>200</b>	Off: No power supplied							
			DI INI	On: Normal of	communica	tion					
		LF	RUN	Off: No comr	nunication	(timeout e	rror)				
				On: Commur	nication erro	or					
				Flashing regi	ularly:						
				The station	number o	r transmis	sion speed switch	n setting			
				is changed	while pow	er is on.					
		LE	RR.	Flashing irregularly:							
				The terminating resistor setting is incorrect.							
				The module or CC-Link dedicated cable is affected by							
				noise.							
		X0 to 1F		Off: Normal communication							
				On: Input/output ON							
		Y0	to 1F	Off: Input/output OFF							
2)	Transmission speed setting										
	switch		Setting	Switch status 4 2		1	Transmission speed				
			0	OFF	OFF	OFF	156kbps				
			1	OFF	OFF	ON	625kbps				
			2	OFF	ON	OFF	2.5 Mbps				
			3 4	OFF	ON	ON	5.0 Mbps				
		0-445-4	<u> </u>	ON	OFF	OFF	10 Mbps				
- 0,	Tananairaina and tanger	Set the ti	ansmissioi	n speed within	trie above	range.					
3)	Transmission speed setting										
	switch		Setting 0	Transmission speed 156kbps							
			1	625k							
			2	2.5 Mbps							
			3 4	5.0 Mbps							
		Set the transmission speed within the above range.									

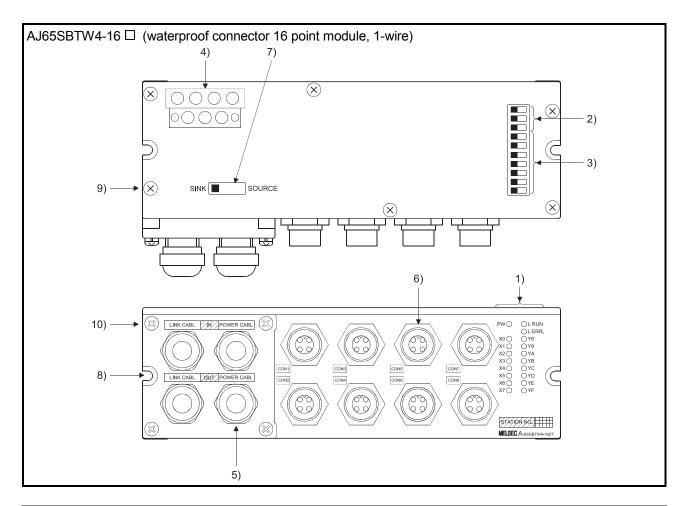
No.	Item	Description										
4)	Station number setting switch	Select "	Select "10", "20", or "40" for the tens place.									
.,	Classic Francisco	Select "1", "2", "4", or "8" for the ones place.										
			station nur					1				
		Г	nlass									
			Station number	40	Tens place	10	8	4	place 2	1		
		-	1	OFF	OFF	OFF	OFF	OFF	OFF	ON		
			2	OFF	OFF	OFF	OFF	OFF	ON	OFF		
			3	OFF	OFF	OFF	OFF	OFF	ON	055		
			. 4	OFF :	OFF :	OFF :	OFF :	OFF	OFF :	OFF		
		-	10	OFF	OFF	ON	OFF	OFF	OFF	OFF		
			11	OFF	OFF	ON	OFF	OFF	OFF	ON		
			<u>:</u>	:	:	:	:	:	:	:		
		L	64	ON	ON	OFF	OFF	ON	OFF	OFF		
		(Examp	le) Setting	the stat	ion numl	per to 32	2:					
		[	Station		Tens place			Ones	place			
			number	40	20	10	8	4	2	1		
		L	32	OFF	ON	ON	OFF	OFF	ON	OFF		
6)	Indication selector switch <sup>*2</sup> Sink/source switch (For AJ65SBTC1-16D only)	Use "×10" for the tens place.  Use "×1" for the ones place.  When the switch is set to "X0-XF", LEDs indicate the ON/OFF status of X0 to XF.  When the switch is set to "X10-X1F", LEDs indicate the ON/OFF status of X10 to X1F.  Switches the input type (sink or source).  Open the module top cover to set the switch.  When setting for sink type> When setting for source type>										
				SOURC		Switch	n <b>→</b>	SOURC				
8)	Input response speed switch	Setting Switch status Input response								peed		
				0	2 OF		1 OFF		10ms			
				1	OF		ON		5ms			
				2	10		OFF		1.5ms			
		Default.	2 (1.5mg)	3	10	١	ON		0.2ms			
9)	Terminal block	Default: 2 (1.5ms)*2										
		Terminal block for module power supply, transmission, and I/O signals.										
10)	Connector	Connector for I/O signals.										
11)	DIN rail hook	When mounting the module to a DIN rail, push in the DIN rail hook until it clicks.										

<sup>\*1</sup> A unique station number should be set.

When it is changed while power is on, turn off the power and then on again.

2 - 10 2 - 10

 $<sup>\</sup>ensuremath{\$2}$  The switch setting is reflected/held at power-on.

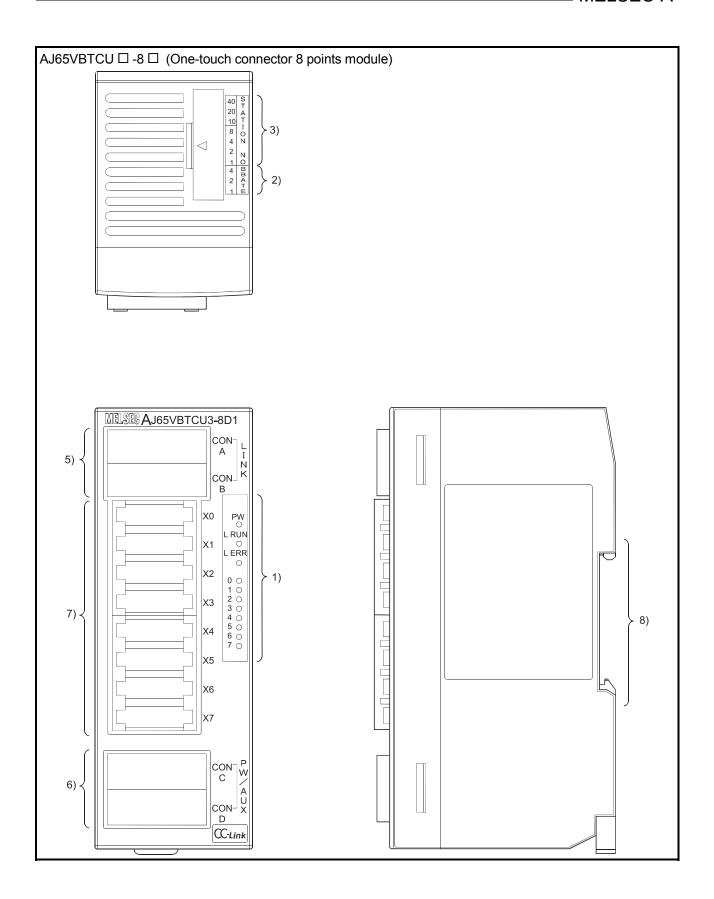


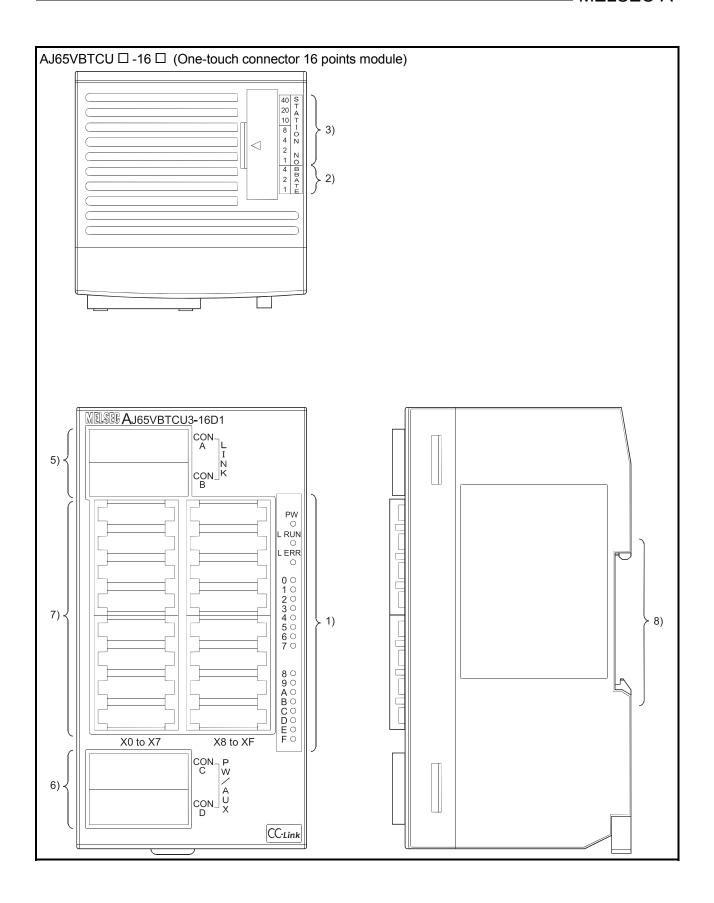
No.	Item	Description						
1)	Operating status indicator LED	LED name	Details					
		PW	On: Power being supplied					
			Off: No power supplied					
		L RUN	On: Normal communication					
		LINON	Off: No communication (timeout error)					
			On: Communication error					
			Flashing regularly:					
			The station number or transmission speed switch setting					
			is changed while power is on.					
		L ERR.	Flashing irregularly:					
			The terminating resistor setting is incorrect.					
			The module or CC-Link dedicated cable is affected by					
			noise.					
			Off: Normal communication					
		X0 to 7	On: Input/output ON					
		Y8 to F	Off: Input/output OFF					

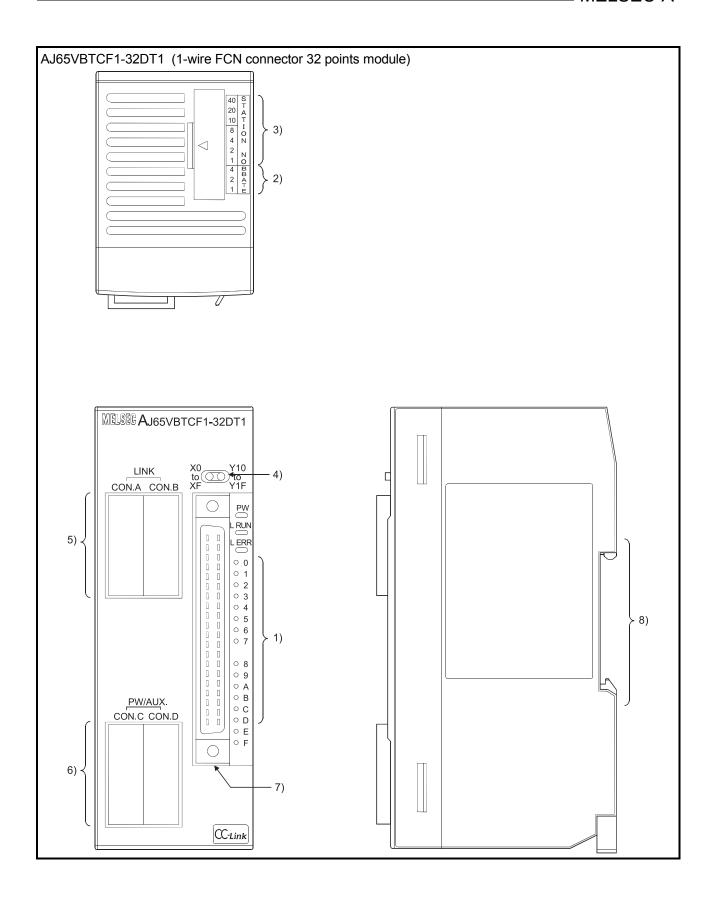
2 - 11 2 - 11

No.	Item	Description									
2)	Transmission speed setting switch										
,	,		Setting		4	Switch statu 2	us 1		Fransmission speed	on	
			0		OFF	OFF	OFI	_	156kbps		
			1		OFF	OFF	ON		625kbps		
			2		OFF	ON	OFI		2.5 Mbps		
			3		OFF	ON	ON	ı	5.0 Mbps	i	
			4		ON	OFF	OFI	F	10 Mbps		
		Set the	transmiss	ion spe	ed withir	the abo	ve range	е.			
		Open th	e module	top cov	er to set	the tran	smissior	n speed			
3)	Station number setting switch	Select "	10", "20",	or "40"	for the te	ens place	€.				
	_	Select "1", "2", "4", or "8" for the ones place.									
		Set the station number within the range of 1 to 64.*1									
			Station		Tens place				place	1	
			number	40	20	10	8	4	2	1	
			1	OFF	OFF	OFF	OFF	OFF	OFF	ON	l
			2	OFF	OFF	OFF	OFF	OFF	ON	OFF	
			3	OFF	OFF	OFF	OFF	OFF	ON		
			4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
		-	10	: OFF	: OFF	: ON	: OFF	: OFF	: OFF	: OFF	
			11	OFF	OFF	ON	OFF	OFF	OFF	ON	
			:	:	:	:	:	:	:	:	
			64	ON	ON	OFF	OFF	ON	OFF	OFF	l
		(Examp	le) Setting	the sta	ation nun	nber to 3	2:				
		Station Tens place Ones place									
			number	40	20	10	8	4	2	1	l
			32	OFF	ON	ON	OFF	OFF	ON	OFF	l
		Open th	e module	top cov	er to set	the stati	ion num	ber.			
4)	Terminal block	Termina	ıl block foi	r modul	e power	supply a	nd trans	mission	circuit.		
5)	Pipe for transmission or power		connectir							to the	
0)	supply line	terminal		.9			. a po	о. ос.рр	.,		
	сарріў шіс		e module	ton cov	er to coi	nnect a t	ransmis	sion cab	le or a n	ower sur	only
		-	the termi	-		moot a t	ranomio	ololl oab	no or a p	ower our	JPIJ
			waterpro			l with the	nroduc	t to the	unuead r	nine	
6)	Waterproof connector for I/O						, produc	t to tile	unuscu þ	Jipo.	
6)	Waterproof confidence for 1/O	-	oof conne		-		DC4\ +-	the	ınod		
			n optiona	•	оог сар	(AOCAP-	-DC1) to	uie unt	iseu		
	0:1/	•	oof conne								
7)	Sink/source switch		s the inpu	• • • •		•					
	(For AJ65SBTW4-16D only)	Open th	e module	-							
			< When s	setting <u>f</u>		ype > < '		<u> </u>	r source	type >	
					SOURCE		SOL	JRCE			
					_	Switch	<b>→</b>				
					SINK		S	INK			
8)	Metal fitting	FG term	inal for m	odule.							
9)	Module top-cover installation			-							
9)	screw (M3)										
10)	Module front-cover installation	Refer to	Refer to Section 7.1 for tightening torque value for installation screws.								
10)											
	screw (M3)										

st1 A unique station number should be set.





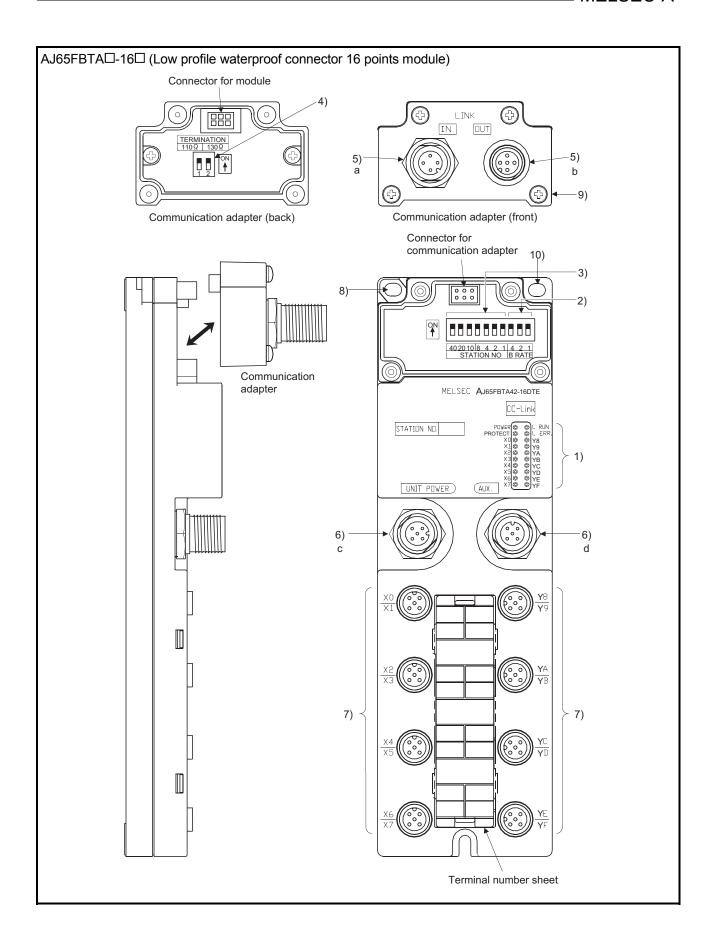


No.	Item	Description											
1)	Operating status indicator LED	LED name		Details									
′		PW		On: Power being supplied									
				Off: No power supplied									
		L RUN		On: Normal communication									
					Off: No communication (timeout error)								
					On: Communication error								
				Flashing regularly:									
					The station number or transmission speed switch setting is changed while power is on.								
							wer is o	n.					
		L	ERR.		ing irreg								
						ating resi		-					
		0 to F				e or CC-L	ink ded	icated o	cable is a	ffected I	ру		
				noi									
						ommunic	ation						
					nput/out								
				Off: Input/output OFF									
2)	Transmission speed setting switch												
			Setting			Switch statu			Transmission				
			0		4 OFF	2 OFF	1 OFF	=	speed 156kbps				
			1		OFF	OFF	ON		625kbps				
			2		OFF	ON	OF	=	2.5 Mbps				
			3		OFF	ON	ON		5.0 Mbps				
			4		ON	OFF	OF		10 Mbps				
		Set the transmission speed within the above range.											
3)	Station number setting switch	Select "10", "20", or "40" for the tens place.											
		Select "1", "2", "4", or "8" for the ones place.											
		Set the	station nur	nber w	ithin the	range of	1 to 64.				-		
			Station		Tens place	е		One	s place	ı			
		_	number	40	20	10	8	4	2	1			
			2	OFF OFF	OFF OFF	OFF OFF	OFF OFF	OFF OFF	OFF ON	ON OFF			
			3	OFF	OFF	OFF	OFF	OFF	ON	<u> </u>			
			4	OFF	OFF	OFF	OFF	OFF	OFF	OFF			
			10	: OFF	: OFF	: ON	: OFF	: OFF	: OFF	: OFF			
			11	OFF	OFF	ON	OFF	OFF	OFF	OFF			
			:	:	:	:	:	:	:	:			
			64	ON	ON	OFF	OFF	ON	OFF	OFF	]		
		(Example) Setting the station number to 32:											
		Station			Tens place		Ones place						
		<b> </b>	number	40	20	10	8	4	2	1	.		
		L	32	OFF	ON	ON	OFF	OFF	ON	OFF	1		

<sup>\*1</sup> A unique station number should be set.

No.	Item	Description
4)	Indication selector switch*2	When the switch is set to "X0-XF", LEDs indicate the ON/OFF status of X0 to XF.
		When the switch is set to "Y10-Y1F", LEDs indicate the ON/OFF status of Y10 to Y1F.
5)	Connector for communication	One-touch connector for communication line.
		When carrying out wiring, connect two optional one-touch connector plugs for
		communication (A6CON-L5P) at top and bottom.
		When changing the module online, connect the optional online connectors
		(A6CON-LJ5P) between the connector and plugs.
		When the module is used at either end of the CC-Link system, attach an
		optional one-touch connector plug with terminating resistor (110 $\Omega$ ) (A6CON-
		TR11(N)).
6)	Connector for power supply and	One-touch connector for module power supply line, I/O power supply line, and
	FG	FG.
		When carrying out jumper wiring, connect two optional one-touch connector
		plugs for power supply and FG at top and bottom. Two different types
		(A6CON-PW5P, A6CON-PW5P-SOD) are available as the one-touch
		connector plugs for power supply and FG.
		When not carrying out jumper wiring, also connect the plugs (for safety and
		dust prevention).
		When changing the module online, connect the optional online connectors
		(A6CON-PWJ5P) between the connector and plugs.
7)	Connector	Connector for I/O signals.
8)	DIN rail hook	Hook to install the module to the DIN rail or connector type Metal installation
		fitting (option).
		When mounting the module to a DIN rail, push in the DIN rail hook until it
		clicks.

<sup>\*2</sup> To operate the indication selector switch, do not use a tool such as a screwdriver. Doing so may damage the switch.



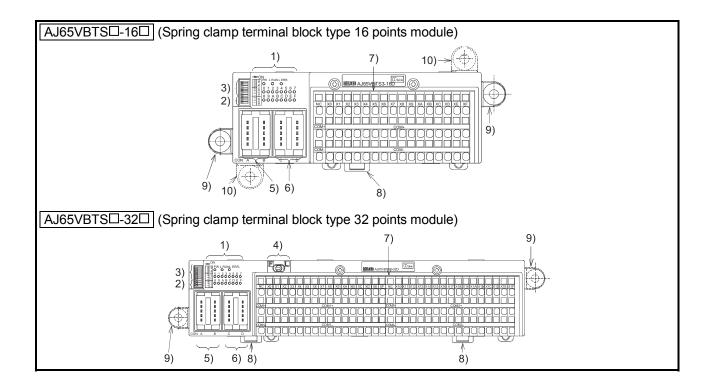
2 - 18 2 - 18

No.	Item	Description								
1)	Operating status indicator	LED name				D	etails			
	LED	On: Power being supplied								
		POWER	plied							
		On: Any protection of the output part was activated.								
		PROTECT		(The blown fuse was detected in the master module.)						
		Off: Normal operation								
		On: Normal communication L RUN Off: No communication (timesurt error)								
			Off: No communication (timeout error) On: Communication error							
			_	hing regularly						
			The station number or transmission speed switch setting is char					s changed		
		L ERR.		nile power is o						
		L LIXIX.		hing irregular				-4		
				ne terminating ne module or					ed by noi	92
				Normal comn			ca cabic	is ancom	o by noi	30.
		X0 to X7/								
		Y0 to YF/	On:	Input/output (	ON					
		X0 to X7,	Off:	Input/output (	DFF					
		Y8 to YF								
2)	Transmission speed setting				Switch	n status				
	switch	Setting	9	4		2	1	Tra	nsmissio	n speed
		0		OFF	+	FF	OFF		156kb	os
		1		OFF	0	FF	ON			
		2		OFF		N	OFF		2.5 Mb	
		3		OFF		DN	ON		5.0 Mb	
			4 ON OFF OFF 10 Mbps  et the transmission speed within the above range.							os
				-			_			
		Remove the o					ansmissi	on speed	I. (Defau	It: all OFF)
	Station number setting	Select "10", "2								
	switch	Select "1", "2'					*4			
		Set the station			_		4. '			
		(Example) Se				32:				<del></del> i
		Station nu	mber	Tens place		140		place		
		10		40 ON	20	10 ON	8 OFF	4 OFF	2 OFF	1 OFF
				ON	OFF	ON	OFF	OFF	OFF	
4	T	Remove the o				set tne st	ation nur	nper. (De	erauit: all	UFF)
,	Terminal resistor setting	Used to set th			tor.					
	switch	1	DIF	e switch 2				Contents		
		OFF		OFF			No tern	ninating r	esistor	
		ON		OFF				rminating		
		OFF		ON		_		minating		
		ON		ON			Setti	ng prohib	ited	
		(Default: all O	FF)							

<sup>\*1</sup> A unique station number should be set.

No.	Item		Description					
5)	Waterproof connector for							
	transmission line*2			Printing	Description			
			а	LINKIN	Connector (male, 4 pins) for the IN-side (master station side) transmission line			
			b	LINK OUT	Connector (female, 5 pins) for the OUT-side transmission line.  Attach a waterproof cap (accessory) to the unused connector.			
					(Tightening torque range:0.29 to 0.34N•m)			
		•						
6)	Waterproof connector for							
	power line*2			Printing	Description			
			С	UNIT POWER	Connector (male, 5 pins) for supplying power to the module			
			d	AUX.	Connector (male, 5 pins) for supplying power to loads			
					_			
7)	Waterproof connector for	Wa	aterproof	connectors for I/O	signals.			
	I/O*2	Att	ach an o	ptional waterproof	cap (A6CAP-WP2) to the unused waterproof connector.			
		(Tightening torque range: 0.29 to 0.34N•m)						
8)	FG terminal	FG	termina	I for module				
9)	Communication adapter	Us	ed to mo	ount or remove a co	ommunication adapter while the module is online.			
	mounting screw	(Ti	ghtening	torque range: 0.42	2 to 0.58N•m)			
10)	Module mounting hole	Sc	rew hole	s for mounting the	module (2-4.5 × 6, M4 screw)			
		(Ti	ghtening	torque range: 0.78	8 to 1.18N•m)			

<sup>\*2</sup> Waterproof connector (compliant with IEC 60947-5-2, M12)



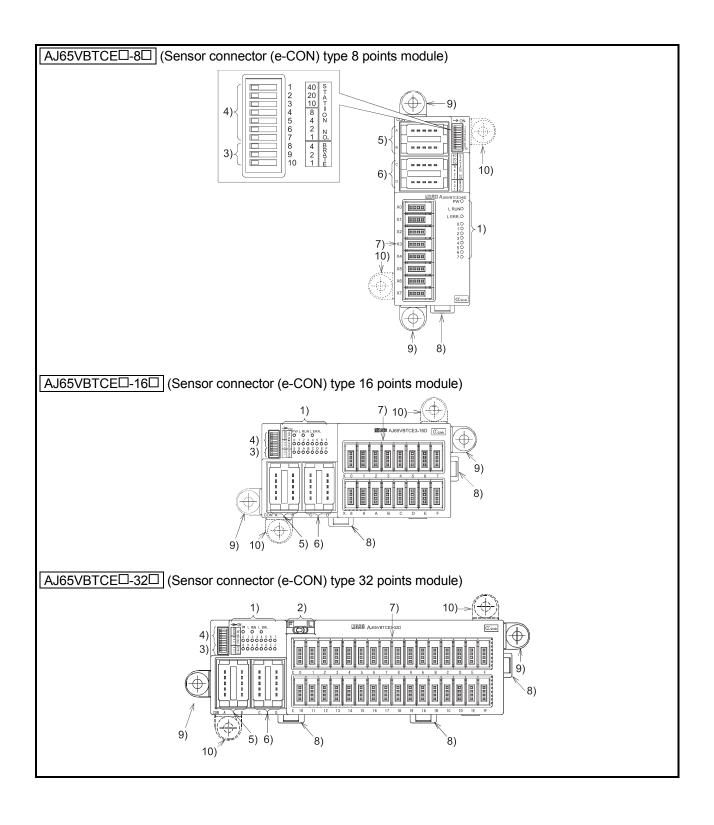
2 - 21 2 - 21

No.	Item					Descript	ion				
1)	Operating status indicator LED	LED	name	Details							
		F	>W	On: Power being supplied							
				Off: N	lo powe	r supplied	<u></u>				
			RUN	On: N	Normal c	ommunic	ation				
				Off: No communication (timeout error)							
				On: Communication error							
				Flash	ing regu	ılarly:					
				The	e station	number	or trans	mission	speed s	witch se	etting
				is c	changed	while po	wer is o	n.			
		LE	ERR.	Flash	ing irreg	jularly:					
				The	e termina	ating resi	stor sett	ing is ir	correct.		
						e or CC-L		-		ffected	bv
				noi							- ,
				Off: Normal communication							
				On: Input/output ON							
		0	to F	Off: Input/output OFF							
2)	Transmission speed setting switch										
۷)	Transmission speed setting switch		0-44			Switch statu	IS		Transmissio	on	
			Setting		4	2	1		speed		
			0		OFF	OFF	OF		156kbps		
			2		OFF OFF	OFF ON	ON OF		625kbps 2.5 Mbps		
			3		OFF	ON	ON		5.0 Mbps		
			4		ON	OFF	OFI	=	10 Mbps		
		Set the	transmissi	on spe	ed withir	the abo	ve range	€.			
3)	Station number setting switch	Select "	10", "20", c	or "40"	for the te	ens place					
		Select "	1", "2", "4",	or "8"	for the c	nes plac	e.				
			station nur			-		*1			
			Station		Tens place	е		Ones place			
			number	40	20	10	8	4	2	1	
			1	OFF	OFF	OFF	OFF	OFF	OFF	ON	4
			2	OFF OFF	OFF OFF	OFF OFF	OFF OFF	OFF OFF	ON ON	OFF	
			3 4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	1
			:	:	:	:	:	:	:	:	
		-	10	OFF	OFF	ON	OFF	OFF	OFF	OFF	
		<b> </b>	. 11	OFF	OFF	ON :	OFF	OFF	OFF :	ON ·	1
			64	ON	ON	OFF	OFF	ON	OFF	OFF	]
		(Example) Setting the station number to 32:								_	
		Г	Station		Tens place	е		Ones	s place		
			number	40	20	10	8	4	2	1	]
			32	OFF	ON	ON	OFF	OFF	ON	OFF	1

<sup>\*1</sup> A unique station number should be set.

No.	Item	Description
4)	Indication selector switch*2	When the switch is set to "F", LEDs indicate the ON/OFF status of the first 16 points.  When the switch is set to "L", LEDs indicate the ON/OFF status of the latter 16 points.
5)	Connector for communication	One-touch connector for communication line.  When carrying out wiring, connect two optional one-touch connector plugs for communication (A6CON-L5P) at top and bottom.  When changing the module online, connect the optional online connectors (A6CON-LJ5P) between the connector and plugs.  When the module is used at either end of the CC-Link system, attach an optional one-touch connector plug with terminating resistor (110Ω) (A6CON-TR11(N)).
6)	Connector for power supply and FG	One-touch connector for module power supply line, and FG. When carrying out jumper wiring, connect two optional one-touch connector plugs for power supply and FG at top and bottom. Two different types (A6CON-PW5P, A6CON-PW5P-SOD) are available as the one-touch connector plugs for power supply and FG. When not carrying out jumper wiring, also connect the plugs (for safety and dust prevention). When changing the module online, connect the optional online connectors (A6CON-PWJ5P) between the connector and plugs.
7)	2-piece spring clamp terminal block	2-piece terminal block for I/O signals.
8)	DIN rail hook	Hook to install the module to the DIN rail or connector type Metal installation fitting (option). When mounting the module to a DIN rail, push in the DIN rail hook until it clicks.
9) 10)	Mounting bracket (accessory)	Used to install the module to a control panel.

<sup>\*2</sup> To operate the indication selector switch, do not use a tool such as a screwdriver. Doing so may damage the switch.



2 - 24 2 - 24

3) Transmission speed setting switch  Setting Switch status Transmission speed  0 OFF OFF OFF OFF 156kbps  1 OFF OFF ON 0FF 2.5 Mbps  2 OFF ON OFF OF 10 Mbps  3 OFF ON ON 5.0 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place.  Select "11", "2", "4", or "8" for the ones place.  Set the station number within the range of 1 to 64. "1  Station Tens place Ones place  number 40 20 10 8 4 2	tor LED  LED name  PW  On: Power being st Off: No power suppose to power s	Details ed  Ition (timeout error) or or transmission speed switch setting ver is on. tor setting is incorrect.					
PW On: Power being supplied Off: No power supplied Off: No power supplied  L RUN On: Normal communication Off: No communication (timeout error)  On: Communication error Flashing regularly: The station number or transmission speed s is changed while power is on. Flashing irregularly: The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise. Off: Normal communication  O to F Off: Normal communication Off: Normal communi	PW On: Power being storm off: No power suppose the power suppose of the	ed  ation (timeout error) or  ar transmission speed switch setting arer is on.  tor setting is incorrect.					
L RUN On: Normal communication Off: No communication (timeout error)  On: Communication (timeout error)  On: Communication error Flashing regularly: The station number or transmission speed s is changed while power is on.  L ERR. Flashing irregularly: The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise. Off: Normal communication  On: Input/output ON Off: Input/output OFF  When the switch is set to "F", LEDs indicate the ON/OFF status of points. When the switch is set to "L", LEDs indicate the ON/OFF status of points.  Transmission speed setting switch  Setting Switch status Transmission speed on OFF OFF ON 625kbps 1 OFF OFF OFF 156kbps 1 OFF OFF ON 625kbps 2 OFF ON 07 ON 5.0 Mbps 3 OFF ON 07 OFF 10 Mbps Set the transmission speed within the above range.  4) Station number setting switch  Select "10", "20", or "40" for the tens place. Select "11", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64. "1  Station Tens place Ones place	L RUN  On: Normal communication Off: No communication Flashing regularly: The station number is changed while L ERR. Flashing irregularly The terminating in The module or Conoise. Off: Normal communication On: Input/output Office.	(timeout error) or or transmission speed switch setting ver is on. tor setting is incorrect.					
On: Communication error Flashing regularly:  The station number or transmission speed s is changed while power is on.  LERR. Flashing irregularly:  The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise.  Off: Normal communication  On: Input/output ON Off: Input/output OFF  When the switch is set to "F", LEDs indicate the ON/OFF status of points.  When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting Switch status Transmissic Setting 4 2 1 speed  O OFF OFF OFF OFF 156kbps  1 OFF OFF OFF 156kbps  2 OFF ON ON 625kbps  2 OFF ON ON 550 Mbps  3 OFF ON ON 550 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place.  Select "10", "20", or "40" for the ones place.  Set the station number within the range of 1 to 64. "1  Station Tens place Ones place  Set Ones place  Ones place  Ones place  Ones place  Ones place	On: Communication Flashing regularly: The station number is changed while L ERR. Flashing irregularly The terminating rown The module or Conoise. Off: Normal communication On: Input/output Office.	or or transmission speed switch setting or is on. tor setting is incorrect.					
Flashing regularly: The station number or transmission speed s is changed while power is on.  L ERR. Flashing irregularly: The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise. Off: Normal communication  On: Input/output ON Off: Input/output OFF  2) Indication selector switch <sup>-1</sup> When the switch is set to "F", LEDs indicate the ON/OFF status of points. When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting Switch status Transmissic speed  O OFF OFF OFF OFF 156kbps  2 OFF OFF OFF ON 625kbps  2 OFF ON OFF 2.5 Mbps  3 OFF OF ON 5.0 Mbps  3 OFF ON OFF 0.5 ON 5.0 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  Set the transmission speed within the above range.  Select "1", "20", or "40" for the tens place. Set the station number within the range of 1 to 64."  Station Tens place Ones place  Ones place  Transmission speed within the range of 1 to 64."	Flashing regularly: The station number is changed while L ERR. Flashing irregularly The terminating r The module or C noise. Off: Normal community On: Input/output Off	or transmission speed switch setting ver is on.  tor setting is incorrect.					
The station number or transmission speed s is changed while power is on.  LERR. Flashing irregularly: The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise. Off: Normal communication  On: Input/output ON Off: Input/output OFF  When the switch is set to "F", LEDs indicate the ON/OFF status of points. When the switch is set to "L", LEDs indicate the ON/OFF status of points.  Transmission speed setting switch  Setting Switch status Transmission speed of the opints of the opints of the opints.  Setting A 2 1 speed O OFF OFF OFF OFF 156kbps 1 OFF OFF ON 625kbps 2 OFF ON ON 625kbps 2 OFF ON ON 5.0 Mbps 3 OFF ON ON 5.0 Mbps 4 ON OFF OFF 10 Mbps Set the transmission speed within the above range.  Set the transmission speed within the above range.  Set the station number within the range of 1 to 64. "1  Station Tens place Ones place Nones place Ones place  Ones place  Nones place Ones place	The station number is changed while LERR. Flashing irregularly The terminating round The module or Conoise.  Off: Normal community on: Input/output Office.	ver is on. tor setting is incorrect.					
is changed while power is on.  L ERR. Flashing irregularly: The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise. Off: Normal communication On: Input/output ON Off: Input/output OFF  2) Indication selector switch "1 When the switch is set to "F", LEDs indicate the ON/OFF status of points. When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting Switch status Transmission speed setting switch Setting 4 2 1 speed 0 OFF OFF OFF OFF 156kbps 1 OFF OFF ON 625kbps 1 OFF OFF ON 625kbps 2 OFF ON ON 5.0 Mbps 3 OFF ON ON 5.0 Mbps 4 ON OFF OFF OFF 10 Mbps Set the transmission speed within the above range.  4) Station number setting switch Select "10", "20", or "40" for the tens place. Select "1", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64. "1	is changed while L ERR. Flashing irregularly The terminating r The module or C noise. Off: Normal commu	ver is on. tor setting is incorrect.					
L ERR. Flashing irregularly: The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise. Off: Normal communication  Oto F Off: Input/output ON Off: Input/output OFF  When the switch is set to "F", LEDs indicate the ON/OFF status of points. When the switch is set to "L", LEDs indicate the ON/OFF status of points.  Transmission speed setting switch  Setting  Switch status Transmissic speed  O OFF OFF OFF OFF 156kbps  1 OFF OFF ON 625kbps 1 OFF OFF ON 625kbps 2 OFF ON OFF 2.5 Mbps 3 OFF ON ON 5.5 Mbps 4 ON OFF OFF 10 Mbps Set the transmission speed within the above range.  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place. Select "1", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64. "1  Station Tens place Ones place Ones place	L ERR. Flashing irregularly The terminating r The module or C noise. Off: Normal commu	tor setting is incorrect.					
The terminating resistor setting is incorrect. The module or CC-Link dedicated cable is a noise.  Off: Normal communication  On: Input/output ON Off: Input/output OFF  When the switch is set to "F", LEDs indicate the ON/OFF status of points.  When the switch is set to "L", LEDs indicate the ON/OFF status of points.  Transmission speed setting switch  Setting Switch status Transmissic speed  O OFF OFF OFF OFF 156kbps  1 OFF OFF ON 625kbps  2 OFF ON ON 55.0 Mbps  3 OFF ON ON 55.0 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place. Select "11", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64. "1  Station Tens place Ones place  Ones place  Ones place  Ones place  Ones place	The terminating r The module or C noise. Off: Normal commu	_					
The module or CC-Link dedicated cable is a noise.  Off: Normal communication  On: Input/output ON Off: Input/output OFF  2) Indication selector switch "1 When the switch is set to "F", LEDs indicate the ON/OFF status of points.  When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting 4 2 1 1 speed  O OFF OFF OFF OFF OFF 156kbps  1 OFF OFF ON 625kbps  2 OFF ON OFF 2.5 Mbps  3 OFF ON ON 5.0 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  4) Station number setting switch  Select "10", "20", or "40" for the tens place. Select "1", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64."  Station Tens place Ones place  Ones place  Noes place  Ones place	The module or C noise.  Off: Normal commu	_					
noise.  Off: Normal communication  On: Input/output ON Off: Input/output OFF  2) Indication selector switch "1 When the switch is set to "F", LEDs indicate the ON/OFF status of points.  When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting 4 2 1 speed  O OFF OFF OFF ON 625ktps  1 OFF OFF ON 0525ktps  2 OFF ON OFF 2.5 Mbps  3 OFF ON ON 5.0 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  4) Station number setting switch  Select "10", "20", or "40" for the tens place. Select "1", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64."  Station Tens place Ones place  Ones place  Ones place  Ones place	noise. Off: Normal commu On: Input/output Of	The dedicated cable to allocted by					
Off: Normal communication  On: Input/output ON Off: Input/output OFF  2) Indication selector switch*1  When the switch is set to "F", LEDs indicate the ON/OFF status of points.  When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting  Setting  Switch status  Transmission speed  Setting  Setting  Switch status  Transmission speed  OFF OFF OFF ON 625kbps  OFF OFF ON OFF ON SOMbps  ON OFF OFF ON Set the transmission speed within the above range.  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place. Select "11", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64.*1  Station  Tens place Ones place Ones place	Off: Normal commu						
On: Input/output ON Off: Input/output OFF  2) Indication selector switch <sup>*1</sup> When the switch is set to "F", LEDs indicate the ON/OFF status of points. When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting Switch status Transmission speed setting switch  Setting 4 2 1 speed  O OFF OFF OFF OFF 156kbps  1 OFF OFF ON OFF 2.5 Mbps  2 OFF ON ON OFF 2.5 Mbps  3 OFF ON ON 5.0 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  Set the transmission speed within the range of 1 to 64.*1  Station Tens place Ones place  Nones place  Ones place  Note Tens place Ones place  Nones place  Ones place	On: Input/output Of	ution					
Off: Input/output OFF  2) Indication selector switch*1  When the switch is set to "F", LEDs indicate the ON/OFF status of points.  When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting  Switch status  Transmission speed  Setting  Setting  South status  Transmission speed  OFF  OFF  OFF  OFF  ON  OFF  2.5 Mbps  ON  OFF  OFF  ON  ON  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place.  Select "11", "2", "4", or "8" for the ones place.  Set the station number within the range of 1 to 64. "1  Station  Tens place  Ones place  Ones place  Ones place	1 () to F						
points.  When the switch is set to "L", LEDs indicate the ON/OFF status of points.  3) Transmission speed setting switch  Setting Switch status Transmission speed  O OFF OFF OFF OFF 156kbps  1 OFF OFF ON 625kbps  2 OFF ON OFF 2.5 Mbps  3 OFF ON ON OFF 0FF 10 Mbps  Set the transmission speed within the above range.  4) Station number setting switch  Select "10", "20", or "40" for the tens place.  Select "10", "20", or "8" for the ones place.  Set the station number within the range of 1 to 64. *1  Station Tens place Ones place  number 40 20 10 8 4 2	Off: Input/output Of						
When the switch is set to "L", LEDs indicate the ON/OFF status of points.    Setting   Switch status   Transmissic speed	when the switch is set to "F", LEDs ind	the ON/OFF status of the first 16					
3) Transmission speed setting switch  Setting Switch status Transmission speed  0 OFF OFF OFF OFF 156kbps  1 OFF OFF ON 0FF 2.5 Mbps  2 OFF ON OFF OF 10 Mbps  3 OFF ON ON 5.0 Mbps  4 ON OFF OFF 10 Mbps  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place.  Select "11", "2", "4", or "8" for the ones place.  Set the station number within the range of 1 to 64. "1  Station Tens place Ones place  number 40 20 10 8 4 2	points.	points.					
Transmission speed setting switch  Setting  Setting  Switch status  Transmission speed  O OFF OFF OFF OFF 156kbps  1 OFF OFF ON OFF 2.5 Mbps  2 OFF ON ON OFF 2.5 Mbps  3 OFF ON ON OFF 10 Mbps  Set the transmission speed within the above range.  Set the transmission speed within the above range.  Select "10", "20", or "40" for the tens place.  Select "11", "2", "4", or "8" for the ones place.  Set the station number within the range of 1 to 64. *1  Station Tens place Ones place  number 40 20 10 8 4 2	When the switch is set to "L", LEDs ind	When the switch is set to "L", LEDs indicate the ON/OFF status of the latter					
Setting	points.						
Setting   4   2   1   speed		<del></del>					
0	Setting						
1 OFF OFF ON 625kbps 2 OFF ON OFF 2.5 Mbps 3 OFF ON ON 5.0 Mbps 4 ON OFF OFF 10 Mbps Set the transmission speed within the above range.  4) Station number setting switch Select "10", "20", or "40" for the tens place. Select "1", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64.*1  Station Tens place Ones place number 40 20 10 8 4 2		· · · · · · · · · · · · · · · · · · ·					
3 OFF ON ON 5.0 Mbps 4 ON OFF OFF 10 Mbps Set the transmission speed within the above range.  4) Station number setting switch Select "10", "20", or "40" for the tens place. Select "1", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64.*1  Station Tens place Ones place number 40 20 10 8 4 2		· ·					
4 ON OFF OFF 10 Mbps Set the transmission speed within the above range.  4) Station number setting switch Select "10", "20", or "40" for the tens place. Select "1", "2", "4", or "8" for the ones place. Set the station number within the range of 1 to 64.*1  Station Number 40 20 10 8 4 2		· · · · · · · · · · · · · · · · · · ·					
Set the transmission speed within the above range.  4) Station number setting switch  Select "10", "20", or "40" for the tens place.  Select "1", "2", "4", or "8" for the ones place.  Set the station number within the range of 1 to 64.*1  Station  Tens place  Ones place  number  40  20  10  8  4  2							
Station number setting switch  Select "10", "20", or "40" for the tens place.  Select "11", "2", "4", or "8" for the ones place.  Set the station number within the range of 1 to 64.*1  Station Tens place Ones place number 40 20 10 8 4 2		<u> </u>					
Select "1", "2", "4", or "8" for the ones place.  Set the station number within the range of 1 to 64.*1  Station Tens place Ones place number 40 20 10 8 4 2		a range.					
Set the station number within the range of 1 to 64.*1  Station Tens place Ones place number 40 20 10 8 4 2							
Station number         Tens place         Ones place           40         20         10         8         4         2	·						
number 40 20 10 8 4 2							
	1 OFF OFF OFF	OFF OFF ON					
2 OFF OFF OFF OFF ON							
3 OFF OFF OFF OFF ON							
: : : : : : 10 OFF OFF ON OFF OFF							
11 OFF OFF ON OFF OFF	: : :						
: : : : : : : : : : : : : : : : : : :	: : : : 10 OFF OFF ON						
	: : : : : : : : : : : : : : : : : : :	055 011 055 555					
(Example) Setting the station number to 32:	: : : : : : : : : : : : : : : : : : :	OFF ON OFF OFF					
Station Tens place Ones place	: : : : : : : : : : : : : : : : : : :						
	:   :   :   :   :	: Ones place					
32 OFF ON ON OFF OFF ON	:   :   :   :   :	Ones place 8 4 2 1					

<sup>\*1</sup> A unique station number should be set.

No.	Item	Description
5)	Connector for communication	One-touch connector for communication line.
		When carrying out wiring, connect two optional one-touch connector plugs for
		communication (A6CON-L5P) at top and bottom.
		When changing the module online, connect the optional online connectors
		(A6CON-LJ5P) between the connector and plugs.
		When the module is used at either end of the CC-Link system, attach an
		optional one-touch connector plug with terminating resistor (110 $\Omega$ ) (A6CON-
		TR11(N)).
6)	Connector for power supply and	One-touch connector for module power supply line, I/O power supply line, and
	FG	FG.
		When carrying out jumper wiring, connect two optional one-touch connector
		plugs for power supply and FG at top and bottom. Two different types
		(A6CON-PW5P, A6CON-PW5P-SOD) are available as the one-touch
		connector plugs for power supply and FG.
		When not carrying out jumper wiring, also connect the plugs (for safety and
		dust prevention).
		When changing the module online, connect the optional online connectors
		(A6CON-PWJ5P) between the connector and plugs.
7)	Connector for I/O	Connector for I/O signals.
8)	DIN rail hook	Hook to install the module to the DIN rail or connector type Metal installation
		fitting (option). When mounting the module to a DIN rail, push in the DIN rail
		hook until it clicks.
9)	Mounting bracket (accessory)	Used to install the module to a control panel.
10)		(Can be attached in two different ways, 9) and 10).)
		Holding fixtures for screw installation are removal.

#### **3 GENERAL SPECIFICATIONS**

The following table lists the general specifications of the compact type remote I/O module.

Item	Specifications							
Operating ambient temperature		0 to 55°C * <sup>6</sup>						
Storage ambient temperature	-20 to 75°C * <sup>6</sup>							
Operating ambient humidity	(Th	10 to 90% RH, non-condensing (The waterproof type remote I/O module is compliant with IP67. * <sup>4</sup> )						
Storage ambient humidity		1	0 to 90% RH, no	on-condensing				
			Frequency	Constant acceleration	Half amplitude	Sweep count		
	Compliant with JIS B 3502 and IEC 61131-2	Under intermittent	5 to 8.4Hz	_	3.5mm	10 times each		
Vibration resistance		vibration	8.4 to 150Hz	9.8m/s <sup>2</sup>	_	in X, Y, Z directions		
		Under continuous	5 to 8.4Hz	_	1.75mm			
		vibration	8.4 to 150Hz	4.9m/s <sup>2</sup>	_	_		
Shock resistance	Compliant with JIS B 3502 and IEC 61131-2							
Chock resistance	(147 m/s <sup>2</sup> , 3 times each in 3 directions X, Y, Z)							
Operating atmosphere			No corrosiv	e gases				
Operating altitude * 3	0 to 2000m							
Installation location	Inside a control panel * 5							
Overvoltage category * 1	II or less							
Pollution degree * 2			2 or le	ess				

- \*1 This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within premises.
  - Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 300V is 2500V.
- \*2 This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used.

  Pollution level 2 is when only non-conductive pollution occurs. A temporary conductivity caused by condensing must be expected occasionally.
- \*3 Do not use or store the programmable controller under pressure higher than the atmospheric pressure of altitude 0m. Doing so may cause malfunction. When using the programmable controller under pressure, please consult your local Mitsubishi representative.
- \*4 This applies only when all waterproof connectors are being used or when waterproof caps are attached to unused waterproof connectors or pipes. (Only the AJ65SBTW□-16□ has pipes.)
- \*5 The module can be used in an environment other than inside a control panel if the conditions such as the operating ambient temperature and humidity are satisfied.
- \*6 For the waterproof type remote I/O module (AJ65SBTW□-16□ only), the operating ambient temperature and storage ambient temperature will be as follows.

Ite	Specifications	
Operating ambient temperature	0 to 45°C	
Otana na ambiant tamana antona	Not wired (individual product)	-20 to 65°C
Storage ambient temperature	Wired (after cable installation)	-10 to 55°C

### REMARK

To ensure that the product maintains EMC and Low Voltage Directives, certain measures may be necessary. Please refer to the user's manual for the CPU module used.

MEMO	

#### 4 SPECIFICATIONS FOR INPUT MODULES

This chapter describes the specifications for a input module that can be connected to the CC-Link system.

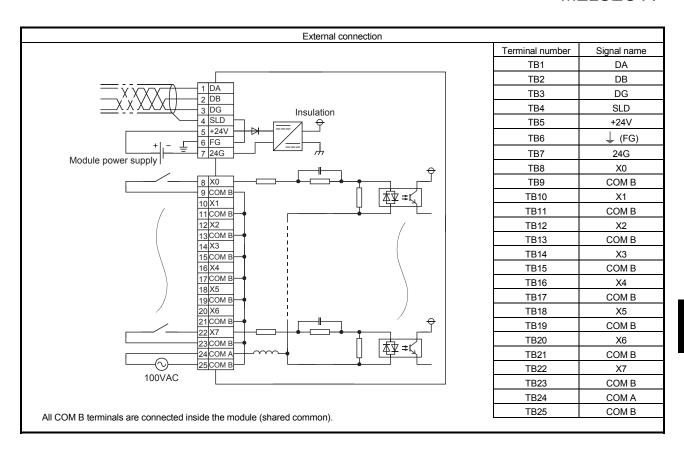
#### 4.1 Terminal Block Type Input Module

#### 4.1.1 AJ65SBTB2N-8A 100VAC input module

Туре			AC input module	
Item			AJ65SBTB2N-8A	Appearance
Number of	input points		8 points	
Isolation method			Photocoupler	
Rated input	t voltage/rated	frequency	100 to 120VAC, 50/60Hz	
Rated input	t current		Approx. 7mA (at 100VAC, 60Hz)	7
	oltage range		85 to 132VAC (50/60Hz ±3Hz, ripple ratio: within 5%)	7
	er of simultane	eous input	100% (at 110VAC)	
points			60% (at 132VAC)	
Max. inrush	current		200mA within 1ms (at 132VAC)	7
ON voltage	ON current		80VAC or higher/3.5mA or higher	
OFF voltag	e/OFF current		30VAC or lower/1.7mA or lower	7
Input resist	ance		Approx.15kΩ at 60Hz, approx.18kΩ at 50Hz	
Response t		OFF→ON	20ms or less (at 100VAC, 60Hz)	7
		ON→OFF	20ms or less (at 100VAC, 60Hz)	1
Wiring metl	hod for commo	- 1	8 points/common (2-wire, terminal block type)	
	occupied statio		32-point assignment/station (8 points used)	
Module pov		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	1   1   1   1   1   1   1   1   1   1
		Current	35mA or lower (at 24VDC and all points ON)	
Noise immu	ınitv	1000000	Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs,	
	y		noise frequency 25 to 60Hz (noise simulator condition)	XS X
			Fast transient/burst immunity test IEC 61000-4-4:1kV	LEUN LERG.   LEU
Withstand v	voltage		1780VACrms for 3 cycles between all AC external terminals and ground	PW LRI
	3-		(2000m above sea level)	
			500VAC for 1 minute between all DC external terminals and ground	
Insulation r	esistance		10M $\Omega$ or higher between all AC external terminals and ground (500VDC	
			insulation resistance tester)	WAYS THE BELL OF T
			$10M\Omega$ or higher between all DC external terminals and ground (500VDC	
			insulation resistance tester)	
Weight	•		0.20kg	24 S S S S S S S S S S S S S S S S S S S
External	Communication	on part,	7-point two-piece terminal block	
connection	module power	r supply part	[Transmission circuit, module power supply, FG]	BTB2N-8, BTB2N-8, SLD   1
system			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	1
			Applicable solderless terminal: 2 or less	DAL T
	I/O power sup	oply part,	18-point direct-mount terminal block	
	I/O part		[I/O power supply, I/O signal]	
			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	_
Module mounting screw			M4 screw with plain washer finished round	
			(tightening torque range: 0.78 to 1.08N•m)	
Applicable DIN rail			Mountable with a DIN rail in 6 orientations  TH35 7 550, TH35 7 501 (compliant with IEC 60715)	$\dashv$
Applicable DIN rail Applicable solderless terminal		ninal	TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)	-
Applicable	soluelless (efff	midi	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
			• V2-MS3, RAP2-3SL, TGV2-3N	
			Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire	
Wire	Material		Copper	$\dashv$
	Temperature	rating	75°C or more	7
Accessory		<u> </u>	User's manual	7
				•

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

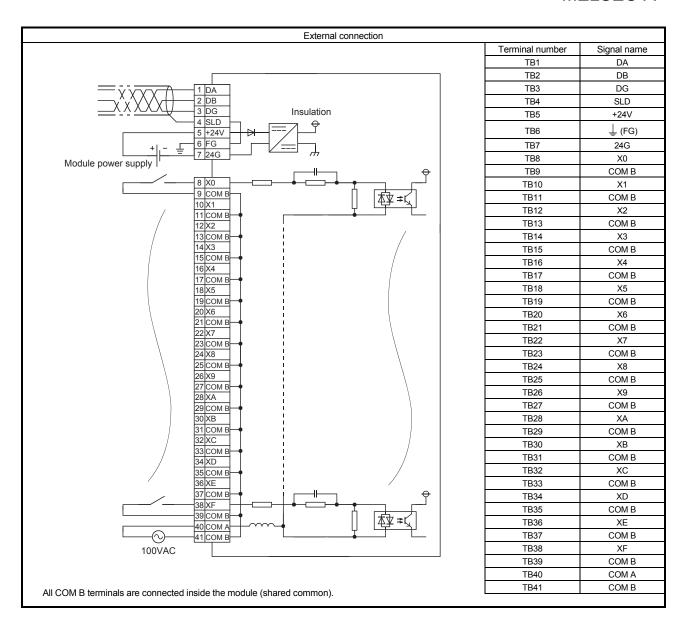
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#### 4.1.2 AJ65SBTB2N-16A 100VAC input module

		Type	AC input module		
Item			AJ65SBTB2N-16A	Appea	arance
Number of	input points		16 points		
Isolation method			Photocoupler		
Rated inpu	t voltage/rated fre	equency	100 to 120VAC, 50/60Hz		
Rated inpu	t current		Approx. 7mA (at 100VAC, 60Hz)		
Operating v	voltage range		85 to 132VAC (50/60Hz ±3Hz, ripple ratio: within 5%)		
Max. numb	er of simultaneou	ıs input	100% (at 110VAC),		
points			60% (at 132VAC)		
Max. inrush	n current		200mA within 1ms (at 132VAC)		
ON voltage	e/ON current		80VAC or higher/5mA or higher		
OFF voltag	e/OFF current		30VAC or lower/1.7mA or lower		
Input resist	ance		Approx.15kΩ at 60Hz, approx.18kΩ at 50Hz		
Response	time	OFF→ON	20ms or less (at 100VAC, 60Hz)		(3)
		ON→OFF	20ms or less (at 100VAC, 60Hz)	O E F	
Wiring met	hod for common		16 points/common (2-wire, terminal block type)	MAS A 8 C D E F	
Number of	occupied stations	3	32-point assignment/station (16 points used)		
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	x01234567	
		Current	40mA or lower (at 24VDC and all points ON)	WE X	
Noise imm	unity		Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs,	WB R	
	,		noise frequency 25 to 60Hz (noise simulator condition)	OMB CO	
			Fast transient/burst immunity test IEC61000-4-4:1kV	Ne Sign	
Withstand	voltage 1780VACrms for 3 cycles between all AC external terminals and ground (2000m above				
	· ·		sea level)	XX XX	
			500VAC for 1 minute between all DC external terminals and ground	X X X	( M
Insulation r	esistance		10M $\Omega$ or higher between all AC external terminals and ground (500VDC insulation	XS XS	
			resistance tester)		
			$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation	N S S S S S S S S S S S S S S S S S S S	( M
			resistance tester)	H H H H H H H H H H H H H H H H H H H	
Weight			0.25kg		
External	Communication	part,	7-point two-piece terminal block	BBBBB Combi	
connection	module power s	upply part	[Transmission circuit, module power supply, FG]		
system			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	V 24	
			Applicable solderless terminal: 2 or less	SBTB21	
	I/O power supply	y part,	34-point direct-mount terminal block	MAN DO 1-24V	
	I/O part		[I/O power supply, I/O signal]		
			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
			Applicable solderless terminal: 2 or less		
Module mounting screw			M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)		
A			Mountable with a DIN rail in 6 orientations		
	Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)		
Applicable	solderless termin	al	• RAV1.25-3 (compliant with JIS C 2805)		
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
			• V2-MS3, RAP2-3SL, TGV2-3N		
Wire	Material		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		
vviie	Temperature rat	ina	Copper 75°C or more		
Accessory	Tremperature rat	ıı ıy	User's manual		
, locessory			OGG 5 Manual		

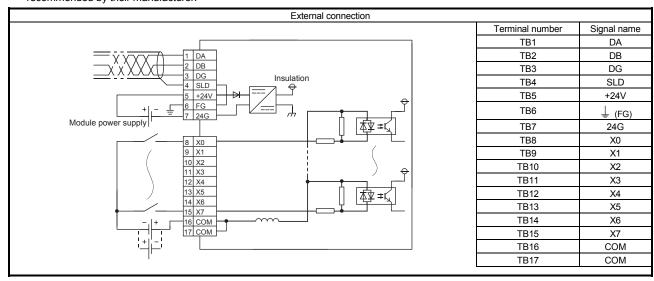
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 4.1.3 AJ65SBTB1-8D 24VDC input module (positive common (sink), negative common (source) loading)

	Type	DC input module	
Item	.),,,	AJ65SBTB1-8D	Appearance
	input points	8 points	
Isolation method		Photocoupler	<u>;</u>
Rated input	t voltage	24VDC	<u>;</u>
Rated input		Approx. 7mA	
Operating v	voltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	į
Max. numb	er of simultaneous	100%	<u> </u>
input points	3		<u> </u>
ON voltage	e/ON current	14VDC or higher/3.5mA or higher	<u> </u>
OFF voltag	e/OFF current	6VDC or lower/1.7mA or lower	
Input resista	ance	Approx. 3.3kΩ	
Response t	time OFF→ON	1.5ms or less (at 24VDC)	
	ON→OFF	1.5ms or less (at 24VDC)	
Wiring meth	hod for common	8 points/common (2 points) (1-wire, terminal block type)	
Input type		Positive/negative common shared type (sink/source shared type)	
Number of	occupied stations	32-point assignment/station (8 points used)	
Module pov	wer supply Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
	Current	30mA or lower (at 24VDC and all points ON)	
Noise immu	unity	Noise voltage 500Vp-p, noise width 1µs,	
		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand v	voltage	500VAC for 1 minute between all DC external terminals and ground	
Insulation re	esistance	10M $\Omega$ or higher between all DC external terminals and ground (500VDC	2 3 4 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		insulation resistance tester)	
Protection of	degree	IP2X	F. Y. S.
Weight	T	0.14kg	½cm   <b>4</b>
External	Communication part,	7-point two-piece terminal block [Transmission circuit, module power supply, FG]	
	module power supply	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	PAO NO
system	part	Applicable solderless terminal: 2 or less	
	I/O power supply part,	10-point direct-mount terminal block [I/O power supply, I/O signal] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
	I/O part	Applicable solderless terminal: 2 or less	
Module mo	ounting screw	M4 screw with plain washer finished round	i
module me	ariting corow	(tightening torque range: 0.78 to 1.08N•m)	
		Mountable with a DIN rail in 6 orientations	I
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	į
Applicable solderless terminal		RAV1.25-3 (compliant with JIS C 2805)	į
7 7 7		[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	I
		• V2-MS3, RAP2-3SL, TGV2-3N	
		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	<u> </u>
Wire	Material	Copper	<u></u>
	Temperature rating	75°C or more	l
Accessory		User's manual	

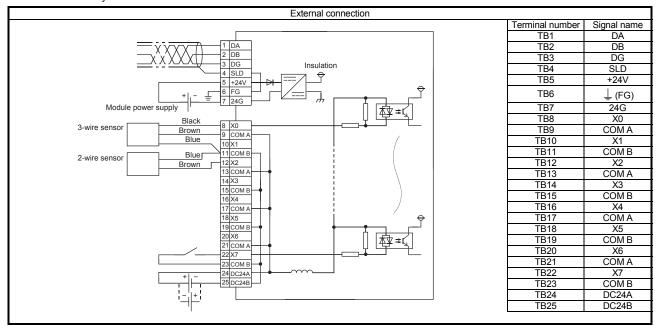
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 4.1.4 AJ65SBTB3-8D 24VDC input module (positive common (sink), negative common (source) loading)

	_	Туре	DC input module			
Item			AJ65SBTB3-8D	Appea	rance	
Number of in	nput points		8 points			
Isolation method			Photocoupler	1		
Rated input voltage			24VDC	1		
Rated input			Approx. 7mA			
Operating vo	oltage range		19.2 to 26.4VDC (ripple ratio: within 5%)			
	er of simultaneo	ous input	100%			
points						
ON voltage/	ON current		14VDC or higher/3.5mA or higher			
OFF voltage	OFF current		6VDC or lower/1.7mA or lower	1∥		
Input resista	nce		Approx. $3.3k\Omega$			
Response ti	me	OFF→ON	1.5ms or less (at 24VDC)	HH HH		(33)
l '		ON→OFF	1.5ms or less (at 24VDC)	H + 1 100 1	(3)	_
Wiring meth	od for commor	1	8 points/common (3-wire, terminal block type)		1	(33)
Input type			Positive/negative common shared type (sink/source shared type)	X6 CO	(3)	_
Supply curre	ent for connect	ed device	1.0A or lower/common	STATIONA 4020-1018-4 1		(B)
Number of o	occupied station	าร	32-point assignment/station (8 points used)			
Module pow	er supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	Z← 300	(3)	
	,	Current	40mA or lower (at 24VDC and all points ON)		_	
Noise immu	nity	•	Noise voltage 500Vp-p, noise width 1µs,			1 T
	,		noise frequency 25 to 60Hz (DC type noise simulator condition)			
Withstand vo	oltage		500VAC for 1 minute between all DC external terminals and ground			_
Insulation re	sistance		10MΩ or higher between all DC external terminals and ground (500VDC	11 유버刻	_	
			insulation resistance tester)	MALX IBS	(3)	
Protection d	egree		IP2X		(23)	
Weight			0.18kg			
External	Communicat		7-point two-piece terminal block [Transmission circuit, module power supply, FG]			(33)
connection	module power	er supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	2 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(3)	
system			Applicable solderless terminal: 2 or less	X0.1.2 N0.1.2 Z4V.2	_	(33)
	I/O power su	pply part,	18-point direct-mount terminal block [I/O power supply, I/O signal]	X01 2 3 4		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less	E		(33)
Module mou	Inting corour		M4 screw with plain washer finished round	DA DG	(3)	(2)
Module IIIou	inting screw		(tightening torque range: 0.78 to 1.08N•m)		(23)	(3)
			Mountable with a DIN rail in 6 orientations			
Applicable DIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)			
Applicable solderless terminal		nal	• RAV1.25-3 (compliant with JIS C 2805)			
Applicable soldeness terrillial		iiai	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]			
			• V2-MS3, RAP2-3SL, TGV2-3N			
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]			
Wire	Material		Copper			
	Temperature	rating	75°C or more	1		
Accessory		<u> </u>	User's manual	1		
	. I' I- I I - I -		als connected to the terminal block, refer to the table above. Use applical		-   -	

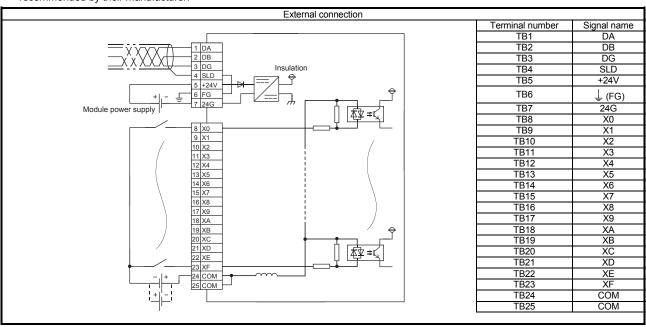
\* For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 4.1.5 AJ65SBTB1-16D 24VDC input module (positive common (sink), negative common (source) loading)

	_	Туре	DC input module	
Item			AJ65SBTB1-16D	Appearance
Number of	input points		16 points	'
Isolation m			Photocoupler	1
Rated input voltage			24VDC	1
Rated input current			Approx. 7mA	1
Operating	voltage rang	je	19.2 to 26.4VDC (ripple ratio: within 5%)	1
Max. numb	er of simulta	aneous input	100%	1
points				
ON voltage	ON current	i	14VDC or higher/3.5mA or higher	
OFF voltag	e/OFF curre	ent	6VDC or lower/1.7mA or lower	
Input resist	ance		Approx. 3.3kΩ	
Response	time	OFF→ON	1.5ms or less (at 24VDC)	H H H H H H H H H H H H H H H H H H H
		ON→OFF	1.5ms or less (at 24VDC)	
Wiring met	hod for com	mon	16 points/common (2 points) (1-wire, terminal block type)	
Input type			Positive/negative common shared type (sink/source shared type)	X X X X X X X X X X X X X X X X X X X
	occupied st	ations	32-point assignment/station (16 points used)	
Module por	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
		Current	35mA or lower (at 24VDC and all points ON)	
Noise imm	unity		Noise voltage 500Vp-p, noise width 1µs,	1 11 1(53) 1//
			noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand			500VAC for 1 minute between all DC external terminals and ground	
Insulation r	esistance		$10 \text{M}\Omega$ or higher between all DC external terminals and ground (500VDC	
			insulation resistance tester)	X X X X X X X X X X X X X X X X X X X
Protection	degree		IP2X	ALGESBER1-160  ALGESB
Weight			0.18kg	
External	Communic		7-point two-piece terminal block	
	module po	wer supply	[Transmission circuit, module power supply, FG]	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
system	part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	MASSEE (FO)
	I/O now/27	ounnly nort	Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply, I/O signal]	
	I/O power	supply part,	M3×5.2 screw(tightening torque range: 0.59 to 0.88N•m)	
	no part		Applicable solderless terminal: 2 or less	
Module mo	ounting screv	A/	M4 screw with plain washer finished round	<b>-</b>
IVIOUUIC IIIC	Junuing Sole	•	(tightening torque range: 0.78 to 1.08N•m)	80 80 80 80 80 80 80 80 80 80 80 80 80 8
			Mountable with a DIN rail in 6 orientations	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
Applicable solderless terminal		erminal	• RAV1.25-3 (compliant with JIS C 2805)	
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
			V2-MS3, RAP2-3SL, TGV2-3N     [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	
Wire	Material		Copper	1
	Temperatu	re rating	75°C or more	1
Accessory	, p	J	User's manual	1

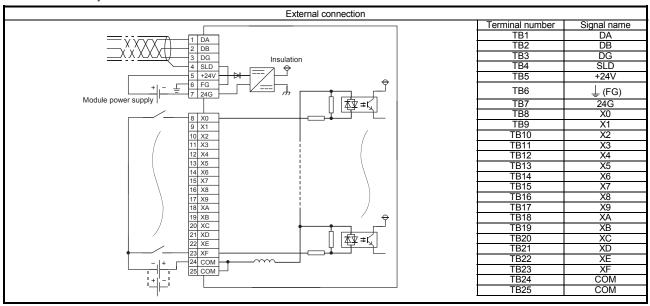
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 4.1.6 AJ65SBTB1-16D1 24VDC input module (positive common (sink), negative common (source) loading)

	_	Туре	DC input module	
Item			AJ65SBTB1-16D1	Appearance
Number of	input points		16 points	
Isolation m	ethod		Photocoupler	
			24VDC	
Rated inpu	it current		Approx. 5mA	
Operating v	voltage rang	е	19.2 to 26.4VDC (ripple ratio: within 5%)	
Max. numb points	oer of simulta	aneous input	100%	
	e/ON current		15VDC or higher/3mA or higher	
OFF voltag	ge/OFF curre	ent	3VDC or lower/0.5mA or lower	
Input resist	tance		Approx. 4.7kΩ	
Response		OFF→ON	0.2ms or less (at 24VDC)	
	(	ON→OFF	0.2ms or less (at 24VDC)	
Wiring met	hod for com	mon	16 points/common (2 points) (1-wire, terminal block type)	
Input type			Positive/negative common shared type (sink/source shared type)	SEATION NO. 10 TO
Number of	occupied st	ations	32-point assignment/station (16 points used)	
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
		Current	40mA or lower (at 24VDC and all points ON)	
Noise immi	unity		Noise voltage 500Vp-p, noise width 1µs,	
	-		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation r	resistance		$10M\Omega$ or higher between all DC external terminals and ground (500VDC	
			insulation resistance tester)	
Protection (	degree		IP2X	
Weight			0.18kg	
External	Communic		7-point two-piece terminal block	
	module po	wer supply	[Transmission circuit, module power supply, FG]	
system	part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less	11 2 3 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
	I/O nower	supply part,	18-point direct-mount terminal block [I/O power supply, I/O signal]	2 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -
	I/O part	supply part,	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	
Module mo	ounting screv	V	M4 screw with plain washer finished round	
	Ü		(tightening torque range: 0.78 to 1.08N•m)	
			Mountable with a DIN rail in 6 orientations	
Applicable DIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
Applicable solderless terminal		erminal	RAV1.25-3 (compliant with JIS C 2805)	
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
			V2-MS3, RAP2-3SL, TGV2-3N     [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	
Wire	Material		Copper	
	Temperatu	re rating	75°C or more	
Accessory		io rating	User's manual	
			ningle connected to the terminal block, refer to the table above. Use any	

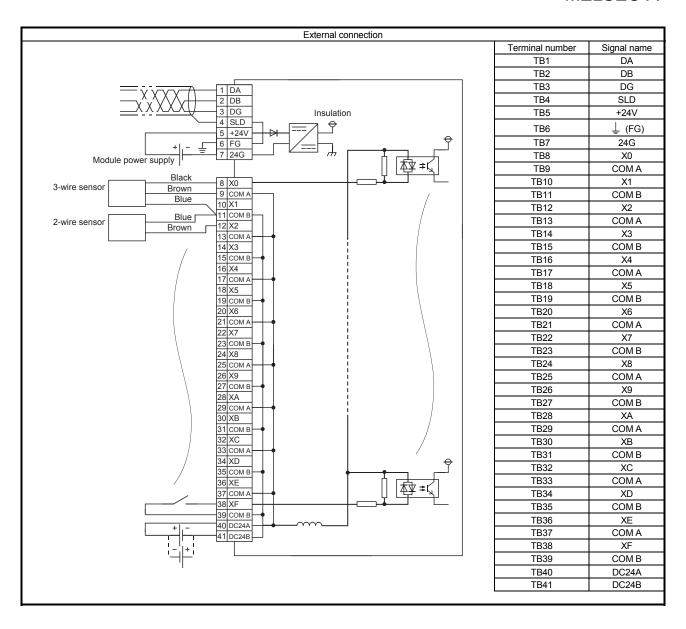
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



# 4.1.7 AJ65SBTB3-16D 24VDC input module (positive common (sink), negative common (source) loading)

		Туре	DC input module		
Item	Item		AJ65SBTB3-16D	Appe	arance
Number of	input points		16 points		
Isolation method			Photocoupler		
Rated input voltage			24VDC		
Rated input	t current		Approx. 7mA		
Operating v	voltage range		19.2 to 26.4VDC (ripple ratio: within 5%)		
Max. numb	er of simultaneous	s input points	100%		
ON voltage	e/ON current		14VDC or higher/3.5mA or higher		
OFF voltag	e/OFF current		6VDC or lower/1.7mA or lower		
Input resist	ance		Approx. $3.3$ k $Ω$		
Response t	time	OFF→ON	1.5ms or less (at 24VDC)		
		ON→OFF	1.5ms or less (at 24VDC)	# B B B	
Wiring metl	hod for common		16points/common (3-wire, terminal block type)	BBBBB xo xe x	1 8 18 18 1
Input type			Positive/negative common shared type (sink/source shared type)	MA CO	
Supply curr	rent for connected	device	1.0A or lower/common	N <del>≪</del> XC	
Number of	occupied stations		32-point assignment/station (16points used)	XB MA CC	
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	XA XA	
		Current	45mA or lower (at 24VDC and all points ON)		W   M
Noise imm	unity		Noise voltage 500Vp-p, noise width 1µs,	8X 88	
			noise frequency 25 to 60Hz (DC type noise simulator condition)	x7	
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground	x e	@  @
Insulation r	esistance		$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation	xs owa/c	W   M
			resistance tester)	X4	
Protection of	degree		IP2X	E x 3	
Weight			0.25kg	X88 A B C D E F O D D D D D D D D D D D D D D D D D D	ଔ ଲ 🎙
External	Communication p		7-point two-piece terminal block [Transmission circuit, module power supply, FG]	28783- 2000A C	
connection	module power su	pply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	AJ658	
system			Applicable solderless terminal: 2 or less	X0 1 2 3 4 5 6 7 	
	I/O power supply	part,	34-point direct-mount terminal block [I/O power supply, I/O signal]	X0 1 2	
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	UNLERR.  DG +	
			Applicable solderless terminal: 2 or less		
Module mo	ounting screw		M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)		
A self-self-s DIM self-			Mountable with a DIN rail in 6 orientations		
Applicable DIN rail		d	TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)		
Applicable solderless terminal		II	<ul> <li>RAV1.25-3 (compliant with JIS C 2805)</li> <li>[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]</li> </ul>		
			• V2-MS3, RAP2-3SL, TGV2-3N		
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		
Wire	Material		Copper		
	Temperature ratir	ng	75°C or more		
Accessory			User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

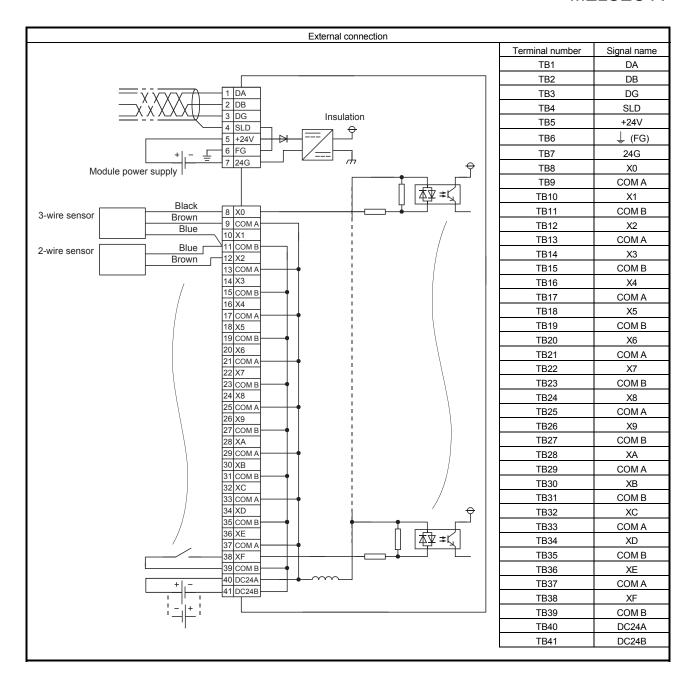


### 4.1.8 AJ65SBTB3-16KD 24VDC input module (positive common (sink), negative common (source) loading)

	_	Туре			DC input modu	le		
Item		AJ65SBTB3-16KD			Appearance			
Number of input points		16 points						
Number of input points Isolation method			Photocoupler				1	
Rated input	t voltage		24VDC					
Rated input			Approx. 7mA					
Operating v	voltage range		20.4 to 28.8VDC (ripp	ole ratio: within 5%)				
Max. numb	er of simultan	eous input points	100%	•				
ON voltage	e/ON current		14VDC or higher/4m/	A or higher				
OFF voltage	je/OFF current	t	5.5VDC or lower/1.7n	nA or lower			l	
Input resista	ance		Approx. 3.0kΩ				5 <del>-</del>	
Response t	time	Input response speed	0.2ms	1.5ms	5ms	10ms	100   XE   XE   XE   XE   XE   XE   XE	88888888888888888888888888888888888888
		OFF→ON	0.2ms or less	1.5ms or less	5ms or less	10ms or less		
		ON→OFF	0.2ms or less	1.5ms or less	5ms or less	10ms or less	3 A 100 NS OF THE BEAT OF THE SECOND TO SECOND THE SECO	
Wiring meth	hod for commo	on	16 points/common (3-	-wire, terminal block ty	rpe)		B B B B B COMM	1 % 1 ® h
Input type			Positive/negative com	nmon shared type (sin	k/source shared type)			
Supply curr	rent for connec	cted device	1.0A or lower/commo	n			(0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	
Number of	occupied stati	ons	32-point assignment/s	station (16 points used	1)		W SUND	
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)					
		Current	50mA or lower (at 24VDC and all points ON)			X8 COMB		
Noise immu	unity		20.4 to 26.4VDC (ripple ratio: within 5%)  50mA or lower (at 24VDC and all points ON)  Noise voltage 500Vp-p, noise width 1µs,					
			noise frequency 25 to 60Hz (DC type noise simulator condition)					
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground				XS XS	
Insulation re	resistance		$10M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)				3 X4 OOMB 00	
Protection of	degree		IP2X			A SOUND NOT THE REPORT OF THE PERSON NAMED IN COLUMN NAMED IN		
Weight			0.26kg					
External	Communicat	ion part,	7-point two-piece tern	ninal block [Transmiss	ion circuit, module po	wer supply, FG]		
connection	module power	er supply part		ning torque range: 0.5				
system			Applicable solderless	terminal: 2 or less			3 4 5	
	I/O power su	pply part,	34-point direct-mount	terminal block [I/O po	wer supply, I/O signal	]	RX01 2 3 4 5 6 7  □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	
	I/O part		M3×5.2 screw (tighter	34-point direct-mount terminal block [I/O power supply, I/O signal]  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less				
			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less					
Module mo	ounting screw		M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)					
		Mountable with a DIN rail in 6 orientations						
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)			4			
Applicable solderless terminal		• RAV1.25-3 (compliant with JIS C 2805)						
		[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]			wire]			
			V2-MS3, RAP2-3SL     Applicable wire size	_, TGV2-3N e: 1.25 to 2.0mm² (16	to 14 AWC) atranded	wirol		
Wire	Material		Copper	z. 1.∠3 (U ∠.UIIIII¹ (10	io 14 AWG) stranded	wiiej	1	
vviie	Temperature	rating	75°C or more				1	
Accessory	1. Simporature	19	User's manual				1	
ACCESSOI Y			Usei s iliallual				l	

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

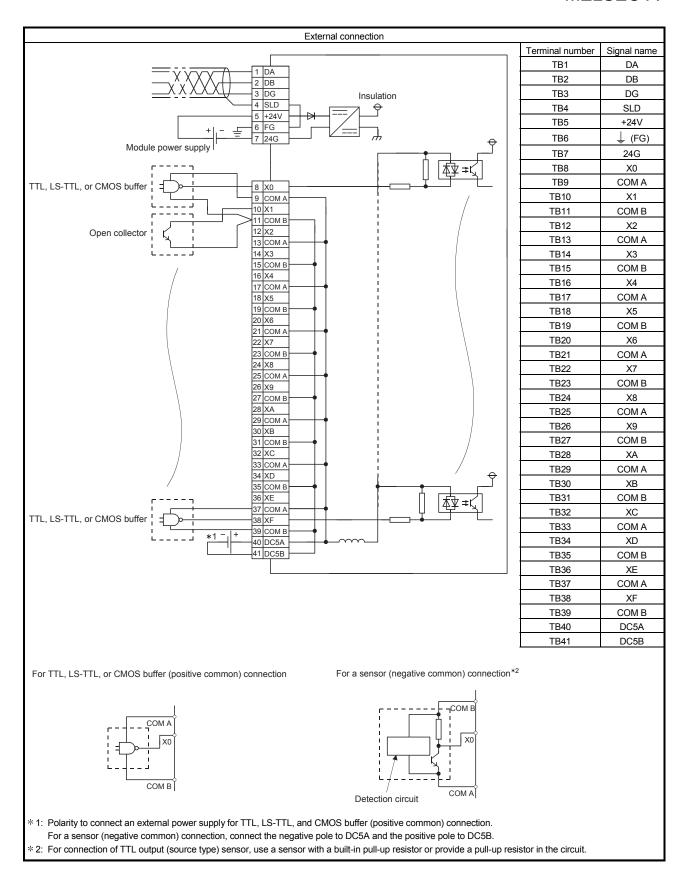
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### 4.1.9 AJ65SBTB3-16D5 5VDC input module (positive common (sink), negative common (source) loading)

	_	Туре	DC input module			
Item			AJ65SBTB3-16D5	Appea	arance	
Number of input points			16 points			
Isolation method			Photocoupler			
Rated input voltage			5VDC			
Rated input	t current		Approx. 4mA			
Operating v	oltage range		4.25 to 6VDC (ripple ratio: within 5%)			
Max. numb	er of simultaneo	ous input	100%			
points						
ON voltage	ON current		3.5VDC or higher/2mA or higher			
OFF voltage	e/OFF current		1.5VDC or lower/1mA or lower	B B B B B B B B B B B B B B B B B B B		
Input resista	ance		Approx. 1.0kΩ	A 2 1 4 8 R		
Response t	time	OFF→ON	1.5ms or less (at 5VDC)			
		ON→OFF	1.5ms or less (at 5VDC)	STATION PAGE 1018 - X		
Wiring meth	hod for commor	1	16 points/common (3-wire, terminal block type)	N + O		
Input type			Positive/negative common shared type (sink/source shared type)	- OWE		
Supply curr	rent for connecte	ed device	1.0A or lower/common	OOMA		
Number of	occupied statior	าร	32-point assignment/station (16 points used)	N N N N N N N N N N N N N N N N N N N		
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	X9		
		Current	30mA or lower (at 24VDC and all points ON)	X8 X8		
Noise immu	unity		Noise voltage 500Vp-p, noise width 1µs,	X7 A C00		
			noise frequency 25 to 60Hz (DC type noise simulator condition)	COM		
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground	2 2 2		
Insulation re	esistance		10M $\Omega$ or higher between all DC external terminals and ground (500VDC insulation	X		
			resistance tester)	OMB X4		
Protection of	degree		IP2X	X X X		
Weight			0.25kg			
External	Communication	n part,	7-point two-piece terminal block [Transmission circuit, module power supply, FG]	X8 9 A B C D E F		
connection	module power	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	7 X8 9 , 2		
system			Applicable solderless terminal: 2 or less	X		
	I/O power supp	oly part,	34-point direct-mount terminal block [I/O power supply, I/O signal]	# H # # H # H # H # H # H # H # H # H #		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	01 2 01 2 01 2 01 2		
			Applicable solderless terminal: 2 or less	SLD SLD		
Module mo	unting screw		M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)	NN B A BB		
			Mountable with a DIN rail in 6 orientations			
	Applicable DIN rail		TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)			
Applicable solderless terminal		nal	• RAV1.25-3 (compliant with JIS C 2805)			
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]			
			V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire gize: 1.25 to 2.0mm² (16 to 14 AWC) stranded wire]			
Wire	Material		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Copper			
***	Temperature ra	ating	75°C or more			
Accessory	1		User's manual			
			Internal Control of the Control of t			

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

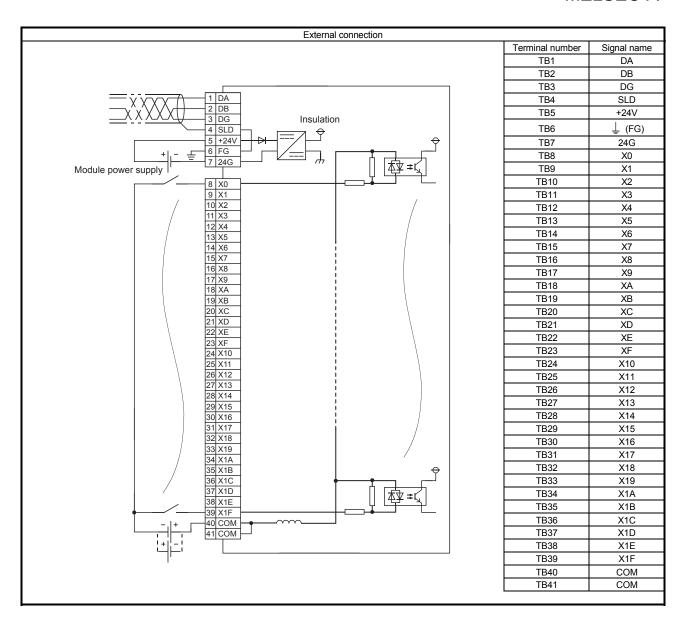


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# 4.1.10 AJ65SBTB1-32D 24VDC input module (positive common (sink), negative common (source) loading)

	_	Туре	DC input module		
Item			AJ65SBTB1-32D	Appeara	ance
Number of	input points		32 points	•	
Isolation method			Photocoupler	1	
Rated input voltage			24VDC	1	
Rated input			Approx. 7mA	1	
Operating v	oltage range		19.2 to 26.4VDC (ripple ratio: within 5%)		
	er of simultaneo	us input	100%	1	
points		•			
ON voltage	ON current		14VDC or higher/3.5mA or higher		<u> </u>
OFF voltag	e/OFF current		6VDC or lower/1.7mA or lower		(B) (B)
Input resista	ance		Approx. 3.3kΩ	BENTE 1421	@  W
Response t	time	OFF→ON	1.5ms or less (at 24VDC)		@ L
		ON→OFF	1.5ms or less (at 24VDC)	BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	
Wiring meth	hod for common		32 points/common (2 points) (1-wire, terminal block type)		
Input type			Positive/negative common shared type (sink/source shared type)		
Number of	occupied station	S	32-point assignment/station (32 points used)	1 x16	
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	X X X X X X X X X X X X X X X X X X X	
		Current	45mA or lower (at 24VDC and all points ON)		@   @ F
Noise immu	unity	•	Noise voltage 500Vp-p, noise width 1µs,	1 1 5 E 1 5 E 1 1 0 0 1 5	
	-		noise frequency 25 to 60Hz (DC type noise simulator condition)	74 B 14 B 17 K 18 B 17 K 1	@  W
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground	1 II× 1911 I	@  W
Insulation re	esistance		10M $\Omega$ or higher between all DC external terminals and ground (500VDC insulation	01121314 15.617	
			resistance tester)	x 8 x	
Protection of	degree		IP2X		
Weight			0.25kg	× × × × × × × × × × × × × × × × × × ×	
External	Communication	part,	7-point two-piece terminal block [Transmission circuit, module power supply, FG]	SBTB1-32D	
connection	module power s	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	8 4 Bl - 3 C C C C C C C C C C C C C C C C C C	()~()   ~ //
system			Applicable solderless terminal: 2 or less		
	I/O power suppl	ly part,	34-point direct-mount terminal block [I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw(tightening torque range: 0.59 to 0.88N•m)	2 3 4 4 MBIS	0:0 1 - 1/1
			Applicable solderless terminal: 2 or less	,	
Module mo	unting screw		M4 screw with plain washer finished round	NI ERR	@  W
			(tightening torque range: 0.78 to 1.08N•m)	PW L RUN	
			Mountable with a DIN rail in 6 orientations		
Applicable DIN rail			TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)		
Applicable solderless terminal		nal	• RAV1.25-3 (compliant with JIS C 2805)		
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
			• V2-MS3, RAP2-3SL, TGV2-3N		
Wire	Material		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Copper	1	
vviie	Temperature ra	tina	75°C or more	1	
Accessory	i cinperature ra	9	User's manual	1	
у			Lance a common.		

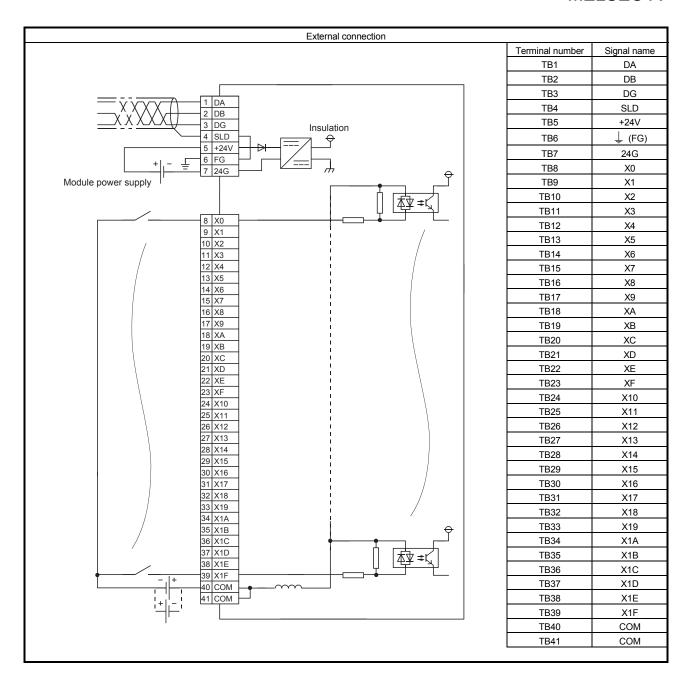
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



# 4.1.11 AJ65SBTB1-32KD 24VDC input module (positive common (sink), negative common (source) loading)

	_	Type			DC input mod	dule		
Item		AJ65SBTB1-32KD				Appearance		
Number of input points			32 points					
Isolation method F		Photocoupler				1		
		24VDC						
Rated input voltage  Rated input current		Approx. 7mA				1		
Operating v	voltage range		20.4 to 28.8VDC (rip)	ple ratio: within 5%)			1	
Max. numb	er of simultane	eous input	100% (at 26.4VDC),	50% (at 28.8VDC)			1	
points							<u> </u>	
ON voltage	e/ON current		14VDC or higher/4m/	A or higher				
OFF voltag	e/OFF current		5.5VDC or lower/1.7r	mA or lower				
Input resist	ance		Approx. 3.0kΩ				BBB X1F COM	
D	P	Input response speed	0.2ms	1.5ms	5ms	10ms	HIB BIB	
Response	time	OFF→ON	0.2ms or less	1.5ms or less	5ms or less	10ms or less	H H H J XIA I S	
		ON→OFF	0.2ms or less	1.5ms or less	5ms or less	10ms or less	X   X   9   X	
Wiring metl	hod for commo	on	32 points/common (1	-wire, terminal block t	type)			
Input type			Positive/negative con	nmon shared type (si	nk/source shared type	e)	00 00 00 00 00 00 00 00 00 00 00 00 00	
Number of	occupied station	ons	32-point assignment/	station (32 points use	ed)			
Module pov	wer supply	Voltage	20.4 to 26.4VDC (rip)	ple ratio: within 5%)				
		Current	75mA or lower (at 24VDC and all points ON)				X XIII	
Noise imm	unity		Noise voltage 500Vp-p, noise width 1µs, noise frequency 25 to 60Hz (DC type noise simulator condition)					
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground					
Insulation r			10MΩ or higher between all DC external terminals and ground (500VDC insulation				(1011121314151617 	
			resistance tester)					
Protection of	degree		IP2X					
Weight			0.26kg				X8 9 A B C D E F C C C C C C C C C C C C C C C C C C	
External	Communicati	on part,	7-point two-piece terr	minal block [Transmis	sion circuit, module p	ower supply, FG]	32KD 8 B	
connection	module powe	er supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)				X8 9 SBTB1	
system			Applicable solderless	terminal: 2 or less			Avec	
	I/O power sup	oply part,	34-point direct-mount	t terminal block [I/O p	ower supply, I/O sign	al]	3 4 5 6 3 4 5 6 Massac A.	
	I/O part		M3×5.2 screw (tighte	ning torque range: 0.	59 to 0.88N•m)		X0 1 2	
			Applicable solderless	terminal: 2 or less				
Module mo	ounting screw		· ·	washer finished round			L SUN	3888 3888
		(tightening torque range: 0.78 to 1.08N•m)						
		Mountable with a DIN rail in 6 orientations						
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)			4			
Applicable solderless terminal		RAV1.25-3 (compliants)	,	N 1 - 40 ANN(O) -11 -	4			
				e: 0.3 to 1.25mm <sup>2</sup> (22	to 16 AVVG) strande	d wirej		
			V2-MS3, RAP2-3SI     Applicable wire size		to 14 ANAC) atranda	d wirol		
Wire	Material		Copper	e: 1.25 to 2.0mm <sup>2</sup> (16	O IO 14 AVVG) SITANDE	u wiiej	+	
VVIIE	Temperature	rating	75°C or more				1	
Accessory	. sinporaturo		User's manual				†	
, 10003301 y			Coor o manaar					

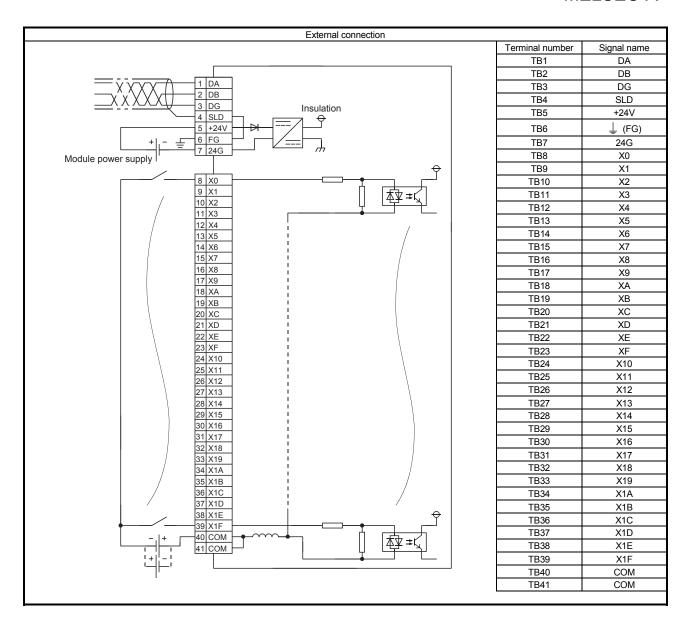
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



# 4.1.12 AJ65SBTB1-32D1 24VDC input module (positive common (sink), negative common (source) loading)

		Туре	DC input module	
Item			AJ65SBTB1-32D1	Appearance
Number of	input points		32 points	
Isolation method			Photocoupler	· · · · · · · · · · · · · · · · · · ·
Rated input voltage			24VDC	· ·
Rated inpu	t current		Approx. 5mA	· · · · · · · · · · · · · · · · · · ·
Operating v	voltage rang	е	19.2 to 26.4VDC (ripple ratio: within 5%)	· ·
Max. numb	er of simulta	aneous input	100%	
points		-		
ON voltage	ON current		15VDC or higher/3mA or higher	
OFF voltag	e/OFF curre	ent	3VDC or lower/0.5mA or lower	
Input resist	ance		Approx. $4.7$ kΩ	
Response	time	OFF→ON	0.2ms or less (at 24VDC)	
		ON→OFF	0.2ms or less (at 24VDC)	
Wiring met	hod for com	mon	32 points/common (2 points) (1-wire, terminal block type)	
Input type			Positive/negative common shared type (sink/source shared type)	
Number of	occupied st	ations	32-point assignment/station (32 points used)	
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
		Current	50mA or lower (at 24VDC and all points ON)	
Noise imm	unity		Noise voltage 500Vp-p, noise width 1µs,	
	-		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation r	esistance		10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
			insulation resistance tester)	
Protection	degree		IP2X	
Weight			0.25kg	
External	Communic	ation part,	7-point two-piece terminal block [Transmission circuit, module power supply, FG]	
connection	module por	wer supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
system			Applicable solderless terminal: 2 or less	
	I/O power s	supply part,	34-point direct-mount terminal block [I/O power supply, I/O signal]	
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	
Module mo	unting screv	N	M4 screw with plain washer finished round	
			(tightening torque range: 0.78 to 1.08N•m)	SS
			Mountable with a DIN rail in 6 orientations	
Applicable DIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
Applicable solderless terminal		erminal	• RAV1.25-3 (compliant with JIS C 2805)	
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
			• V2-MS3, RAP2-3SL, TGV2-3N	
Wire	Material		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Copper	}
VVIIE	Temperatu	re rating	75°C or more	
Accessory	. omporatu		User's manual	1
				i .

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

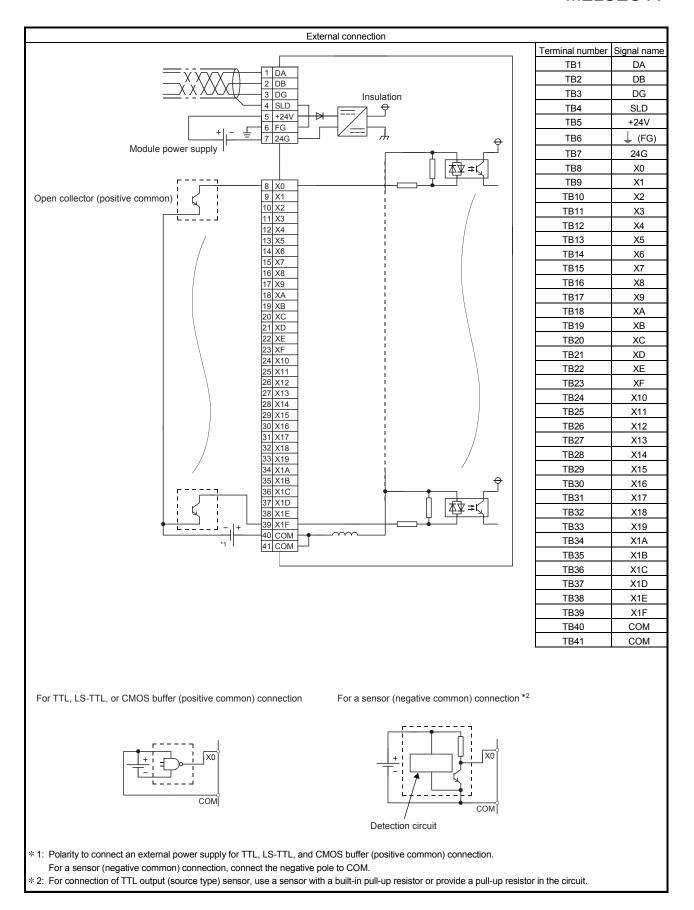


# 4.1.13 AJ65SBTB1-32D5 5VDC input module (positive common (sink), negative common (source) loading)

		Туре	DC input module	
Item			AJ65SBTB1-32D5	Appearance
Number of input points			32 points	· ·
Isolation method			Photocoupler	1
Rated input voltage			5VDC	1
Rated inpu			Approx. 4mA	1
	voltage range		4.25 to 6VDC (ripple ratio: within 5%)	1
	per of simultaneou	ıs input	100%	
points		ao in par		
ON voltage	e/ON current		3.5VDC or higher/2mA or higher	
	e/OFF current		1.5VDC or lower/1mA or lower	
Input resist	ance		Approx. 1.0kΩ	
Response		OFF→ON	1.5ms or less (at 5VDC)	
		ON→OFF	1.5ms or less (at 5VDC)	
Wiring met	hod for common		32 points/common (1-wire, terminal block type)	
Input type			Positive/negative common shared type (sink/source shared type)	
•	occupied stations	3	32-point assignment/station (32 points used)	
Module pov		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
modulo po	capp.y	Current	35mA or lower (at 24VDC and all points ON)	
Noise imm	unity	0 0.11 0.11	Noise voltage 500Vp-p, noise width 1µs,	
110.00	uy		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	SOURCE STATE OF THE PROPERTY O
Insulation r			10MΩ or higher between all DC external terminals and ground (500VDC	
			insulation resistance tester)	
Protection (	dearee		IP2X	
Weight	-		0.26kg	
External	Communication	part,	7-point two-piece terminal block	
connection	module power s	•	[Transmission circuit, module power supply, FG]	
system			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	A Messality - 2305
	I/O power suppl	y part,	34-point direct-mount terminal block [I/O power supply, I/O signal]	
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	
Module mo	ounting screw		M4 screw with plain washer finished round	### GENERAL Avec
			(tightening torque range: 0.78 to 1.08N•m)	M No 1-24VI
			Mountable with a DIN rail in 6 orientations	
Applicable DIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
Applicable solderless terminal		al	RAV1.25-3 (compliant with JIS C 2805)	
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
			• V2-MS3, RAP2-3SL, TGV2-3N	
	Tarana a		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	4
Wire	Material		Copper	4
	Temperature ra	ting	75°C or more	4
Accessory			User's manual	

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

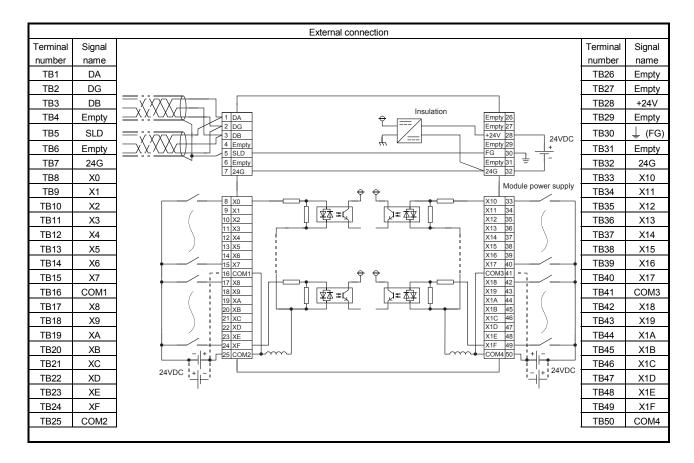
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### 4.1.14 AJ65DBTB1-32D 24VDC input module (positive common (sink), negative common (source) loading)

	Type	DC input module	
Item		AJ65DBTB1-32D	Appearance
Number of input points		32 points	
Isolation method		Photocoupler	
Rated input voltage	ge	24VDC	
Rated input currer	nt	Approx. 5mA	
Operating voltage	range	20.4 to 31.2VDC (ripple ratio: within 5%)	
Max. number of si	imultaneous input	100% (at 26.4VDC)	
points			
ON voltage/ON cu	urrent	15VDC or higher/3mA or higher	
OFF voltage/OFF	current	5VDC or lower/1.5mA or lower	Truescore .
Input resistance		Approx. 4.7kΩ	MELSEG AJ65DBTB1-32D
Response time	OFF→ON	10ms or less (at 24VDC)	STATION NO.   ST
	ON→OFF	10ms or less (at 24VDC)	La Color x 1
Wiring method for	common	16 points/common (2 points) (1-wire, terminal block type)	B RATE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Input type		Positive/negative common shared type (sink/source shared type)	Ctink 32
Number of occupi	ed stations	32-point assignment/station (32 points used)	
Module power	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	DG DA NC
supply	Current	45mA or lower (at 24VDC and all points ON)	NC DB +24V NC
Noise immunity		Noise voltage 500Vp-p, noise width 1µs,	NC SLD (FG) NC
		noise frequency 25 to 60Hz (DC type noise simulator condition)	246
Withstand voltage	)	500VAC for 1 minute between all DC external terminals and ground	X1 X10
Insulation resistar	nce	10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
		insulation resistance tester)	X3 X14 X14
Protection degree	!	IP2X	x5 x6 x16
Weight		0.6kg	X17 COM1
External connection	on system	50-point terminal block	X18
		[Transmission circuit, module power supply, FG, I/O power supply, I/O signal]	XA XB
		M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m)	xc
		Applicable solderless terminal: 2 or less	XE XID XIE XID
Module mounting	screw	M4 screw with plain washer finished round	COM2 XF
		(tightening torque range: 0.78 to 1.08N•m)	AJ6506TB1
Applicable solderless terminal		• R1.25-3.5 (compliant with JIS C 2805)	
		[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
		• RAV2-3.5 (compliant with JIS C 2805)	
Wire Material		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	
vviie	Material	Copper 75°C or more	
	Temperature rating	170 Oil more	
Accessory	Training	User's manual	
†	alv	A6DIN1C, A2CCOM-TB	
Part sold separately		AUDIN 10, AZOOON-10	1

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



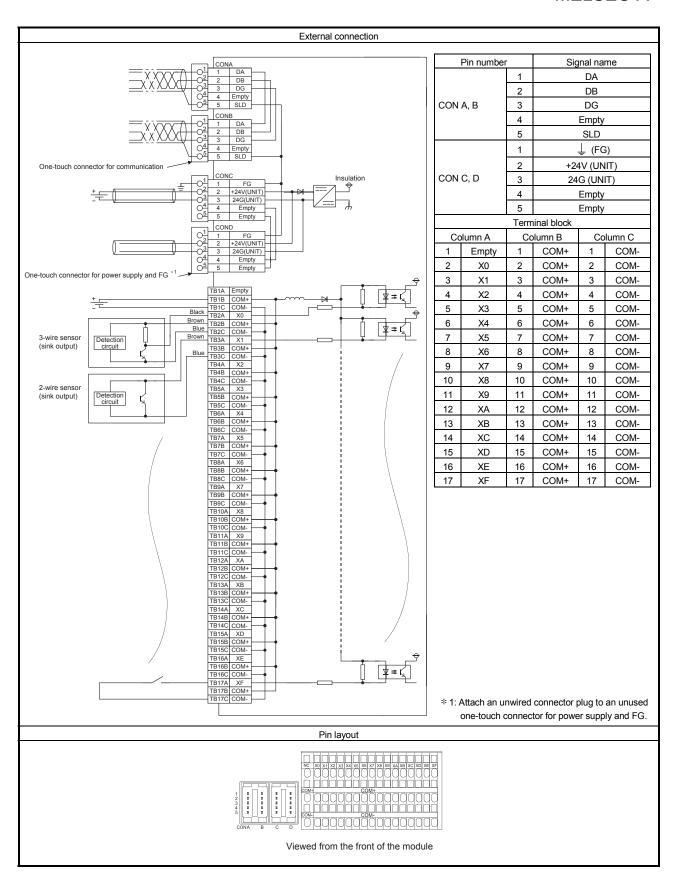
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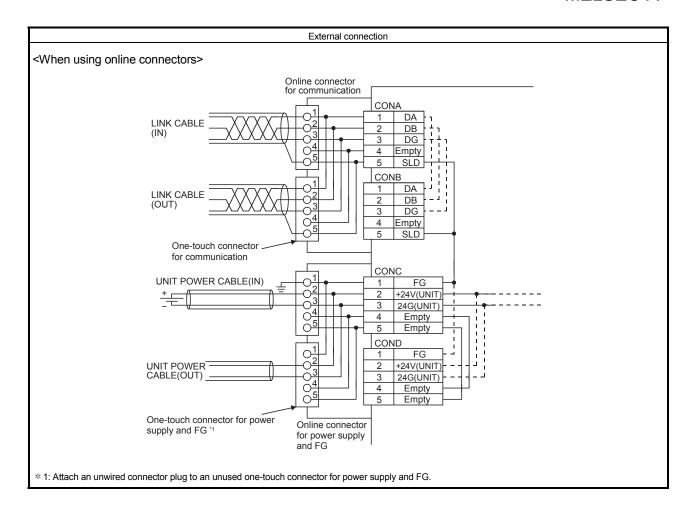
#### 4.2 Spring Clamp Terminal Block Type Input Module

#### 4.2.1 AJ65VBTS3-16D 24VDC input module (positive common (sink type))

	Туре	DC input module	
Item		AJ65VBTS3-16D	Appearance
Number of in	nput points	16 points	
Isolation me	thod	Photocoupler	
Rated input voltage		24VDC	
Rated input	current	Approx. 5mA	
Operating vo	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
Max. numbe	er of simultaneous	100% or 75% (Refer to Section1.3.)	
input points			
ON voltage/	ON current	14VDC or higher/3.5mA or higher	
OFF voltage	e/OFF current	6VDC or lower/1.7mA or lower	
Input resista	nce	Approx. 4.7kΩ	
Response	OFF→ON	1.5ms or less (at 24VDC)	
time	ON→OFF	1.5ms or less (at 24VDC)	
Wiring meth	od for common	16 points/common (3-wire, spring clamp terminal block type)	
Input type		Positive common (sink type)	
	ent for connected	1.0A or lower/common	
device			
	occupied stations	32-point assignment/station (16points used)	
Module	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
power suppl		35mA or lower (at 24VDC and all points ON)	
Noise immu	, , , , , , , , , , , , , , , , , , , ,	Noise voltage 500Vp-p, noise width 1µs,	
NOISE IIIIIIu	riity	noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand v	oltane	500VAC for 1 minute between all DC external terminals and ground	
Insulation re		10MΩ or higher between all DC external terminals and ground (500VDC insulation	AA66VBTS3-45GGm
IIISulation IC	Sistance	resistance tester)	
Protection d	ograd	IP1XB	
Weight	egice	0.24kg	
External	Communication	<u> </u>	
connectio	part	One-touch connector for communication [Transmission circuit] 5-pin IDC plug is sold separately: A6CON-L5P	
n system	part	<pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre></pre> <pre></pre>	H @ #### ## ## ##
ii systeiii		Online connector for communication: A6CON-LJ5P	
	Power supply	One-touch connector for power supply and FG [Module power supply, FG]	
	part	5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	
	part	<pre><pre></pre></pre> <pre></pre>	~0 WO
		Online connector for power supply: A6CON-PWJ5P	0 40 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	I/O part	2-piece spring clamp terminal block [I/O power supply, I/O signals]	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Applicable D	•	TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Applicable	Connector for	Applicable cable:	V D40501/8 + 5 1 + 5 1 ODN NOTIATS ≣TA91 8
wire size	communication	FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector for	0.66 to 0.98mm² (18 AWG)	
		[\psi_2.2 to 3.0mm (A6CON-PW5P), \psi_2.0 to 2.3mm (A6CON-PW5P-SOD)]	
	FG	Wire diameter: 0.16mm or more	( ○ )
		Insulating coating material: PVC (heat-resistant)	
	Spring clamp	Stranded wire 0.08 to 1.5mm² (28 to 16 AWG) * 1	
	terminal block for	Wire strip length: 8 to 11mm	
	I/O		
	Applicable	TE0.5 [Applicable wire size: 0.5mm <sup>2</sup> ]	
	solderless	TE0.75 [Applicable wire size: 0.75mm <sup>2</sup> ]	
	terminal	TE1 [Applicable wire size: 0.9 to 1.0mm <sup>2</sup> ]	
		TE1.5 [Applicable wire size: 1.25 to 1.5mm <sup>2</sup> ]	
		TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ]	
		TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ]	
Accessory		User's manual, Holding fixtures for screw installation	

st 1: Insert one wire per terminal.

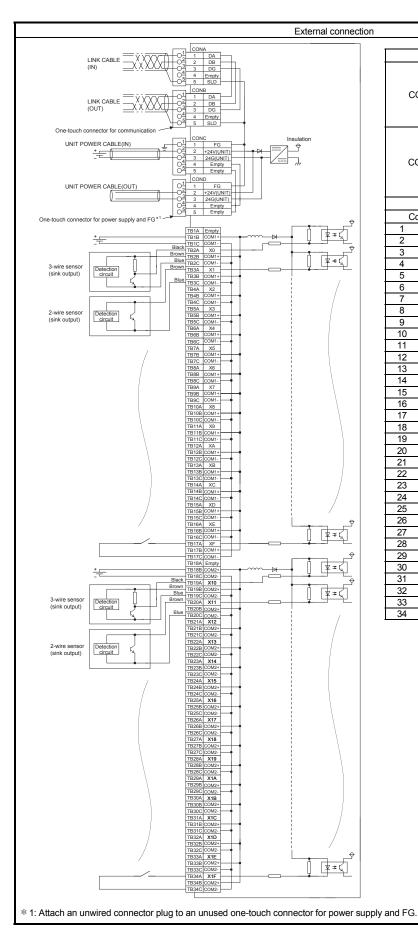




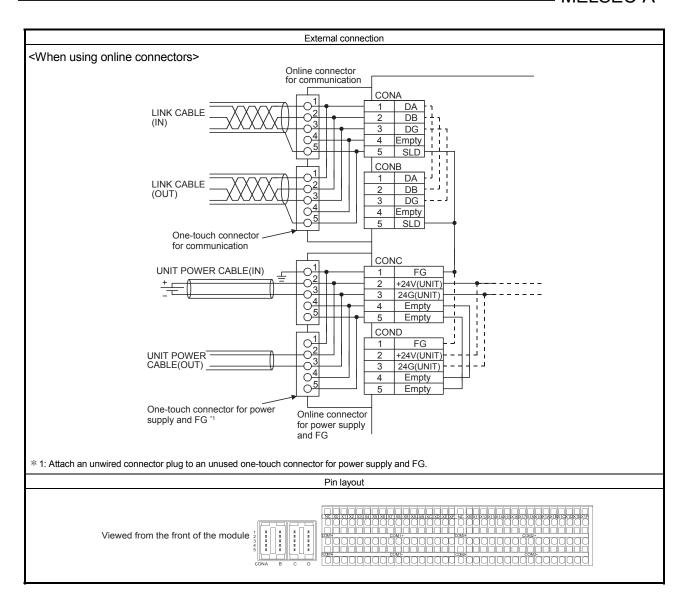
## 4.2.2 AJ65VBTS3-32D 24VDC input module (positive common (sink type))

	Туре	DC input module	
Item	.,,po	AJ65VBTS3-32D	Appearance
Number of in	nput points	32 points	
Isolation me		Photocoupler	
Rated input voltage		24VDC	
Rated input		Approx. 5mA	
1	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
1	er of simultaneous	100% or 69% (Refer to Section1.3.)	
input points		,	
ON voltage/	ON current	14VDC or higher/3.5mA or higher	
1	e/OFF current	6VDC or lower/1.7mA or lower	
Input resista		Approx. 4.7kΩ	
Response	OFF→ON	1.5ms or less (at 24VDC)	
time	ON→OFF	1.5ms or less (at 24VDC)	1
Wiring meth	od for common	16 points/common (3-wire, spring clamp terminal block type)	
Input type		Positive common (sink type)	
	ent for connected	2.0A or lower/common	
device			
*	occupied stations	32-point assignment/station (32 points used)	
Module	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
power suppl		40mA or lower (at 24VDC and all points ON)	
Noise immu		Noise voltage 500Vp-p, noise width 1µs,	1   <del>-                                    </del>
	•	noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand vo	oltage	500VAC for 1 minute between all DC external terminals and ground	
Insulation re	sistance	$10 \text{M}\Omega$ or higher between all DC external terminals and ground (500VDC insulation	25-52   20-20
		resistance tester)	
Protection d	egree	IP1XB	
Weight		0.41kg	
External	Communication	One-touch connector for communication [Transmission circuit]	1       <del>                               </del>
connection	part	5-pin IDC plug is sold separately: A6CON-L5P	
system		<optional></optional>	
		Online connector for communication: A6CON-LJ5P	
	Power supply	One-touch connector for power supply and FG [Module power supply, FG]	
	part	5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	
		<pre><optional></optional></pre>	
		Online connector for power supply: A6CON-PWJ5P	
	I/O part	2-piece spring clamp terminal block [I/O power supply, I/O signals]	
Applicable D		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
Applicable	Connector for	Applicable cable:	
wire size	communication	FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector for	0.66 to 0.98mm² (18 AWG)	O O O O O O O O O O O O O O O O O O O
		[\psi_2.2 to 3.0mm (A6CON-PW5P), \psi_2.0 to 2.3mm (A6CON-PW5P-SOD)]	0.000
	FG	Wire diameter: 0.16mm or more	No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
•	Caring clama	Insulating coating material: PVC (heat-resistant)	<u> </u>
	Spring clamp terminal block for	Stranded wire 0.08 to 1.5mm² (28 to 16 AWG) * 1 Wire strip length: 8 to 11mm	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [
	I/O	Twite suip lengur. 6 to 1 min	
	Applicable	TE0.5 [Applicable wire size: 0.5mm <sup>2</sup> ]	
	solderless	TE0.75 [Applicable wire size: 0.75mm²]	
	terminal	TE1 [Applicable wire size: 0.9 to 1.0mm²]	
		TE1.5 [Applicable wire size: 1.25 to 1.5mm <sup>2</sup> ]	
		TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ]	
		TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ]	_
Accessory		User's manual, Holding fixtures for screw installation	

<sup>\* 1:</sup> Insert one wire per terminal.



	Pin number		S	ignal nar	ne		
		1		DA			
		2			DB		
C	ON A, B	3	DG				
		4		Empty			
		5	SLD (FG)				
		1					
		2		24V (UN			
CC	ON C, D	3		4G (UNI			
0.	511 0, 5	<del></del>			1)		
		4	-	Empty			
		5	<u></u>	Empty			
			ninal block	_			
	olumn A		olumn B		olumn C		
1	Empty	1	COM1+	1	COM1-		
2	X0	2	COM1+	2	COM1-		
3	X1	3	COM1+	3	COM1-		
5	X2 X3	5	COM1+	5	COM1-		
6	X4	6	COM1+	6	COM1-		
7	X5	7	COM1+	7	COM1-		
8	X6	8	COM1+	8	COM1-		
9	X7	9	COM1+	9	COM1-		
10	X8	10	COM1+	10	COM1-		
11	X9	11	COM1+	11	COM1-		
12	XA	12	COM1+	12	COM1-		
13	XB	13	COM1+	13	COM1-		
14	XC	14	COM1+	14	COM1-		
15	XD	15	COM1+	15	COM1-		
16	XE	16	COM1+	16	COM1-		
17	XF	17	COM1+	17	COM1-		
18	Empty	18	COM2+	18	COM2-		
19	X10	19	COM2+	19	COM2-		
20	X11	20	COM2+	20	COM2-		
21	X12	21	COM2+	21	COM2-		
22	X13	22	COM2+	22	COM2-		
23	X14	23	COM2+	23	COM2-		
24	X15	24	COM2+	24	COM2-		
25	X16 X17	25	COM2+	25	COM2-		
26		26	COM2+	26	COM2-		
27 28	X18 X19	27 28	COM2+ COM2+	27 28	COM2- COM2-		
29	X19 X1A	29	COM2+	29	COM2-		
30	X1A X1B	30	COM2+	30	COM2-		
31	X1C	31	COM2+	31	COM2-		
32	X1D	32	COM2+	32	COM2-		
33	X1E	33	COM2+	33	COM2-		
34	X1E X1F	34	COM2+	34	COM2-		

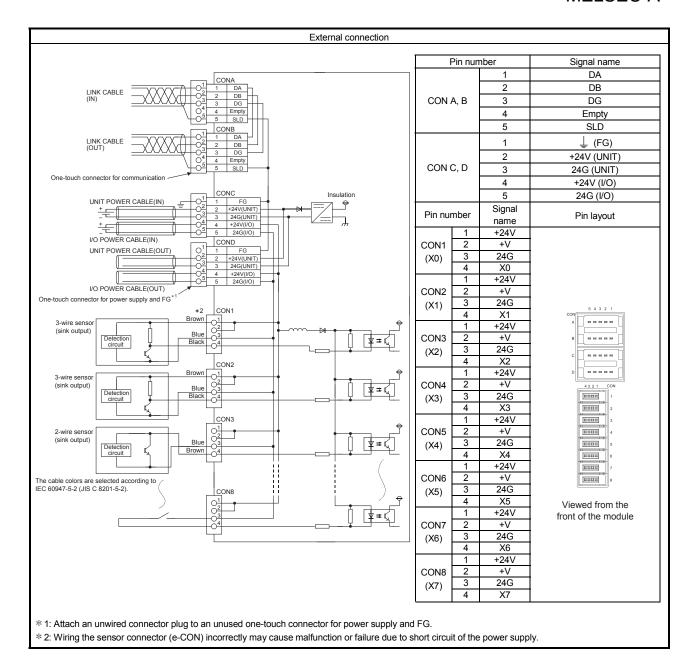


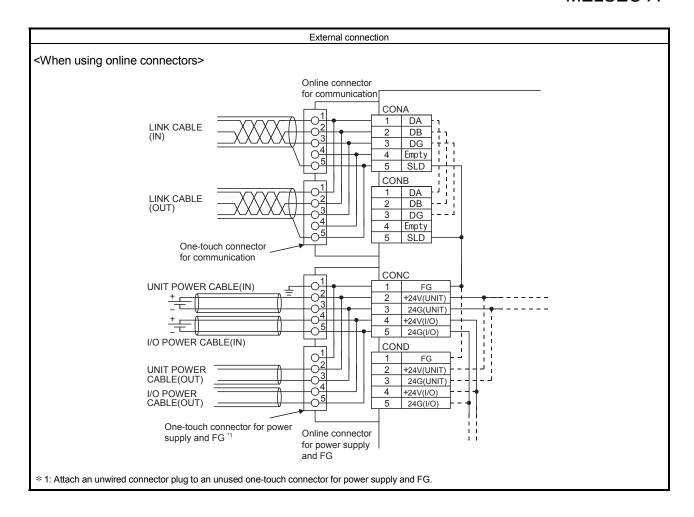
## 4.3 Sensor Connector (e-CON) Type Input Module

## 4.3.1 AJ65VBTCE3-8D 24VDC input module (positive common (sink type))

	Туре	DC input module	
Item	7,5	AJ65VBTCE3-8D	Appearance
Number of input points		8 points	
Isolation method		Photocoupler	
Rated input voltage		24VDC	
Rated input		Approx. 5mA	
	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
	er of simultaneous	100%	
input points			
ON voltage/	ON current	14VDC or higher/3.5mA or higher	
OFF voltage	e/OFF current	6VDC or lower/1.7mA or lower	
Input resista	ince	Approx. 4.7kΩ	
Response	OFF→ON	1.5ms or less (at 24VDC)	
time	ON→OFF	1.5ms or less (at 24VDC)	$\exists$ $(\bigcirc$
Wiring meth	od for common	8 points/common (3-wire, sensor connector (e-CON) type)	7 1 4 7 1
Input type	-	Positive common (sink type)	CON
	ent for connected	1.0A or lower/common	
device			
	occupied stations	32-point assignment/station (8 points used)	B B B B B B B B B B B B B B B B B B B
Module pow	ver Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
supply	Current	30mA or lower (at 24VDC and all points ON)	40 S 7 100 T
Noise immu		Noise voltage 500Vp-p, noise width 1µs,	8 0 1 8 0 1 8 0 1 1 1 1 1 1 1 1 1 1 1 1
		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand v	oltage	500VAC for 1 minute between all DC external terminals and ground	D B B B B B 2 2 A 1 E
Insulation re		10M $\Omega$ or higher between all DC external terminals and ground (500VDC insulation	MELSEC AJ65VBTCE3-8D
		resistance tester)	VOI IEEE
Protection d	egree	IP1XB	LRUNO
Weight		0.10kg	X1
External	Communication	One-touch connector for communication [Transmission circuit]	X2 9000 10 20
connection	part	5-pin IDC plug is sold separately: A6CON-L5P	30
system		<optional></optional>	X3 50
		Online connector for communication: A6CON-LJ5P	X4 5000 70
	Power supply	One-touch connector for power supply and FG	VE THE STATE OF TH
	part	[Module power supply, I/O power supply, FG]	X5 EDGD
		5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	X6 DDDD
		<optional></optional>	X7
		Online connector for power supply: A6CON-PWJ5P	CC-Link
	I/O part	Sensor connector (e-CON) [I/O signals]	
		4-pin IDC plug is sold separately. *1	
Applicable [	DIN rail	TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
Applicable	Connector for	Applicable cable:	
wire size	communication	FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector for	0.66 to 0.98mm <sup>2</sup> (AWG18)	
	power supply and	[φ2.2 to 3.0mm (A6CON-PW5P),	
	FG	\$\psi_2.0 to 2.3mm (A6CON-PW5P-SOD)]	
		Wire diameter: 0.16mm or more	
		Insulating coating material: PVC (heat-resistant)	<del>- </del>
	Connector for I/O	Sensor connector (e-CON).	
		Applicable connector plugs are sold separately. * 1	
		(applicable wire size: 0.08 to 0.5mm², depending on the connector plug)	_
Accessory		User's manual, Holding fixtures for screw installation	

<sup>\* 1:</sup> Refer to Section 1.6.2 for details.

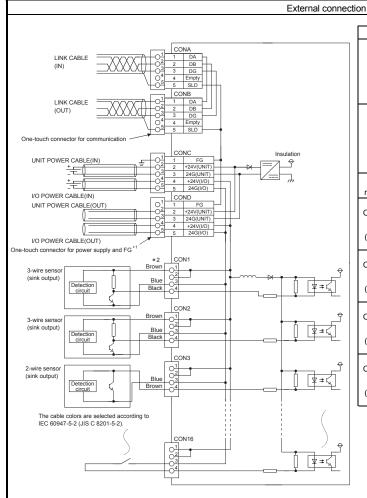




## 4.3.2 AJ65VBTCE3-16D 24VDC input module (positive common (sink type))

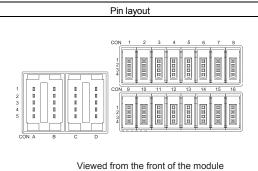
	Туре	DC input module	
Item		AJ65VBTCE3-16D	Appearance
Number of in	put points	16 points	
Isolation method		Photocoupler	
Rated input voltage		24VDC	
Rated input of	current	Approx. 5mA	
Operating vo	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
	r of simultaneous	100% or 62.5% (Refer to Section 1.3.)	
input points			
ON voltage/0	ON current	14VDC or higher/3.5mA or higher	
OFF voltage	/OFF current	6VDC or lower/1.7mA or lower	
Input resistar	nce	Approx. 4.7kΩ	
Response	OFF→ON	1.5ms or less (at 24VDC)	
time	ON→OFF	1.5ms or less (at 24VDC)	
Wiring metho	od for common	16 points/common (3-wire, sensor connector (e-CON) type)	
Input type		Positive common (sink type)	
Supply curre	ent for connected	1.0A or lower/common	
device			
Number of o	ccupied stations	32-point assignment/station (16 points used)	
Module	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
power supply	y Current	35mA or lower (at 24VDC and all points ON)	
Noise immur	nity	Noise voltage 500Vp-p, noise width 1µs,	0 c c c c c c c c c c c c c c c c c c c
		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand vo	oltage	500VAC for 1 minute between all DC external terminals and ground	
Insulation res	sistance	10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
		insulation resistance tester)	
Protection de	egree	IP1XB	
Weight		0.10kg	
External	Communication	One-touch connector for communication [Transmission circuit]	~00
connection	part	5-pin IDC plug is sold separately: A6CON-L5P	8 0000 C
system		<optional></optional>	O O O O O O O O O O O O O O O O O O O
		Online connector for communication: A6CON-LJ5P	E0 00 00
	Power supply	One-touch connector for power supply and FG	
	part	[Module power supply, I/O power supply, FG]	
		5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	
		<optional> Online connector for neuron cumply: ACCON, DIA/ JED.</optional>	
	1/0	Online connector for power supply: A6CON-PWJ5P	$\dashv$
	I/O part	Sensor connector (e-CON) [I/O signals]	
		4-pin IDC plug is sold separately. * 1	
Applicable D		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	_
Applicable	Connector for	Applicable cable:	
wire size	communication	FANC-110SBH, FA-CBL200PSBH, CS-110	<del> </del>
	Connector for	0.66 to 0.98mm² (18 AWG)	
	power supply	[\phi2.2 to 3.0mm (A6CON-PW5P), \phi2.0 to 2.3mm (A6CON-PW5P-SOD)]	
	and FG	Wire diameter: 0.16mm or more	
	Connector for	Insulating coating material: PVC (heat-resistant)	_
	Connector for	Sensor connector (e-CON).	
	1/0		
	I/O	Applicable connector plugs are sold separately. * <sup>1</sup> (applicable wire size: 0.08 to 0.5mm², depending on the connector plug)	

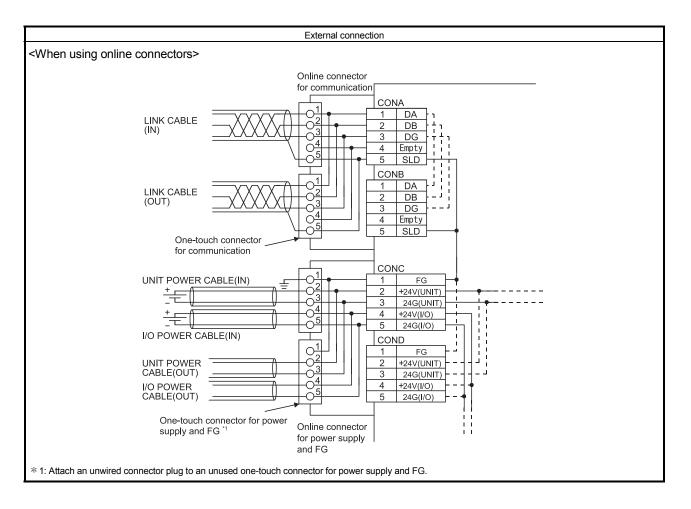
<sup>\* 1:</sup> Refer to Section 1.6.2 for details.



	Pin nı	umber		Signal name							
			1	DA							
					2 DB						
	С	ON A, E	3		3			D	G		
					4			Em	pty		
					5			SI	_D		
					1			1	(FG)		
					2			+24V	(UNIT)		
	С	ON C, I	D		3			24G (	UNIT)		
					4			+24V	(I/O)		
								24G	(I/O)		
Pin		Signal	Pin		Signal	Pin		Signal	Pin		Signal
numbe	er	name	numb	er	name	numb	er	name	numbe	er	name
CON	1	+24V	CON	1	+24V	CON 9 (X8)	1	+24V	CON 13 (XC)	1	+24V
1	2	+V	5	2	+V		2	+V		2	+V
(X0)	3	24G	(X4)	3	24G		3	24G		3	24G
(710)	4	X0		4	X4		4	X8		4	XC
CON	1	+24V	CON	1	+24V	CON	1	+24V	CON	1	+24V
2	2	+V	6	2	+V	10	2	+V	14	2	+V
(X1)	3	24G	(X5)	3	24G	(X9)	3	24G	(XD)	3	24G
(/	4	X1	( )	4	X5	(* **)	4	X9	( /	4	XD
CON	1	+24V	CON	1	+24V	CON	1	+24V	CON	1	+24V
3	2	+V	7	2	+V	11	2	+V	15	2	+V
(X2)	3	24G	(X6)	3	24G	(XA)	3	24G	(XE)	3	24G
(/	4	X2	()	4	X6	()	4	XA	(- :)	4	XE
CON	1	+24V	CON	1	+24V	CON	1	+24V	CON	1	+24V
4	2	+V	8	2	+V	12	2	+V	16	2	+V
(X3)	3	24G	(X7)	3	24G	(XB)	3	24G	(XF)	3	24G
( -/	4	X3	( /	4	X7	` -/	4	XB	` " /	4	XF

- st 1: Attach an unwired connector plug to an unused one-touch connector for power supply and FG.
- \* 2: Wiring the sensor connector (e-CON) incorrectly may cause malfunction or failure due to short circuit of the power supply.

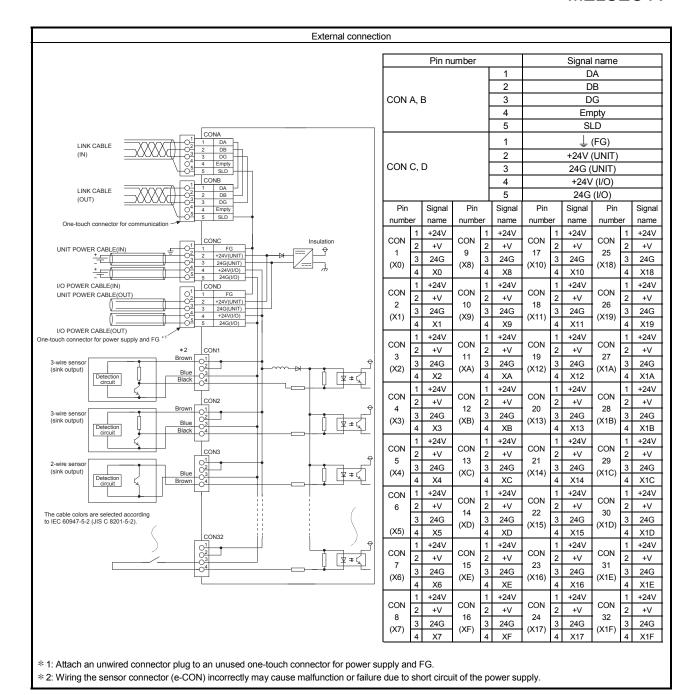


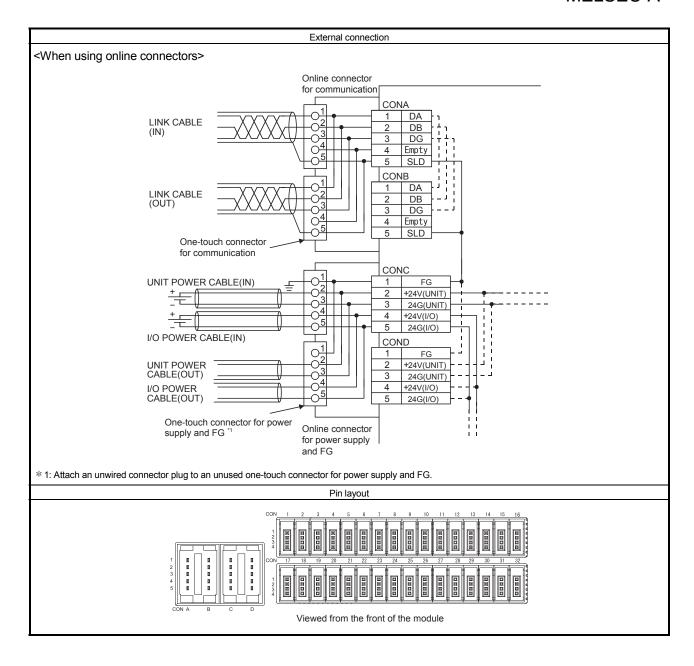


## 4.3.3 AJ65VBTCE3-32D 24VDC input module (positive common (sink type))

	Туре	DC input module	
Specification	1	AJ65VBTCE3-32D	Appearance
Number of i	nput points	32 points	
Isolation me		Photocoupler	1
Rated input voltage		24VDC	1
Rated input	current	Approx. 5mA	1
	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	1
Max. numbe	er of simultaneous	100% or 75% (Refer to Section1.3.)	1
input points			
ON voltage/	ON current	14VDC or higher/3.5mA or higher	
OFF voltage	e/OFF current	6VDC or lower/1.7mA or lower	
Input resista	ince	Approx. 4.7kΩ	
Response	OFF→ON	1.5ms or less (at 24VDC)	
time	ON→OFF	1.5ms or less (at 24VDC)	
Wiring meth	od for common	32 points/common (3-wire, sensor connector (e-CON) type)	
Input type		Positive common (sink type)	
Supply curre	ent for connected	2.0A or lower/common	
device			9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
Number of o	occupied stations	32-point assignment/station (32 points used)	
Module pow	ver Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	==== < ==== ×
supply	Current	40mA or lower (at 24VDC and all points ON)	9888 0 8888 2
Noise immu	nity	Noise voltage 500Vp-p, noise width 1µs,	8 250
		noise frequency 25 to 60Hz (DC type noise simulator condition)	Z
Withstand v	oltage	500VAC for 1 minute between all DC external terminals and ground	A A A A A A A A A A A A A A A A A A A
Insulation re	esistance	$10M\Omega$ or higher between all DC external terminals and ground (500VDC insulation	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
		resistance tester)	
Protection d	egree	IP1XB	
Weight	т	0.16kg	
External	Communication	One-touch connector for communication [Transmission circuit]	
connection	part	5-pin IDC plug is sold separately: A6CON-L5P	
system		<pre><optional></optional></pre>	
		Online connector for communication: A6CON-LJ5P	
	Power supply part	One-touch connector for power supply and FG	~o ~o
		[Module power supply, I/O power supply, FG]	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD <optional></optional>	
		Online connector for power supply: A6CON-PWJ5P	
	I/O part	Sensor connector (e-CON) [I/O signals]	
	"O part	4-pin IDC plug is sold separately. * 1	[
Applicable D	IIII rail	TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
Applicable L	Connector for	Applicable cable:	
wire size	communication	FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector for	0.66 to 0.98mm² (18 AWG)	1
	power supply and	[\phi2.2 to 3.0mm (A6CON-PW5P), \phi2.0 to 2.3mm (A6CON-PW5P-SOD)]	
	FG	Wire diameter: 0.16mm or more	
		Insulating coating material: PVC (heat-resistant)	
	Connector for I/O	Sensor connector (e-CON). Applicable connector plugs are sold separately. * 1	1
		(applicable wire size: 0.08 to 0.5mm², depending on the connector plug)	
Accessory		User's manual, Holding fixtures for screw installation	7

 $<sup>\</sup>ast$  1: Refer to Section 1.6.2 for details.

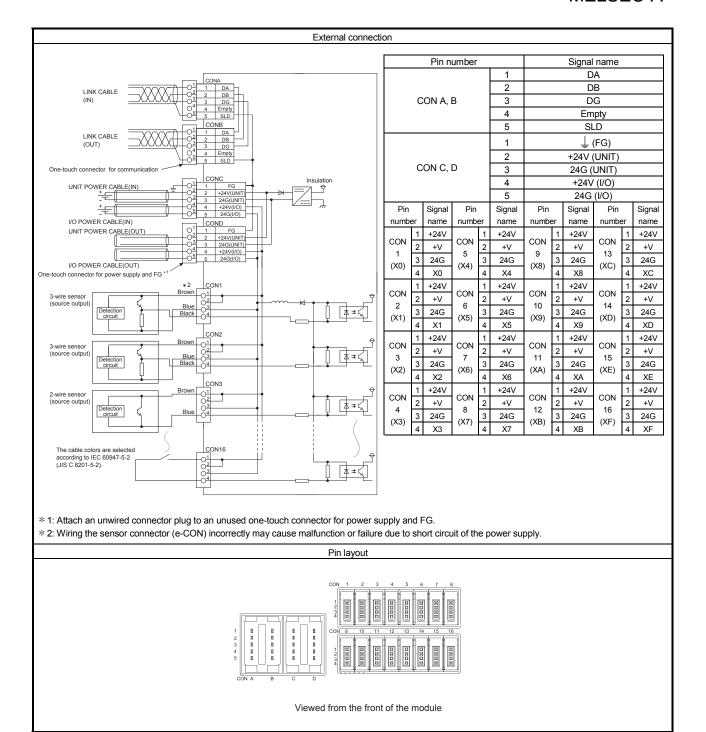




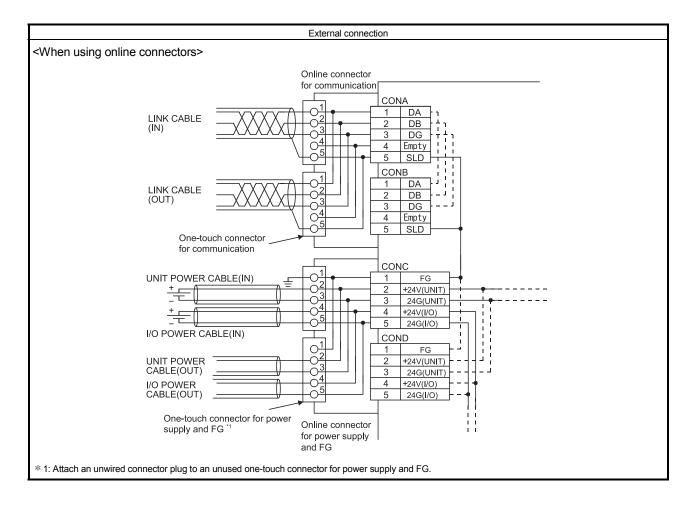
## 4.3.4 AJ65VBTCE3-16DE 24VDC input module (negative common (source type))

	Туре	DC input module	
Item	.,,,,,	AJ65VBTCE3-16DE	Appearance
Number of in	nput points	16 points	
Isolation me	• •	Photocoupler	7
Rated input voltage		24VDC	7
Rated input	current	Approx. 5mA	7
Operating vo	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
Max. numbe	er of simultaneous	100% or 62.5% (Refer to Section1.3.)	
input points			
ON voltage/	ON current	14VDC or higher/3.5mA or higher	
OFF voltage	OFF current	6VDC or lower/1.7mA or lower	
Input resista	nce	Approx. $4.7k\Omega$	
Response	OFF→ON	1.5ms or less (at 24VDC)	
time	ON→OFF	1.5ms or less (at 24VDC)	
Wiring meth	od for common	16 points/common (3-wire, sensor connector (e-CON) type)	
Input type		Negative common (source type)	_
Supply curre	ent for connected	1.0A or lower/common	
device			
Number of o	ccupied stations	32-point assignment/station (16 points used)	
Module	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	S COUNTY COUNTY
power suppl	y Current	35mA or lower (at 24VDC and all points ON)	
Noise immu	nity	Noise voltage 500Vp-p, noise width 1µs,	
		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand vo	oltage	500VAC for 1 minute between all DC external terminals and ground	
Insulation re	sistance	$10M\Omega$ or higher between all DC external terminals and ground (500VDC	8 HHHH - HHHH 8
		insulation resistance tester)	
Protection d	egree	IP1XB	
Weight	ı	0.11kg	F-01-0
External	Communication	One-touch connector for communication [Transmission circuit]	
connection	part	5-pin IDC plug is sold separately: A6CON-L5P	E MOMO
system		<optional> Online connector for communication: ACCON LIFE.</optional>	<b>※○○○○○</b>
	Dower ownshi	Online connector for communication: A6CON-LJ5P	4828371971
	Power supply part	One-touch connector for power supply and FG [Module power supply, I/O power supply, FG]	
	part	5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	
		<pre><pre><pre></pre></pre></pre>	
		Online connector for power supply: A6CON-PWJ5P	
	I/O part	Sensor connector (e-CON) [I/O signals]	7
		4-pin IDC plug is sold separately. * 1	
Applicable D	IN rail	TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)	7
Applicable	Connector for	Applicable cable:	7
wire size	communication	FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector for	0.66 to 0.98mm <sup>2</sup> (18 AWG)	7
	power supply	[φ2.2 to 3.0mm (A6CON-PW5P), φ2.0 to 2.3mm (A6CON-PW5P-SOD)]	
	and FG	Wire diameter: 0.16mm or more	
		Insulating coating material: PVC (heat-resistant)	_
	Connector for	Sensor connector (e-CON).	
	I/O	Applicable connector plugs are sold separately. * 1	
		(applicable wire size: 0.08 to 0.5mm², depending on the connector plug)	_
Accessory		User's manual, Holding fixtures for screw installation	

 $<sup>\</sup>ast$  1: Refer to Section 1.6.2 for details.



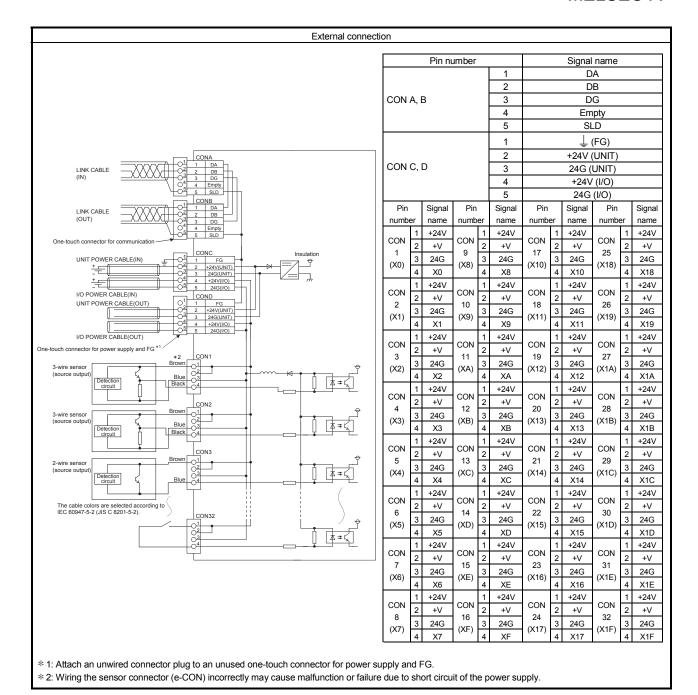
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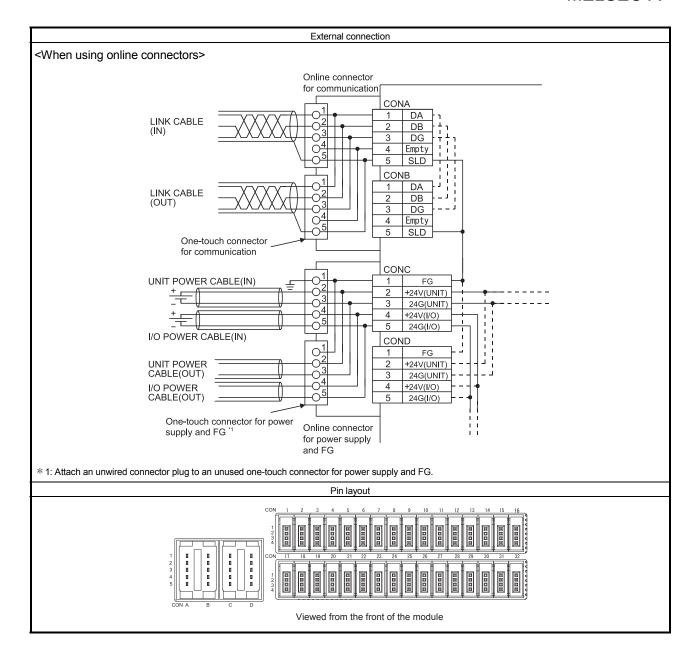
## 4.3.5 AJ65VBTCE3-32DE 24VDC input module (negative common (source type))

	Туре	DC input module	
Specification		AJ65VBTCE3-32DE	Appearance
Number of in	nput points	32 points	·
Isolation method		Photocoupler	
Rated input voltage		24VDC	
Rated input	•	Approx. 5mA	
Operating vo	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
	er of simultaneous	100% or 75% (Refer to Secion1.3.)	
input points		,	
ON voltage/	ON current	14VDC or higher/3.5mA or higher	
OFF voltage	e/OFF current	6VDC or lower/1.7mA or lower	
Input resista	nce	Approx. 4.7kΩ	
Response	OFF→ON	1.5ms or less (at 24VDC)	
time	ON→OFF	1.5ms or less (at 24VDC)	1 ( <del>+</del> )
Wiring meth	od for common	32 points/common (3-wire, sensor connector (e-CON) type)	
Input type		Negative common (source type)	S FEET FEET B
Supply curre	ent for connected	2.0A or lower/common	
device			
Number of o	occupied stations	32-point assignment/station (32 points used)	BEER O BEER &
Module pow	er Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
supply	Current	40mA or lower (at 24VDC and all points ON)	
Noise immu	nity	Noise voltage 500Vp-p, noise width 1µs,	
		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand vo	oltage	500VAC for 1 minute between all DC external terminals and ground	
Insulation re	sistance	10M $\Omega$ or higher between all DC external terminals and ground (500VDC insulation	
		resistance tester)	<u> </u>
Protection d	egree	IP1XB	8 9 9 9 9 9
Weight		0.16kg	
External	Communication part	One-touch connector for communication [Transmission circuit]	, , , , , , , , , , , , , , , , , , ,
connection		5-pin IDC plug is sold separately: A6CON-L5P	
system		<optional></optional>	
•		Online connector for communication: A6CON-LJ5P	
	Power supply part	One-touch connector for power supply and FG	
		[Module power supply, I/O power supply, FG]	
		5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	E CON HOLLOUS BLOND
		<pre><optional> Online connector for power supply: A6CON-PWJ5P</optional></pre>	AND RESIDENCE OF THE PROPERTY
	I/O part	Sensor connector (e-CON) [I/O signals]	
	I/O part	4-pin IDC plug is sold separately. *	
Applie-51- 5	NN roil	1 2 2 2	$\Psi$
Applicable D		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
	Connector for communication	Applicable cable: FANC-110SBH, FA-CBL200PSBH, CS-110	
WITE SIZE		0.66 to 0.98mm² (18 AWG)	
	Connector for power supply and FG	[\(\phi 2.2\) to 3.0mm (A6CON-PW5P), \(\phi 2.0\) to 2.3mm (A6CON-PW5P-SOD)]	
	Supply and i G	Wire diameter: 0.16mm or more	
		Insulating coating material: PVC (heat-resistant)	
	Connector for I/O	Sensor connector (e-CON).	
	23/11/00/01 101 1/0	Applicable connector plugs are sold separately. * 1	
		(applicable wire size: 0.08 to 0.5mm², depending on the connector plug)	
Accessory		User's manual, Holding fixtures for screw installation	

<sup>\* 1:</sup> Refer to Section 1.6.2 for details.



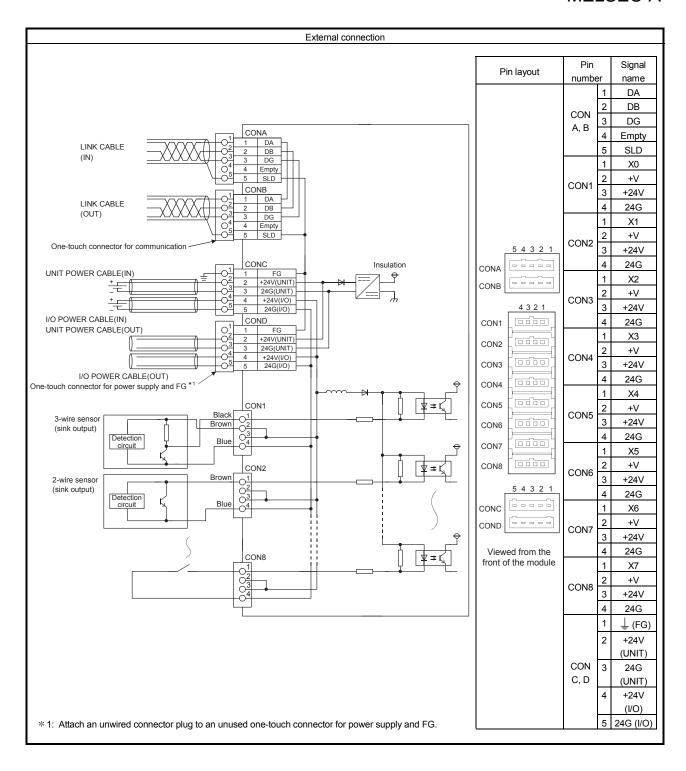
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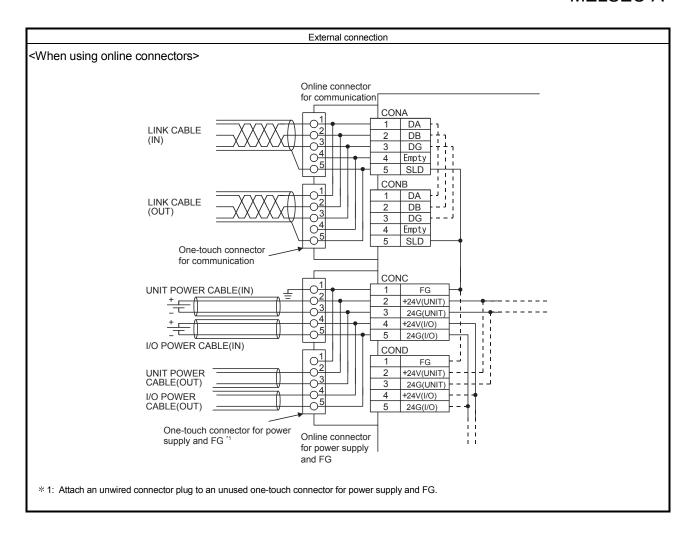


## 4.4 One-Touch Connector Type Input Module

## 4.4.1 AJ65VBTCU3-8D1 24VDC input module (positive common (sink type))

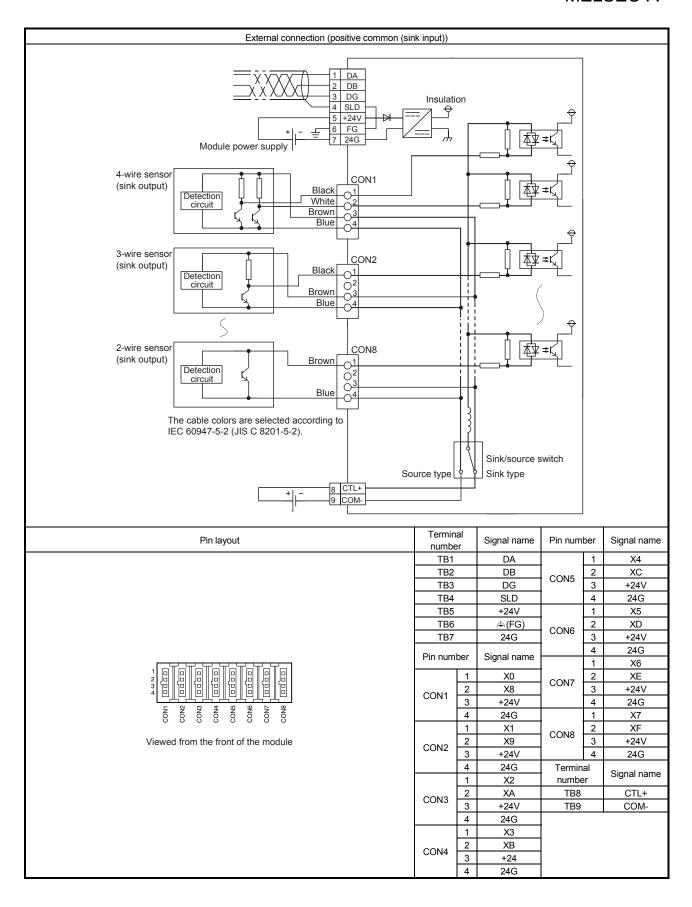
	_	Туре	DC input module	
Item			AJ65VBTCU3-8D1	Appearance
Number of	input points	S	8 points	
Isolation method			Photocoupler	
Rated input voltage			24VDC	
Rated input	t current		Approx. 5mA	
Operating v	voltage rang	ge	19.2 to 26.4VDC (ripple ratio: within 5%)	
Max. numb	er of simult	taneous	100%	
input points	3			
ON voltage	ON curren	nt	15VDC or higher/3mA or higher	
OFF voltag	e/OFF curr	rent	3VDC or lower/0.5mA or lower	
Input resista			Approx. $4.7$ k $\Omega$	
Response t	+	FF→ON	0.2ms or less (at 24VDC)	
	O	N→OFF	0.2ms or less (at 24VDC)	MELSEG AJ65VBTCU3-8D1
Wiring meth	hod for con	nmon	8 points/common (3-wire, one-touch connector type)	CON 7.
Input type			Positive common (sink type)	A L
Supply curr	rent for con	nected	1.0A or lower/common	N K
device				CON
Number of			32-point assignment/station (8 points used)	
Module pov	1	oltage	20.4 to 26.4VDC (ripple ratio: within 5%)	X0 PW
supply		urrent	35mA or lower (at 24VDC and all points ON)	X1 L RUN
Noise immu	unity		Noise voltage 500Vp-p, noise width 1µs,	L ERR
) A /: 41= = 4 = = = 1 .			noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand \			500VAC for 1 minute between all DC external terminals and ground	
Insulation re	esistance		$10M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)	3040
Protection of	degree		IP1XB	X4   5 0     X4   5 0
Weight			0.15kg	X5 7 0
External	Communic	cation part	One-touch connector for communication [Transmission circuit]	
connection			5-pin IDC plug is sold separately.	
system			<optional></optional>	
			Online connector for communication: A6CON-LJ5P	
	Power sup	oply part	One-touch connector for power supply and FG	
			[Module power supply, I/O power supply, FG]	CON
			5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	c   w
			Optional> Option connector for power cupply: ACCON DW IED.	CON J X
	I/O part		Online connector for power supply: A6CON-PWJ5P  One-touch connector for I/O	CON - X
	I/O part		4-pin IDC plug is sold separately.	(CC-Link
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
<u> </u>	Connector	r for	Applicable cable:	
wire size	''		FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector	r for power	0.66 to 0.98mm² (18 AWG)	
	supply and	d FG	[\$2.2 to 3.0mm (A6CON-PW5P), \$\phi 2.0 to 2.3mm (A6CON-PW5P-SOD)]	
			Wire diameter: 0.16mm or more	
		_	Insulating coating material: PVC (heat-resistant)	
	Connector	r for	φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)	
	I/O		[Applicable wire size: 0.14 to 0.2mm²]	
			φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)	
Accessor:	1		[Applicable wire size: 0.3 to 0.5mm <sup>2</sup> ]  User's manual	
Accessory			Osci S manual	

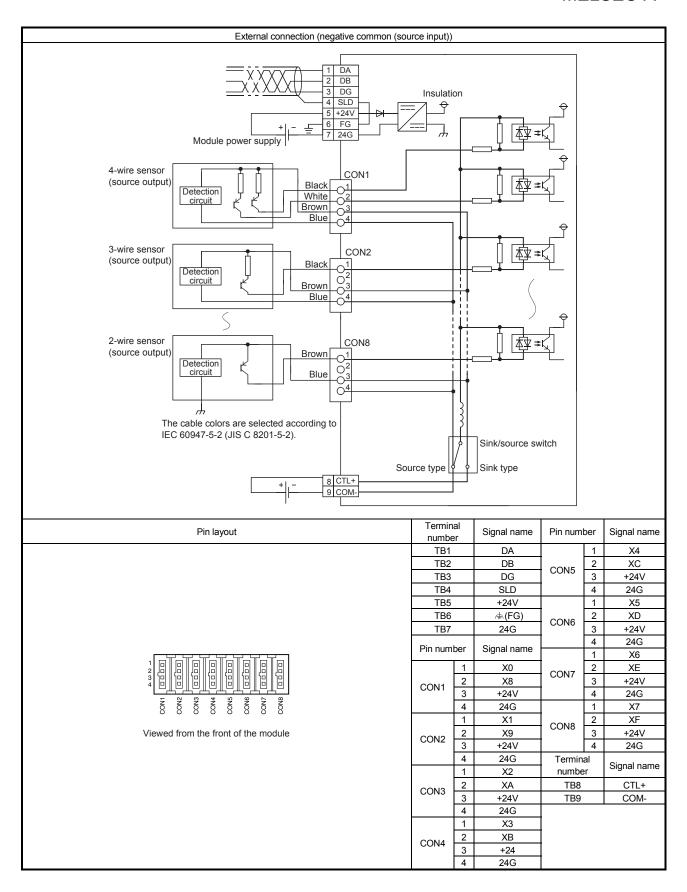




# 4.4.2 AJ65SBTC4-16D 24VDC input module (positive common (sink), negative common (source) loading)

		_	Туре	DC input module				
Item			. 7 -	AJ65SBTC4-16D	Appearance			
Number of i	input poi	ints		16 points				
Isolation me	ethod			Photocoupler				
Rated input voltage				24VDC				
Rated input	current			Approx. 5mA				
Operating v	oltage ra	ange		19.2 to 26.4VDC (ripple ratio: within 5%)				
Max. numbe	er of sim	ultaneous inp	out points	100%				
ON voltage/	ON curr	rent	•	14VDC or higher/3.5mA or higher				
OFF voltage	e/OFF c	urrent		6VDC or lower/1.7mA or lower				
Input resista	ance			Approx. $4.7k\Omega$				
Response ti	ime		OFF→ON	1.5ms or less (at 24VDC)				
			ON→OFF	1.5ms or less (at 24VDC)				
Wiring meth	nod for c	ommon		16 points/common (4-wire, one-touch connector type)				
Input type				Positive/negative common shared type (sink/source shared type)				
				(Selected using the switch.)				
Number of o	occupied	d stations		32-point assignment/station (16 points used)				
Module pow	ver supp	oly	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)				
			Current	35mA or lower (at 24VDC and all points ON)				
Noise immu	ınity			Noise voltage 500Vp-p, noise width 1μs,				
				noise frequency 25 to 60Hz (DC type noise simulator condition)				
Withstand v	oltage			500VAC for 1 minute between all DC external terminals and ground				
Insulation re	esistance	е		$10 M\Omega$ or higher between all DC external terminals and ground (500VDC				
				insulation resistance tester)				
Protection of	degree			IP2X				
Weight	-			0.15kg				
External		Communication	•	7-point two-piece terminal block				
connection	r	module power	supply part	[Transmission circuit, module power supply, FG]	A-Jeessie A-Jees			
system				M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)				
	<del>.</del>	10	.1	Applicable solderless terminal: 2 or less				
	14	/O power sup	ріу рап	2-point direct-mount terminal block				
				[I/O power supply] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)				
				Applicable solderless terminal: 2 or less				
	1	/O part		Dedicated one-touch connector [I/O signals]				
	"	/O part		4-pin IDC plug is sold separately.				
Module mou	untina sa	crew		M4 screw with plain washer finished round	1			
	u	0.011		(tightening torque range: 0.78 to 1.08N•m)				
				Mountable with a DIN rail in 6 orientations				
Applicable [	DIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)				
Applicable Comm		inication part,	Applicable	RAV1.25-3 (compliant with JIS C 2805)				
		power supply						
	part		terminal	• V2-MS3, RAP2-3SL, TGV2-3N				
	I/O pow	er supply part	t	[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]				
				φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)				
	I/O part			[Applicable wire size: 0.14 to 0.2mm <sup>2</sup> ]				
	"O part			φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)				
				[Applicable wire size: 0.3 to 0.5mm <sup>2</sup> ]				
Accessory				User's manual				

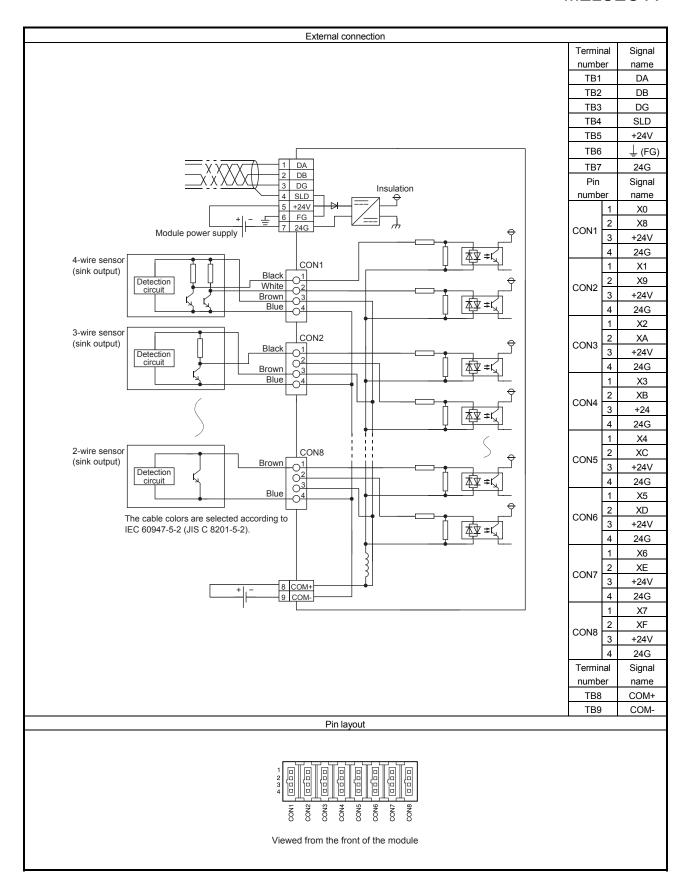




## 4.4.3 AJ65SBTC4-16DN 24VDC input module (positive common (sink type))

			Туре	DC input module				
Specification	n		.,,,,,	AJ65SBTC4-16DN	Appearance			
Number of input points				16 points				
Isolation method				Photocoupler				
Rated input voltage				24VDC				
Rated input				Approx. 5mA				
Operating v	oltage range			19.2 to 26.4VDC (ripple ratio: within 5%)				
Max. numbe	er of simultaneous	input po	ints	100%				
ON voltage/	/ON current			14VDC or higher/3.5mA or higher				
OFF voltage	e/OFF current			6VDC or lower/1.7mA or lower				
Input resista	ance			Approx. $4.7$ k $\Omega$				
Response ti	ime	OFF→O	N	1.5ms or less (at 24VDC)				
		ON→OF	F	1.5ms or less (at 24VDC)				
Wiring meth	nod for common			16 points/common (4-wire, one-touch connector type)				
Input type				Positive common (sink type)				
Supply curre	ent for connected	device		1.0A or lower/common				
Number of o	occupied stations			32-point assignment/station (16 points used)				
Module pow	ver supply	Voltage		20.4 to 26.4VDC (ripple ratio: within 5%)				
		Current		35mA or lower (at 24VDC and all points ON)				
Noise immu	unity			Noise voltage 500Vp-p, noise width 1µs,				
				noise frequency 25 to 60Hz (DC type noise simulator condition)				
Withstand v	oltage/			500VAC for 1 minute between all DC external terminals and ground				
Insulation re	esistance			10M $\Omega$ or higher between all DC external terminals and ground (500VDC				
				insulation resistance tester)	2450 XX			
Protection of	degree			IP2X				
Weight	1			0.15kg				
External	Communication	part,		7-point two-piece terminal block				
connection	module power s	supply pa	rt	[Transmission circuit, module power supply, FG]	2			
system				M3×5.2 screw (tightening torque range:0.59 to 0.88N•m)	V V V V V V V V V V V V V V V V V V V			
				Applicable solderless terminal: 2 or less	200 200 200 200 200 200 200 200 200 200			
	I/O power suppl	y part		2-point direct-mount terminal block				
				[I/O power supply]				
				M3×5.2 screw (tightening torque range:0.59 to 0.88N•m) Applicable solderless terminal: 2 or less				
	I/O part			Dedicated one-touch connector [I/O signals]				
	I/O part			4-pin IDC plug is sold separately.				
Module moi	unting screw			M4 screw with plain washer finished round				
Wioddio IIIO	ariting corew			(tightening torque range: 0.78 to 1.08N•m)				
				Mountable with a DIN rail in 6 orientations				
Applicable [	DIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)				
	Communication p	art,	Applicable	RAV1.25-3 (compliant with JIS C 2805)				
	module power su			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]				
	I/O power supply	part	terminal	• V2-MS3, RAP2-3SL, TGV2-3N				
				[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]				
	I/O part			φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)				
				[Applicable wire size: 0.14 to 0.2mm² (26 to 24 AWG) stranded wire]				
				φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)				
				[Applicable wire size: 0.3 to 0.5 mm² (22 to 20 AWG) stranded wire]				
Wire	Material			Copper				
	Temperature ratir	ng		75°C or more				
Accessory				User's manual				

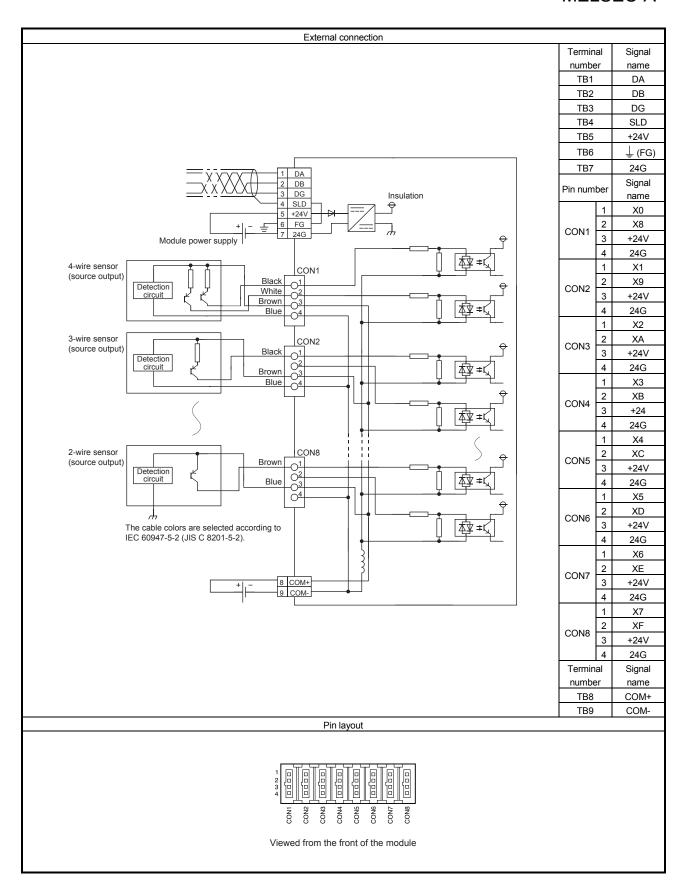
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



#### 4.4.4 AJ65SBTC4-16DE 24VDC input module (negative common (source type))

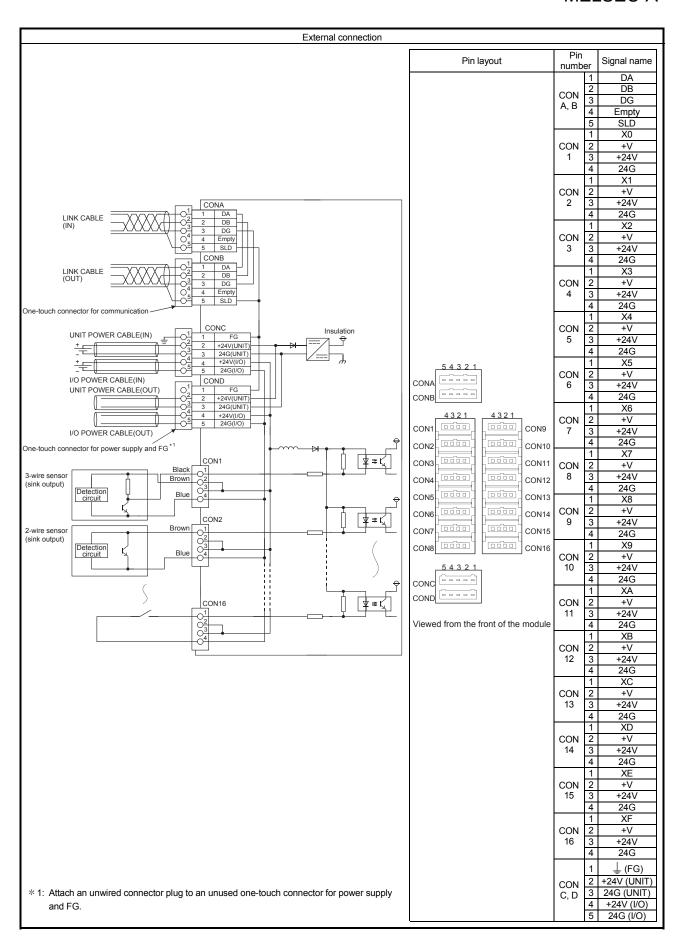
			Туре	DC input module				
Specification	n	_		AJ65SBTC4-16DE	Appearance			
Number of input points				16 points				
Isolation method				Photocoupler				
Rated input	voltage			24VDC	]			
Rated input	current			Approx. 5mA	]			
Operating vo	oltage range			19.2 to 26.4VDC (ripple ratio: within 5%)	1			
	er of simultaneous	input po	ints	100%				
ON voltage/	ON current			14VDC or higher/3.5mA or higher				
OFF voltage	e/OFF current			6VDC or lower/1.7mA or lower				
Input resista	ince			Approx. 4.7kΩ				
Response ti	me	OFF→C	ON	1.5ms or less (at 24VDC)				
		ON→O	FF	1.5ms or less (at 24VDC)				
Wiring meth	od for common			16 points/common (4-wire, one-touch connector type)				
Input type				Negative common (source type)				
Supply curre	ent for connected	device		1.0A or lower/common				
Number of c	occupied stations			32-point assignment/station (16 points used)				
Module pow	er supply	Voltage		20.4 to 26.4VDC (ripple ratio: within 5%)				
		Current		35mA or lower (at 24VDC and all points ON)				
Noise immu	nity			Noise voltage 500Vp-p, noise width 1µs,				
				noise frequency 25 to 60Hz (DC type noise simulator condition)				
Withstand v	oltage			500VAC for 1 minute between all DC external terminals and ground				
Insulation re	esistance			$10M\Omega$ or higher between all DC external terminals and ground (500VDC				
				insulation resistance tester)	3888 · · · · · · · · · · · · · · · · · ·			
Protection d	egree			IP2X				
Weight				0.15kg				
External	Communication	part,		7-point two-piece terminal block				
connection	module power su	upply pa	rt	[Transmission circuit, module power supply, FG]				
system				M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	A A B S S S S C C + 1 G D G G G G G G G G G G G G G G G G G			
				Applicable solderless terminal: 2 or less				
	I/O power supply	y part		2-point direct-mount terminal block				
				[I/O power supply]				
				M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)				
				Applicable solderless terminal: 2 or less				
	I/O part			Dedicated one-touch connector [I/O signals]				
Modulo m -:	Inting core:::			4-pin IDC plug is sold separately.				
Module mou	anung screw			M4 screw with plain washer finished round				
				(tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations				
Applicable D	OIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	†			
	Communication pa	art	Annlicable	• RAV1.25-3 (compliant with JIS C 2805)	†			
	module power sup			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]				
	I/O power supply p		terminal	• V2-MS3, RAP2-3SL, TGV2-3N				
	porror ouppry p	Puit		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]				
	/O part			\$1.0 to 1.4 (A6CON-P214), \$1.4 to 2.0 (A6CON-P220)	1			
	- 1			[Applicable wire size: 0.14 to 0.2mm <sup>2</sup> (26 to 24 AWG) stranded wire]				
				\$1.0 to 1.4 (A6CON-P514), \$1.4 to 2.0 (A6CON-P520)				
				[Applicable wire size: 0.3 to 0.5 mm² (22 to 20 AWG) stranded wire]				
Wire	Material			Copper	1			
l ''' -	Temperature rating			75°C or more				
					4			

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

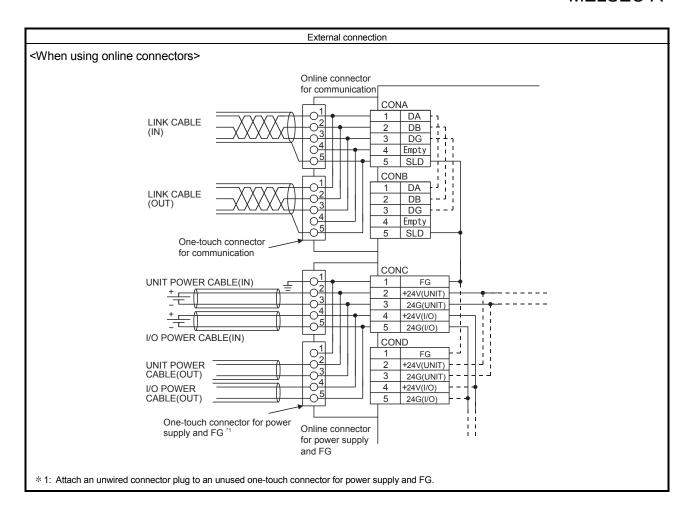


## 4.4.5 AJ65VBTCU3-16D1 24VDC input module (positive common (sink type))

	Туре	DC input module	
Item		AJ65VBTCU3-16D1	Appearance
Number of input points		16 points	
Isolation method		Photocoupler	
Rated input	voltage	24VDC	<u> </u>
Rated input current		Approx. 5mA	
Operating vo	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
Max. number of simultaneous		100%	
input points			
ON voltage/ON current		15VDC or higher/3mA or higher	
OFF voltage/OFF current		3VDC or lower/0.5mA or lower	
Input resista		Approx. 4.7kΩ	
Response tii	me OFF→ON	0.2ms or less (at 24VDC)	
	ON→OFF	0.2ms or less (at 24VDC)	
Wiring meth	od for common	16 points/common (3-wire, one-touch connector type)	MELSEG AJ65VBTCU3-16D1
Input type		Positive common (sink type)	CON ¬,
Supply curre device	ent for connected	1.0A or lower/common	A I N CON - L
Number of o	occupied stations	32-point assignment/station (16 points used)	UCON □ CON
Module pow	er Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
supply	Current	40mA or lower (at 24VDC and all points ON)	
Noise immu	nity	Noise voltage 500Vp-p, noise width 1µs,	L RUN
		noise frequency 25 to 60Hz (DC type noise simulator condition)	_         ERR
Withstand vo	oltage	500VAC for 1 minute between all DC external terminals and ground	
Insulation re	sistance	10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
		insulation resistance tester)	
Protection d	egree	IP1XB	
Weight	T	0.19kg	<u> </u>
External	Communication	One-touch connector for communication [Transmission circuit]	
connection	part	5-pin IDC plug is sold separately.	A O B O C O C O C O C O C O C O C O C O C
system		<optional></optional>	
		Online connector for communication: A6CON-LJ5P	X0~X7 X8~XF F O
	Power supply	One-touch connector for power supply and FG	CON ¬.P.
	part	[Module power supply, I/O power supply, FG]	CON TW
		5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	CON
		<optional> Online connector for power supply: A6CON-PWJ5P</optional>	CON ¬ × D
	I/O part	One-touch connector for I/O	CC-Link
	I/O part	4-pin IDC plug is sold separately.	
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	1
Applicable 2	Connector for	Applicable cable:	1
wire size	communication	FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector for	0.66 to 0.98mm² (18 AWG)	7
	power supply	[\psi_2.2 to 3.0mm (A6CON-PW5P), \psi_2.0 to 2.3mm (A6CON-PW5P-SOD)]	
	and FG	Wire diameter: 0.16mm or more	
		Insulating coating material: PVC (heat-resistant)	
	Connector for	φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)	
	I/O	[Applicable wire size: 0.14 to 0.2mm <sup>2</sup> ]	
		φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)	
		[Applicable wire size: 0.3 to 0.5mm <sup>2</sup> ]	_
Accessory		User's manual	



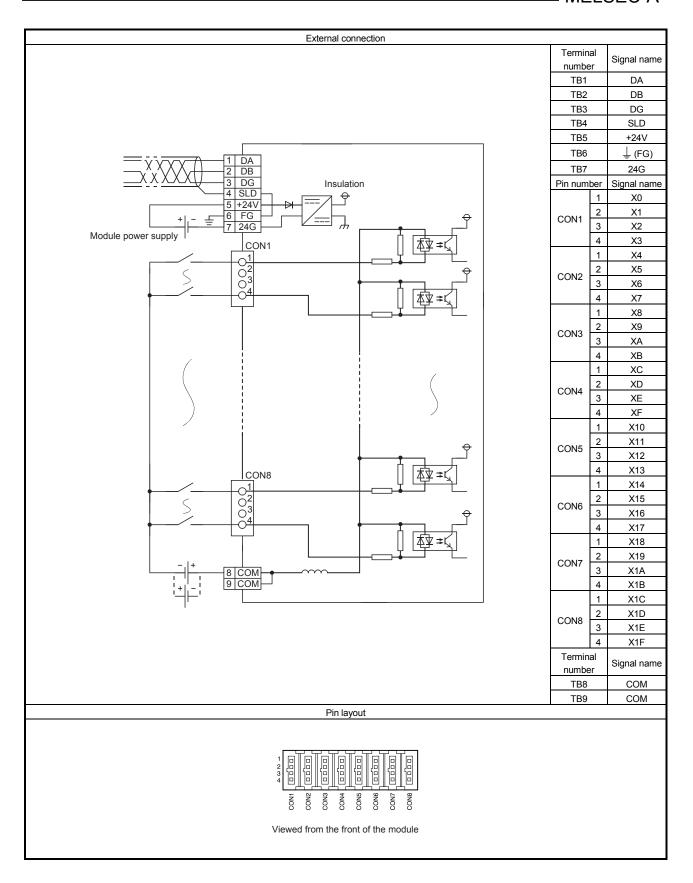
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# 4.4.6 AJ65SBTC1-32D 24VDC input module (positive common (sink), negative common (source) loading)

			/pe DC input module	
Item			AJ65SBTC1-32D	Appearance
Number of	input points		32 points	·
Isolation m	ethod		Photocoupler	
Rated inpu	t voltage		24VDC	
Rated inpu	t current		Approx. 5mA	
Operating v	voltage range		19.2 to 26.4VDC (ripple ratio: within 5%)	
Max. numb	er of simultaneous	s input points	80%	
ON voltage	e/ON current		14VDC or higher/3.5mA or higher	
OFF voltag	e/OFF current		6VDC or lower/1.7mA or lower	
Input resist	ance	_	Approx. 4.7kΩ	
Response	time	OFF→ON	1.5ms or less (at 24VDC)	
		ON→OFF	1.5ms or less (at 24VDC)	
Wiring met	hod for common		32 points/common (2 points) (1-wire, one-touch connector type)	
Input type			Positive/negative common shared type (sink/source shared type)	
Number of occupied stations			32-point assignment/station (32 points used)	
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
		Current	45mA or lower (at 24VDC and all points ON)	
Noise imm	unity		Noise voltage 500Vp-p, noise width 1µs,	
			noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation r	resistance		$10 M\Omega$ or higher between all DC external terminals and ground (500VD)	
			insulation resistance tester)	
Weight	•		0.16kg	
External	Communication p	,	7-point two-piece terminal block	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	connection module power supply part		[Transmission circuit, module power supply, FG]	1320 P B B B B B B B B B B B B B B B B B B
system			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	R. WO. 1.2.3.4.5.6.7. y  CO. O. O
	I/O power supply	part	2-point direct-mount terminal block	1514
			[I/O power supply]	2 3 4 5 2 3 4 6 2 3 4 6 2 2 4 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	WO nest		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	
	I/O part		Dedicated one-touch connector [I/O signals] 4-pin IDC plug is sold separately.	
Module mo	ounting screw		M4 screw with plain washer finished round	DA D
Wodule IIIO	diffully screw		(tightening torque range: 0.78 to 1.08 N•m)	
			Mountable with a DIN rail in 6 orientations	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
		art, Applica	` · · · · · · · · · · · · · · · · · · ·	
wire size	module power su		, ,	
	part	termina	• V2-MS3, RAP2-3SL, TGV2-3N	
	I/O power supply	part	[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	
	I/O part		φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)	
	·		[Applicable wire size: 0.14 to 0.2mm² (26 to 24 AWG) stranded wire]	
			φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)	
			[Applicable wire size: 0.3 to 0.5 mm² (22 to 20 AWG) stranded wire]	
Wire	Material		Copper	
Temperature rating			75°C or more	
Accessory			User's manual	

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

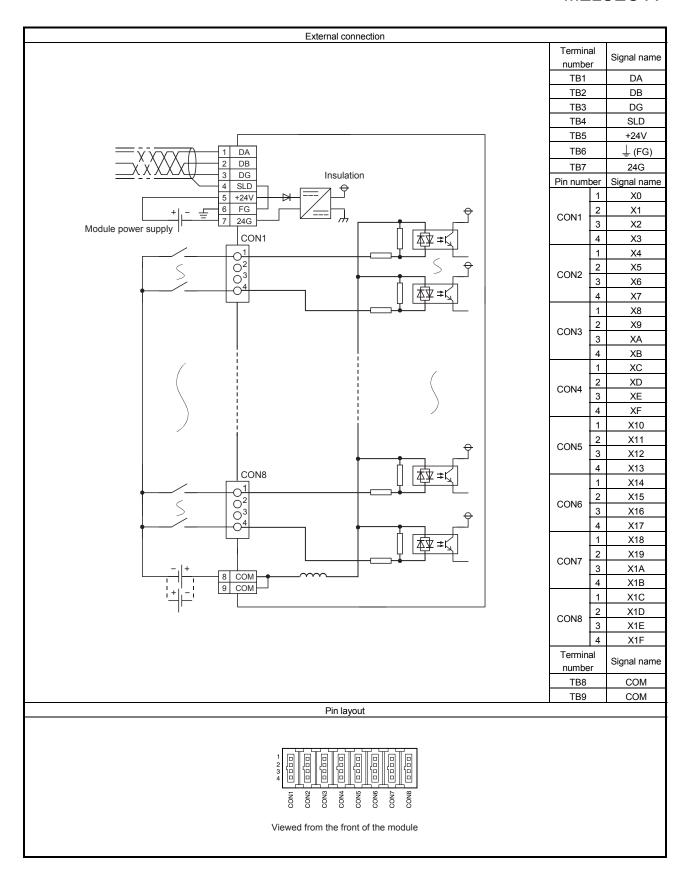


# 4.4.7 AJ65SBTC1-32D1 24VDC input module (positive common (sink), negative common (source) loading)

		Туре	DC input module			
Item			AJ65SBTC1-32D1	Appearance		
Number of	input points		32 points			
Isolation m	ethod		Photocoupler	<u></u>		
Rated inpu	t voltage		24VDC			
Rated inpu	t current		Approx. 5mA	]		
Operating voltage range			19.2 to 26.4VDC (ripple ratio: within 5%)	]		
	per of simultaneous inpu	ut points	100%	1		
ON voltage	e/ON current	•	15VDC or higher/3mA or higher			
OFF voltage/OFF current			3VDC or lower/0.5mA or lower	1		
Input resistance			Approx. 4.7kΩ			
		OFF→ON	0.2ms or less (at 24VDC)			
Response	time	ON→OFF	0.2ms or less (at 24VDC)	1		
Wiring met	hod for common		32 points/common (2 points) (1-wire, one-touch connector type)			
Input type			Positive/negative common shared type (sink/source shared type)			
	occupied stations		32-point assignment/station (32 points used)			
	•	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)			
Modulepov	ver supply	Current	45mA or lower (at 24VDC and all points ON)			
			Noise voltage 500Vp-p, noise width 1µs,	2 4 B S S S S S S S S S S S S S S S S S S		
Noise imm	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)			
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground			
			10M $\Omega$ or higher between all DC external terminals and ground (500VDC	4		
Insulation r	resistance		insulation resistance tester)	# # #### · · · · · · · · · · · · · · ·		
Protection	degree		IP2X	AX 0		
Weight			0.16kg			
External	Communication part,		7-point two-piece terminal block	3201 X8 X8 X8 X8 X8 X8 X8 X8 X8 X8		
connection	module power supply	part	[Transmission circuit, module power supply, FG]	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
system			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)			
			Applicable solderless terminal: 2 or less	A S S S S S S S S S S S S S S S S S S S		
	I/O power supply part		2-point direct-mount terminal block	2 6 4 8 6 7 8 6 7 8 6 7 8 6 7 8 8 7 8 8 8 8 8		
			[I/O power supply]	R. WO. 1 2 3 4 5 6 7 7 8 10 12 13 14 5 6 7 7 8 10 12 13 14 5 6 7 7 8 10 12 13 14 5 6 7 8 10 12 13 14 5 6 7 8 10 12 13 14 5 6 7 8 10 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15		
			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)			
			Applicable solderless terminal: 2 or less			
	I/O part		Dedicated one-touch connector [I/O signals]			
			4-pin IDC plug is sold separately.			
Module mo	ounting screw		M4 screw with plain washer finished round			
			(tightening torque range: 0.78 to 1.08N•m)			
A !	DINI"		Mountable with a DIN rail in 6 orientations	+		
Applicable		A 1: 1	TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)	+		
	Communication part,	Applicable	• RAV1.25-3 (compliant with JIS C 2805)			
wire size	module power supply	solderless	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N			
	I/O power supply part	terminal	Applicable wire size: 1.25 to 2.0mm <sup>2</sup> (16 to 14 AWG) stranded wire			
			φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)	+		
	I/O part		φ1.0 to 1.4 (AbCON-P214), φ1.4 to 2.0 (AbCON-P220)  Applicable wire size: 0.14 to 0.2mm² (26 to 24 AWG) stranded wire			
			\$4.0 to 1.4 (A6CON-P514), \$4.4 to 2.0 (A6CON-P520)			
			[Applicable wire size: 0.3 to 0.5 mm² (22 to 20 AWG) stranded wire]			
Wire	Material		Copper			
******	Temperature rating		75°C or more	†		
			User's manual	†		
Accessory			Oser s manual			

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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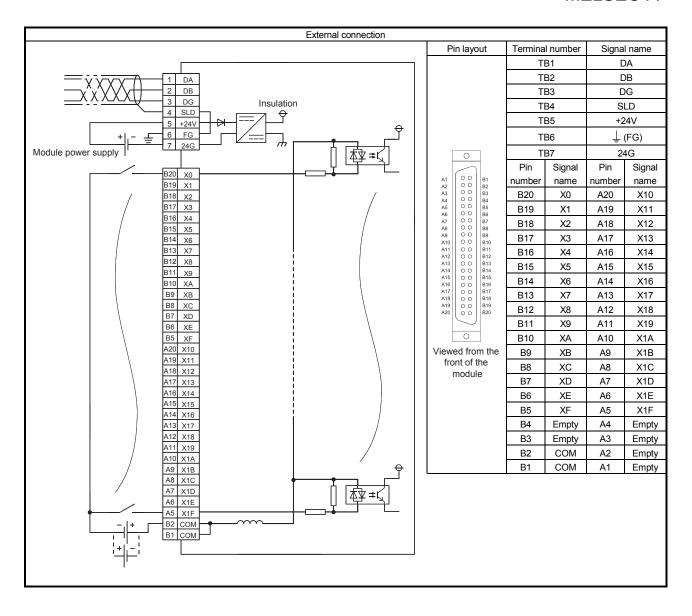
#### 4.5 FCN Connector Type Input Module

# 4.5.1 AJ65SBTCF1-32D 24VDC input module (positive common (sink), negative common (source) loading)

		Type	DC input module		
Item			AJ65SBTCF1-32D	Appea	rance
Number of i	input points		32 points		
Isolation method			Photocoupler		
Rated input	voltage		24VDC		
Rated input	current		Approx. 5mA		
Operating v	oltage range		19.2 to 26.4VDC (ripple ratio: within 5%)		
Max. numbe	er of simultaneous	s input points	100%		
ON voltage/	/ON current		14VDC or higher/3.5mA or higher		
OFF voltage	e/OFF current		6VDC or lower/1.7mA or lower		
Input resista	ance		Approx. $4.7$ k $\Omega$		
Response ti	ime (	OFF→ON	1.5ms or less (at 24VDC)		
	C	ON→OFF	1.5ms or less (at 24VDC)	,	
Wiring meth	nod for common		32 points/common (1-wire, FCN connector type)		
Input type			Positive/negative common shared type (sink/source shared type)	₹ 💚	
Number of a	occupied stations		32-point assignment/station (32 points used)		
Module pow	ver supply	/oltage	20.4 to 26.4VDC (ripple ratio: within 5%)		0 0
		Current	45mA or lower (at 24VDC and all points ON)	NO 11 NC I	0 0
Noise immu			Noise voltage 500Vp-p, noise width 1µs,	STATION N 20 1d 8 4	0 0
			noise frequency 25 to 60Hz (DC type noise simulator condition)	8TA 40 20 1 18 x 10 x 1	0 0
Withstand v	/oltage		500VAC for 1 minute between all DC external terminals and ground		0 0
Insulation re			10M $\Omega$ or higher between all DC external terminals and ground (500VDC	0 0 × × × × × × × × × × × × × × × × × ×	
	00.010.100		insulation resistance tester)		0 0 0
Protection d	degree		IP2X	X89 A B C D E F D D D D D D D D D D D D D D D D D	
Weight	209.00		0.15kg	18 C [	0 0 0 0
	Communication p	part	7-point two-piece terminal block	6.7 X89 A B 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	module power su		[Transmission circuit, module power supply, FG]	SB X SBIC	
system	oudio porroi od	pp.) pa	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	2 17 S 17 N 16 E	الإلسا
			Applicable solderless terminal: 2 or less	1415	
	I/O power supply	part,	40-pin connector [I/O power supply, I/O signal]	X	
	I/O part	. ,	(A6CON1, A6CON2, A6CON3, A6CON4)	X10 11.	
Module mo	unting screw		M4 screw with plain washer finished round	S S	1 (23)
	· ·		(tightening torque range: 0.78 to 1.08N•m)	V LRUN	
			Mountable with a DIN rail in 6 orientations		I (∑S) I ⊕ I
Applicable [	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)		
Applicable	Communication	Applicable	RAV1.25-3 (compliant with JIS C 2805)		
wire size	part,	solderless	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
	module power	terminal*1	• V2-MS3, RAP2-3SL, TGV2-3N		
	supply part		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		
	I/O power supply	part,	• 0.08 to 0.3mm² (28 to 22 AWG) stranded wire (A6CON1 and A6CON4)*2		
	I/O part		• 0.08 to 0.2mm <sup>2</sup> (28 to 24 AWG) stranded wire (A6CON2)		
			• 0.08mm² (28 AWG) stranded wire, \( \phi 0.25mm \) (30 AWG) single wire (A6CON3)		
Wire	Material		Copper		
	Temperature ration	ng	75°C or more		
Applicable connector/ terminal block conversion module		odule	A6TBXY36, A6TBXY54, A6TBX70		
Accessory			User's manual		

<sup>\*1</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

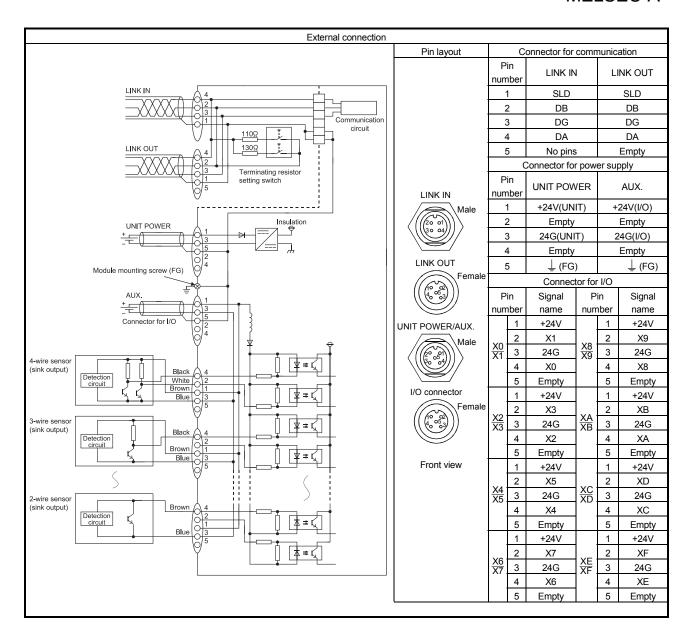
<sup>\*2</sup> Use cables with outside diameter of 1.3mm or shorter to connect 40 cables to the connector. In addition, consider the amount of current to be used and select appropriate cables.



## 4.6 Waterproof Type Input Module

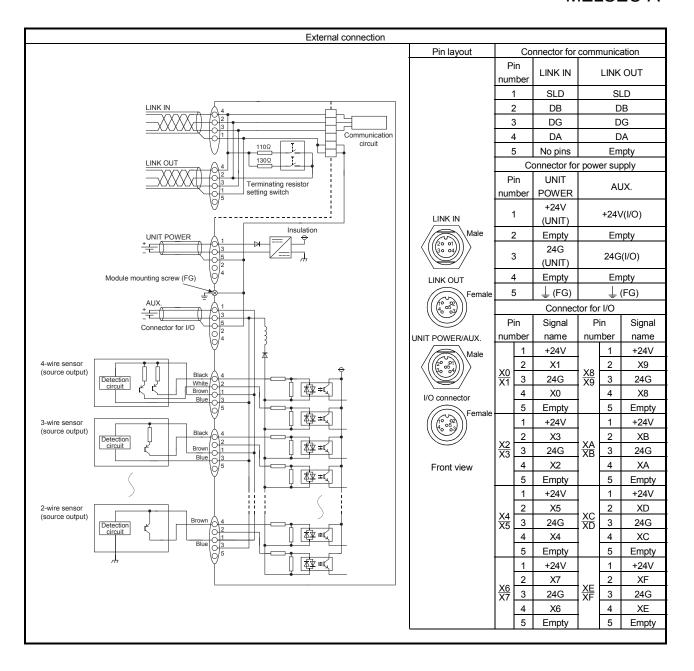
## 4.6.1 AJ65FBTA4-16D 24VDC input module (positive common (sink type))

Туре		DC input module		
Item		AJ65FBTA4-16D	Appearance	
Number of input points		16 points		
Isolation method		Photocoupler		
Rated input voltage		24VDC		
Rated input current		Approx. 7mA		
Operating voltage range		20.4 to 26.4VDC (ripple ratio: within 5%)		
Max. number of simultaneo	ous input points	100%		
ON voltage/ON current		14VDC or higher/3.5mA or higher	WELSEC Alegration-lead	
OFF voltage/OFF current		6VDC or lower/1.7mA or lower	CC-Link STATION NO. POWER ON MAN	
Input resistance		Approx. 3.3kΩ		
Response time	OFF→ON	1.5ms or less (at 24VDC)	XX 80 9 100 XX 100 9 100 XX 1	
	ON→OFF	1.5ms or less (at 24VDC)	UNIT POWER AUX. XI OF SE	
Wiring method for commor	Ì	16 points/common (2- to 4-wire, waterproof connector type)		
Input type		Positive common (sink type)		
Supply current for connecte	ed device	1.0A of lower/common		
Number of occupied station	าร	32-point assignment/station (16 points used)		
Module power supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)		
	Current	40mA or lower (at 24VDC and all points ON)		
Noise immunity		Noise voltage 500Vp-p, noise width 1µs, noise frequency 25 to 60Hz (DC type noise simulator condition)	X2 X3 XB	
Withstand voltage		500VAC for 1 minute between all DC external terminals and ground		
Insulation resistance		$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)	X4 (S) (S) XC XD	
Protection degree		IP67		
Weight		0.40kg		
Accessory		User's manual		
Optional item		Waterproof cap: A6CAP-WP2 (20 pieces)		
Other connecting devices		Refer to Section 1.6.1.		



## 4.6.2 AJ65FBTA4-16DE 24VDC input module (negative common (source type))

Туре		DC input module		
Item		AJ65FBTA4-16DE	Appearance	
Number of input points		16 points		
Isolation method		Photocoupler		
Rated input voltage		24VDC		
Rated input current		Approx. 7mA		
Operating voltage range		20.4 to 26.4VDC (ripple ratio: within 5%)		
Max. number of simultaneo	ous input points	100%		
ON voltage/ON current		14VDC or higher/3.5mA or higher	MELSEC AJ65FBTA4-16DE	
OFF voltage/OFF current		6VDC or lower/1.7mA or lower	CC-Link STATION NO. PURS P. P.M.	
Input resistance		Approx. 3.3kΩ	STATION NO.   PARCE   O	
Response time	OFF→ON	1.5ms or less (at 24VDC)	(조리스 현재) (조리스 현재) (조리스 현재) (조리스 현재)	
	ON→OFF	1.5ms or less (at 24VDC)	UNIT POWER AUX. X76 6/XF	
Wiring method for commor	<u> </u>	16 points/common (2- to 4-wire, waterproof connector type)		
Input type		Negative common (source type)		
Supply current for connecte	ed device	1.0A or lower/common		
Number of occupied station	ns	32-point assignment/station (16 points used)		
Module power supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)		
	Current	40mA or lower (at 24VDC and all points ON)		
Noise immunity		Noise voltage 500Vp-p, noise width 1µs,	$\frac{X^2}{X^3} \bigcirc \frac{X^4}{X^3}$	
Withstand voltage		noise frequency 25 to 60Hz (DC type noise simulator condition) 500VAC for 1 minute between all DC external terminals and ground	<del> </del>	
Insulation resistance		· · · · · · · · · · · · · · · · · · ·	$\frac{x_4}{x_5}$	
insulation resistance		$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)	X5 W XI	
Protection degree		IP67		
Weight		0.40kg		
Accessory		User's manual		
Optional item		Waterproof cap: A6CAP-WP2 (20 pieces)		
Other connecting devices		Refer to Section 1.6.1.		



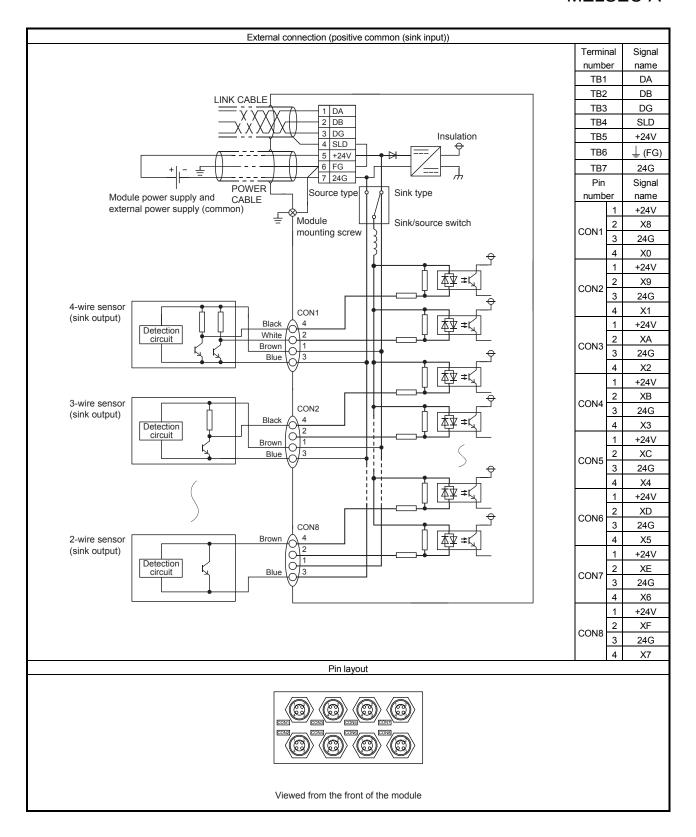
# 4.6.3 AJ65SBTW4-16D 24VDC input module (positive common (sink), negative common (source) loading)

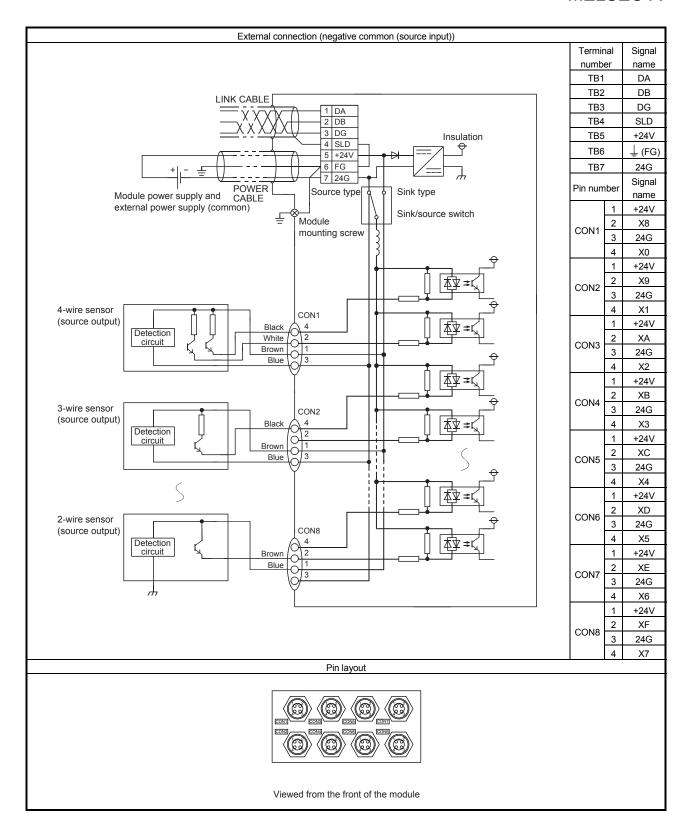
	_	Type	DC input module	
Item		.,,,,,	AJ65SBTW4-16D	Appearance
Operating ambient temperature		ure	0 to 45°C	
Storage ambient temperature			-20 to 65°C *1 *3	Ī
Number of input points			16 points	
Isolation me	ethod		Photocoupler	
Rated input	voltage		24VDC	
Rated input	current		Approx. 5mA	
Operating v	oltage range		20.4 to 26.4VDC (ripple ratio: within 5%)	
Max. numb	er of simultaneou	is input	4000/	
points			100%	
ON voltage	ON current		14VDC or higher/3.5mA or higher	
OFF voltag	e/OFF current		6VDC or lower/1.7mA or lower	
Input resista	ance		Approx. 4.7kΩ	
Doonanaa t	a	OFF→ON	1.5ms or less (at 24VDC)	
Response t	ime	ON→OFF	1.5ms or less (at 24VDC)	WO OLERA WO O'S STO
Miring moth	and for common		16 points/common (4-wire, waterproof connector type)	\$ \delta \$ \delta \text{\$ \del
wining meu	nod for common		Same as that for the module power supply	0 00000000 Melsec
Input tupo			Positive/negative common shared type (sink/source shared type)	
Input type			(Selected using the switch.)	]
Number of	occupied stations	3	32-point assignment/station (16 points used)	
	V	/oltage	20.4 to 26.4VDC (ripple ratio: within 5%)	NOO OO
Module pov	ver supply	Current	35mA or lower (at 24VDC and all points ON),	
			excluding input current for I/O part	(69)   (69)
Naisa imm	units c		Noise voltage 500Vp-p, noise width 1µs,	
Noise immu	ırııty		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand v	oltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation re	ocietanco		$10M\Omega$ or higher between all DC external terminals and ground (500VDC	
IIISulation	coiolarice		insulation resistance tester)	
Protection of	degree		IP67	
Weight			0.70kg	
			7-point two-piece terminal block	
			[Transmission circuit, module power supply, FG]	SON:
			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Waterproof connector	
External co	nnection system		[compliant with IEC 60947-5-2, M12, male, 4 pins, IP67]	S CAB
			(connector for I/O)	I OWE
			<pre><optional> District ACCAR ROLL (00 size as) sustained from ACCAR MIRA (00 size as)</optional></pre>	
			Dustproof cap: A6CAP-DC1 (20 pieces), waterproof cap: A6CAP-WP1 (20	
	Module top-cover	r mounting	pieces)	
	screw (M3)	rmounting	0.54 to 0.64N•m	
	Module front-cov	er mounting		
Tightening	screw (M3)	er mounting	0.54 to 0.64N•m	
torque	Module mounting	screw		1
range*2	(M4 with plain wa		1.27 to 1.47N•m	
	finished round)			
	Nut for pipe		0.99 to 1.48N•m	1
	- 1075		Applicable cable size: $\phi$ 5.0 to 8.0mm	†
	Communication	part,	• RAV1.25-3 (compliant with JIS C 2805)	
Applicable	module power su	-	[Applicable wire size: 0.3 to 1.25mm²]	
wire size	I/O power supply		• V2-MS3, RAP2-3SL, TGV2-3N	
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	
	Connector for I/O	)	-	
Accessory			User's manual, waterproof plug (2 pieces)	

 $<sup>\</sup>pm$  1: Store the wired module in the ambient temperatures of -10 to 55°C.

st 2: Do not apply an excessive force (39N or more) to the connected cable at the inlet of the pipe.

<sup>\*</sup> 3: To use the wired module that has been stored exceeding the ambient temperature of 55°C, retighten the nuts.





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# 5 SPECIFICATIONS FOR OUTPUT MODULES

This chapter describes the specifications for an output module that can be connected to the CC-Link system.

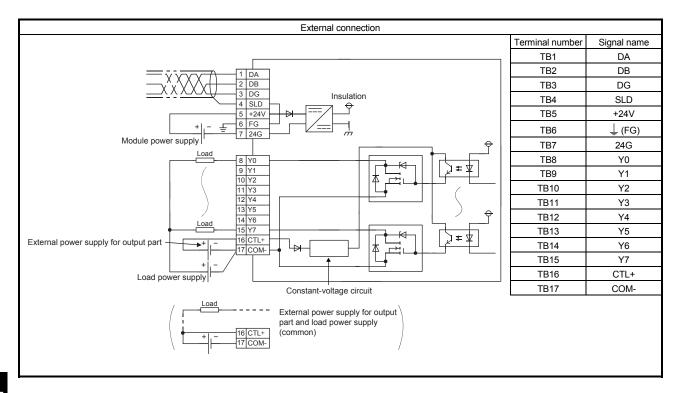
#### 5.1 Terminal Block Type Output Module

#### 5.1.1 AJ65SBTB1-8T transistor output module (sink type)

_	_	Type	Transistor output module	
Item			AJ65SBTB1-8T	Appearance
Number of c	output points		8 points	
Isolation method			Photocoupler	1
Rated load v	voltage		12/24VDC	1
Operating lo	oad voltage rang	je	10.2 to 26.4VDC (ripple ratio: within 5%)	1
Max. load cu	urrent		0.5A/point, 2.4A/common	1
Max. inrush	current		1.0A, 10ms or less	1
Leakage cui	rrent at OFF		0.25mA or lower	1
Max. voltage	e drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	7
Output type	!		Sink type	
Protection fu	unction		Overload protection, overvoltage protection, overheat protection	1
		OFF→ON	0.5ms or less	7
Response ti	ime	ON→OFF	1.5ms or less (resistive load)	7
External pov	wer supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	7
output part		Current	15mA or lower (TYP. 24VDC/common), excluding external load current	†
Surge suppr	ressor		Zener diode	
	nod for common		8 points/common (1-wire, terminal block type)	
	occupied station		32-point assignment/station (8 points used)	
		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
Module pow	ver supply	Current	35mA or lower (at 24VDC and all points ON)	
		Carront	Noise voltage 500Vp-p, noise width 1µs,	
Noise immu	ınity		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground	
			10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
Insulation re	esistance		insulation resistance tester)	
Protection d	dearee		IP2X	1 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Weight	- 5		0.14kg	24 Card Sad Sad Sad Sad Sad Sad Sad Sad Sad Sa
			7-point two-piece terminal block	
	Communication	part,	[Transmission circuit, module power supply, FG]	DA DG DG DB S S S S S S S S S S S S S S S S S S
	module power s	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
External			Applicable solderless terminal: 2 or less	
connection			10-point direct-mount terminal block	
system	I/O power supp	ly part,	[I/O power supply, I/O signal]	
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	
			M4 screw with plain washer finished round	
Module mou	unting screw		(tightening torque range: 0.78 to 1.08N•m)	
			Mountable with a DIN rail in 6 orientations	
Applicable D	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
			RAV1.25-3 (compliant with JIS C 2805)	
Applicable s	solderless termir	nal	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
			• V2-MS3, RAP2-3SL, TGV2-3N	
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	4
I	Material		Copper	-
	Temperature ra	ting	75°C or more	4
Accessory	liaalda aaldad		User's manual	

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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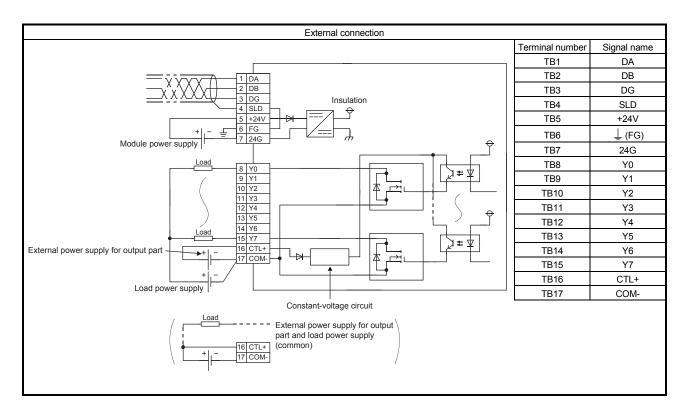


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# 5.1.2 AJ65SBTB1-8T1 transistor output module (sink type)

		Туре	Transistor output module		
Item			AJ65SBTB1-8T1	Appearance	
Number of	output points		8 points		
Isolation method			Photocoupler	1	
Rated load	voltage		12/24VDC	1	
Operating I	oad voltage rang	е	10.2 to 26.4VDC (ripple ratio: within 5%)	7	
Max. load o	current		0.5A/point, 2.4A/common	7	
Max. inrush	n current		1.0A, 10ms or less	7	
Leakage cu	urrent at OFF		0.1mA or lower	7	
Max. voltag	ge drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	1	
Output type	Э		Sink type	1	
Protection	function		None	7	
_		OFF→ON	0.5ms or less	1	
Response	time	ON→OFF	1.5ms or less (resistive load)	1	
External po	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	7	
output part		Current	15mA or lower (TYP. 24VDC/common), excluding external load current	1	
Surge supp	oressor	u .	Zener diode		1
	hod for common		8 points/common (1-wire, terminal block type)		
	occupied stations	3	32-point assignment/station (8 points used)		
		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)		
Module po	wer supply	Current	35mA or lower (at 24VDC and all points ON)		
		1	Noise voltage 500Vp-p, noise width 1µs,	TA T	$\overline{m}$
Noise imm	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)		$/\!/$
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	S- 6- 10 (3)	61
			10MΩ or higher between all DC external terminals and ground (500VDC		
Insulation r	esistance		insulation resistance tester)		$\mathbb{P}$
Protection	degree		IP2X		<b>\</b> \\
Weight			0.14kg	3. YO 1 2 3 4 JOSSBITB1-8T 1-24V 24G D	٣
			7-point two-piece terminal block	1   % 4     (5°0)	
	Communication	part,	[Transmission circuit, module power supply, FG]		
Cutomal	module power s	upply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
External connection			Applicable solderless terminal: 2 or less		
system			10-point direct-mount terminal block		,
Зузісні	I/O power suppl	y part,	[I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
			Applicable solderless terminal: 2 or less	4	
			M4 screw with plain washer finished round		
Module mo	ounting screw		(tightening torque range: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orientations	4	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	4	
			• RAV1.25-3 (compliant with JIS C 2805)		
Applicable	solderless termin	al	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
''			• V2-MS3, RAP2-3SL, TGV2-3N		
Wire	Material		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	+	
vviie	Material Temperature ret	ina	Copper 75°C or more	+	
A	Temperature rat	ırıg		+	
Accessory			User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

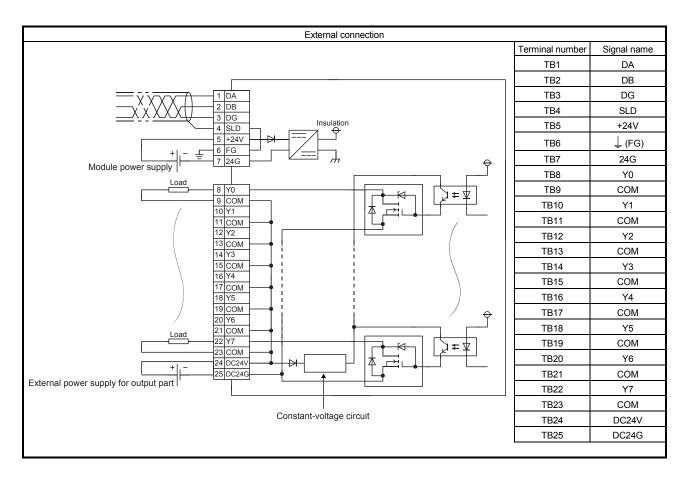


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## 5.1.3 AJ65SBTB2-8T transistor output module (sink type)

	_	Туре	Transistor output module		
Item			AJ65SBTB2-8T	Appea	rance
Number of	output points		8 points		
Isolation me	ethod		Photocoupler		
Rated load	voltage		12/24VDC		
Operating lo	oad voltage rang	ge	10.2 to 26.4VDC (ripple ratio: within 5%)	İ	
Max. load c	urrent		0.5A/point, 2.4A/common		
Max. inrush	current		1.0A, 10ms or less	ĺ	
Leakage cu	irrent at OFF		0.25mA or lower	ĺ	
Max. voltag	e drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	ĺ	
Output type	)		Sink type	ĺ	
Protection f	unction		Overload protection, overvoltage protection, overheat protection		
		OFF→ON	0.5ms or less		
Response t	ime	ON→OFF	1.5ms or less (resistive load)		
External por	wer supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)		
output part	5566., 101	Current	17.8mA or lower (TYP. 24VDC/common), excluding external load current		1 (5-() 1
Surge supp	ressor	ou	Zener diode		
	nod for common		8 points/common (2-wire, terminal block type)	2 1 1 W	
	occupied station		32-point assignment/station (8 points used)	A CC	1 (5-0)
rvamber or v	occupica station	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)		
Module pov	ver supply	Current	45mA or lower (at 24VDC and all points ON)	A V5	11/2-27 1
		Current	Noise voltage 500Vp-p, noise width 1µs,	N 4 N	
Noise immu	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)	20	
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground	SSB182-81    SSB182-81   SSB18	1 10.01
vviti istariu v	rollage		10MΩ or higher between all DC external terminals and ground (500VDC	Z A	[8] [8]
Insulation re	esistance		insulation resistance tester)	M 71	
Protection of	learee		IP2X	Augsbtb2-81	
Weight	degree		0.18kg		
vveigni			7-point two-piece terminal block	Y01 2 3 4 5 6 7	
	Communication	nart	[Transmission circuit, module power supply, FG]	2 3 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	module power		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	- Y01	
External	module power	supply part	Applicable solderless terminal: 2 or less	N LERR YI	113"() 1
connection			18-point direct-mount terminal block	DA DA	W   M
system	I/O power supp	ly part	[I/O power supply, I/O signal]		
	I/O part	., , ,	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
			Applicable solderless terminal: 2 or less		
	•		M4 screw with plain washer finished round	ĺ	
Module mo	unting screw		(tightening torque range: 0.78 to 1.08N•m)		
	3		Mountable with a DIN rail in 6 orientations		
Applicable I	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)		
		· · · · · · · · · · · · · · · · · · ·	RAV1.25-3 (compliant with JIS C 2805)		
Applicable	coldariose termi	nal	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
Applicable	solderless termi	ııal	• V2-MS3, RAP2-3SL, TGV2-3N		
	•		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		
Wire	Material		Copper		
	Temperature ra	iting	75°C or more		
Accessory			User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

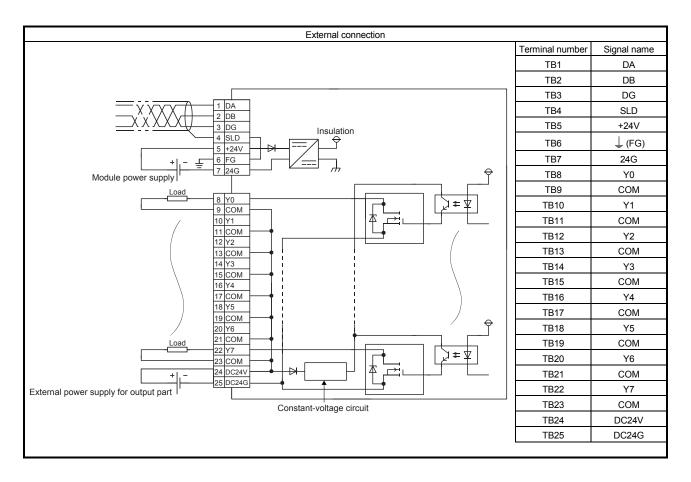


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# 5.1.4 AJ65SBTB2-8T1 transistor output module (sink type)

		Туре	Transistor output module		
Item			AJ65SBTB2-8T1	Appearance	
Number of	output points		8 points		
Isolation m	ethod		Photocoupler		
Rated load	l voltage		12/24VDC		
Operating I	load voltage rang	ge	10.2 to 26.4VDC (ripple ratio: within 5%)	Ī	
Max. load o	current		0.5A/point, 2.4A/common	1	
Max. inrush	h current		1.0A, 10ms or less	]	
Leakage cu	urrent at OFF		0.1mA or lower		
Max. voltag	ge drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	1	
Output type	e		Sink type	1	
Protection	function		None		
_		OFF→ON	0.5ms or less		
Response	time	ON→OFF	1.5ms or less (resistive load)		
External po	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)		
output part		Current	17.8mA or lower (TYP. 24VDC/common), excluding external load current		1 (50) 1 - 1
Surge supp	pressor		Zener diode		
	thod for common		8 points/common (2-wire, terminal block type)	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	10.01
	occupied station		32-point assignment/station (8 points used)	TION NI	
		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)		
Module po	wer supply	Current	45mA or lower (at 24VDC and all points ON)		10.01
			Noise voltage 500Vp-p, noise width 1µs,	N	
Noise imm	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)		$   (\Sigma C)    =   V   $
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	SSBTB2-811    Com   Com	
			10MΩ or higher between all DC external terminals and ground (500VDC	TE MON	10.0111
Insulation r	resistance		insulation resistance tester)	TB2-8:	(323)   - 1
Protection	degree		IP2X		
Weight	J		0.18kg		
			7-point two-piece terminal block		
	Communication	n part,	[Transmission circuit, module power supply, FG]	MEN	
	module power s	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	.R. Y01	0-0
External			Applicable solderless terminal: 2 or less	9 S	
connection system	1		18-point direct-mount terminal block		10.01
System	I/O power supp	ly part,	[I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
			Applicable solderless terminal: 2 or less	1	
			M4 screw with plain washer finished round		
Module mo	ounting screw		(tightening torque range: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orientations	1	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	<u> </u>	
			• RAV1.25-3 (compliant with JIS C 2805)		
Applicable	solderless termin	nal	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
11.			• V2-MS3, RAP2-3SL, TGV2-3N		
\\/iro	Matarial		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	1	
Wire	Material	. ti	Copper 75°C or more	+	
A · · ·	Temperature ra	aung		+	
Accessory	Accessory		User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



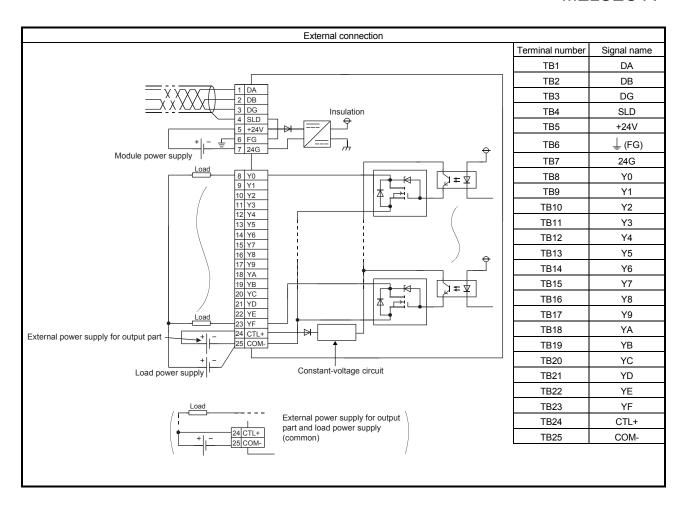
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# 5.1.5 AJ65SBTB1-16T transistor output module (sink type)

	_	Туре	Transistor output module		
Item			AJ65SBTB1-16T	Appea	rance
Number of o	utput points		16 points		
Isolation met	hod		Photocoupler		
Rated load v	oltage		12/24VDC		
Operating loa	ad voltage rang	je	10.2 to 26.4VDC (ripple ratio: within 5%)		
Max. load cu	rrent		0.5A/point, 3.6A/common		
Max. inrush	current		1.0A, 10ms or less	]	
Leakage cur	rent at OFF		0.25mA or lower	]	
Max. voltage	drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
Output type			Sink type		
Protection fu	nction		Overload protection, overvoltage protection, overheat protection	]	
		OFF→ON	0.5ms or less	]	
Response tir	ne	ON→OFF	1.5ms or less (resistive load)		
External Pov	ver supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)		
output part		Current	30mA or lower (TYP. 24VDC/common), excluding external load current	RATE 2 1	(398) - 1
Surge suppr	essor		Zener diode		
	od for common		16 points/common (1-wire, terminal block type)	1	
	ccupied station	9	32-point assignment/station (16 points used)	1   製制 岩]    o -	1 (550)
rtamber or o	ocupica ctation	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	STATIC 40.20 1018 H H H H H H H H H H H H H H H H H H H	
Module power	er supply	Current	50mA or lower (at 24VDC and all points ON)		1 10.01
		Odificit	Noise voltage 500Vp-p, noise width 1µs,	N≪	
Noise immur	nity		noise frequency 25 to 60Hz (DC type noise simulator condition)		[ (SEC)   "   W
Withstand vo	oltage		500VAC for 1 minute between all DC external terminals and ground	×89 A B C D E F C C C C C C C C C C C C C C C C C C	I ID.C V I
			10M $\Omega$ or higher between all DC external terminals and ground (500VDC		
Insulation re	sistance		insulation resistance tester)	A B 1-12 - 1-12	1 (20)
Protection de	egree		IP2X	3 7 Y89 A B G 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Weight	<i>.</i>		0.18kg		
			7-point two-piece terminal block	3 4 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	Communication	on part.	[Transmission circuit, module power supply, FG]	2 3 4	
	module power		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	- Y0 1 +24V	(50)
External		,	Applicable solderless terminal: 2 or less		
connection			18-point direct-mount terminal block		10.01
system	I/O power sup	ply part,	[I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
			Applicable solderless terminal: 2 or less		
			M4 screw with plain washer finished round		
Module mou	nting screw		(tightening torque range: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orientations		
Applicable D	Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)		
			RAV1.25-3 (compliant with JIS C 2805)		
Applicable so	Applicable solderless terminal		[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
. ippiloabic st	Applicable soluciless tellillial		• V2-MS3, RAP2-3SL, TGV2-3N		
	1		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		
Wire	Material		Copper		
	Temperature	rating	75°C or more		
Accessory			User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

5-9 5-9



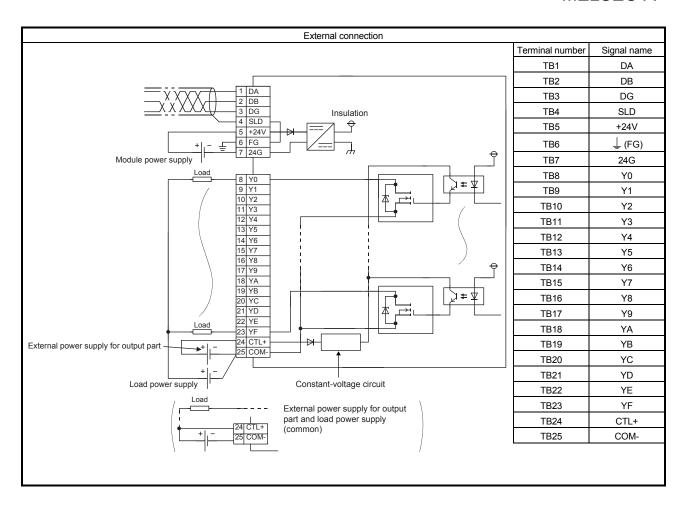
5 - 10 5 - 10

# 5.1.6 AJ65SBTB1-16T1 transistor output module (sink type)

		Туре	Transistor output module		
Item			AJ65SBTB1-16T1	Appea	rance
Number of	output points		16 points		
Isolation m	ethod		Photocoupler	1	
Rated load	l voltage		12/24VDC		
Operating I	load voltage rang	je	10.2 to 26.4VDC (ripple ratio: within 5%)	Ī	
Max. load	current		0.5A/point, 3.6A/common		
Max. inrust	h current		1.0A, 10ms or less		
Leakage ci	urrent at OFF		0.1mA or lower		
Max. voltag	ge drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
Output type	е		Sink type	1	
Protection	function		None		
_		OFF→ON	0.5ms or less	1	
Response	time	ON→OFF	1.5ms or less (resistive load)		
External po	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)		
output part		Current	30mA or lower (TYP. 24VDC/common), excluding external load current	RATE 2 1	(308)   -
Surge supp	pressor		Zener diode		
	thod for common		16 points/common (1-wire, terminal block type )	<del> </del>       <sup>-</sup>	115-(11
	occupied station	S	32-point assignment/station (16 points used)	1    SS    H   S    S	1 1)(1 1
		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	STAT	
Module po	wer supply	Current	50mA or lower (at 24VDC and all points ON)		1 ()~() 1
		1	Noise voltage 500Vp-p, noise width 1µs,	- N - N - N - N - N - N - N - N - N - N	
Noise imm	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)		[ (5°0) [ " W ]
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	Y89 A B C D E F C D C C C C C C C C C C C C C C C C C	
	-		10M $\Omega$ or higher between all DC external terminals and ground (500VDC	114 Har	1 10.0 11 1
Insulation r	resistance		insulation resistance tester)	789 A 1000000000000000000000000000000000000	(050)   - 1/ 1
Protection	degree		IP2X	1 11 % 15 1	
Weight	<u> </u>		0.18kg		
Ŭ			7-point two-piece terminal block		
	Communication	part,	[Transmission circuit, module power supply, FG]	1 2 3 4   1   2   3   4   1   3   4   1   3   4   1   3   4   1   3   4   1   3   4   1   3   4   1   3   4   1   3   4   3   4   3   4   4   4   4   5   3   4   4   4   5   3   4   4   4   5   3   4   4   4   5   3   4   4   5   3   4   4   5   3   4   5   4   5   4   5   5   4   5   5	
F ()	module power s	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	R. Y01	1 ()-()
External			Applicable solderless terminal: 2 or less	S   S	
connection system			18-point direct-mount terminal block		112.011
System	I/O power supp	ly part,	[I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
			Applicable solderless terminal: 2 or less	1	
			M4 screw with plain washer finished round		
Module mo	ounting screw		(tightening torque range: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orientations	1	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	1	
			RAV1.25-3 (compliant with JIS C 2805)		
Applicable	solderless termir	nal	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
,,			• V2-MS3, RAP2-3SL, TGV2-3N		
\\/iro	Matarial		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	1	
Wire	Material	t:	Copper	+	
A · · ·	Temperature ra	ung	75°C or more	+	
Accessory	Accessory		User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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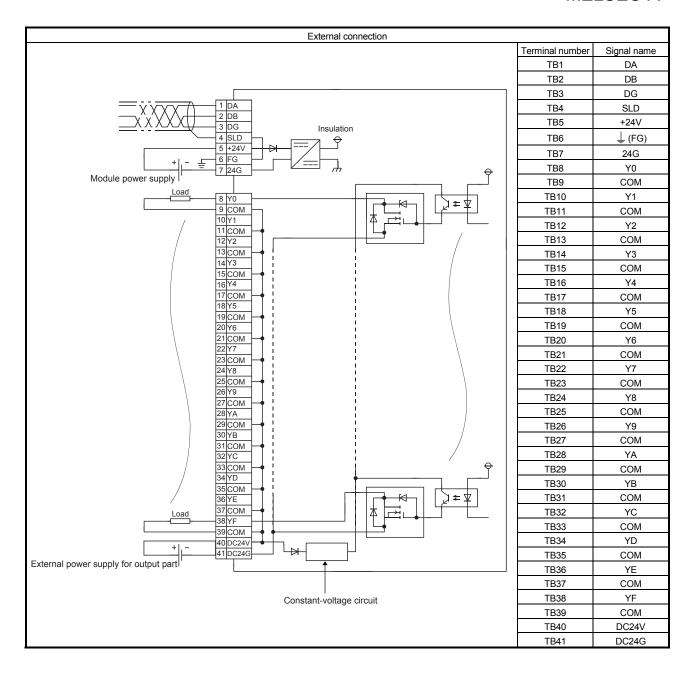
5 - 12 5 - 12

## 5.1.7 AJ65SBTB2-16T transistor output module (sink type)

		Type	Transistor output module			
Item			AJ65SBTB2-16T	Appearance		
Number of	f output points		16 points			
Isolation method			Photocoupler			
Rated load voltage			12/24VDC			
Operating	load voltage range	Э	10.2 to 26.4VDC (ripple ratio: within 5%)			
Max. load			0.5A/point, 3.6A/common			
Max. inrus	h current		1.0A, 10ms or less			
Leakage c	current at OFF		0.25mA or lower			
Max. volta	ge drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A			
Output typ	e		Sink type			
Protection	function		Overload protection, overvoltage protection, overheat protection			
		OFF→ON	0.5ms or less			
Response	time	ON→OFF	1.5ms or less (resistive load)			
External p	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)			
output par		Current	24.2mA or lower (TYP. 24VDC/common), excluding external load current			
Surge sup			Zener diode			
	thod for common		16 points/common (2-wire, terminal block type)			
	f occupied stations	}	32-point assignment/station (16 points used)			
		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)			
Module power supply		Current	55mA or lower (at 24VDC and all points ON)			
		04.101.1	Noise voltage 500Vp-p, noise width 1µs,			
Noise imm	nunity		noise frequency 25 to 60Hz (DC type noise simulator condition)			
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground			
			$10 \text{M}\Omega$ or higher between all DC external terminals and ground (500VDC insulation			
Insulation	resistance		resistance tester)			
Protection	degree		IP2X			
Weight	<b>J</b>		0.25kg			
			7-point two-piece terminal block			
	Communication	part,	[Transmission circuit, module power supply, FG]	182-167 182-167 183 (8) (8) (8) (8) (8) (8) (8) (8) (8) (8)		
C. 4	module power s	upply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	17 78 8 A B L L L L L L L L L L L L L L L L L L		
External			Applicable solderless terminal: 2 or less	10   10   10   10   10   10   10   10		
connection system	1		34-point direct-mount terminal block	1 2 3 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		
System	I/O power supply	part,	[I/O power supply, I/O signal]			
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	₩          Û    /		
			Applicable solderless terminal: 2 or less			
			M4 screw with plain washer finished round			
Module mo	ounting screw		(tightening torque range: 0.78 to 1.08N•m)			
			Mountable with a DIN rail in 6 orientations			
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)			
			• RAV1.25-3 (compliant with JIS C 2805)			
Applicable solderless terminal		al	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]			
''			• V2-MS3, RAP2-3SL, TGV2-3N			
Wire	Material		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]			
vviie	Material Temperature ret	ina	Copper 75°C or more			
A 0000000	Temperature rat	ırıy				
Accessory			User's manual			

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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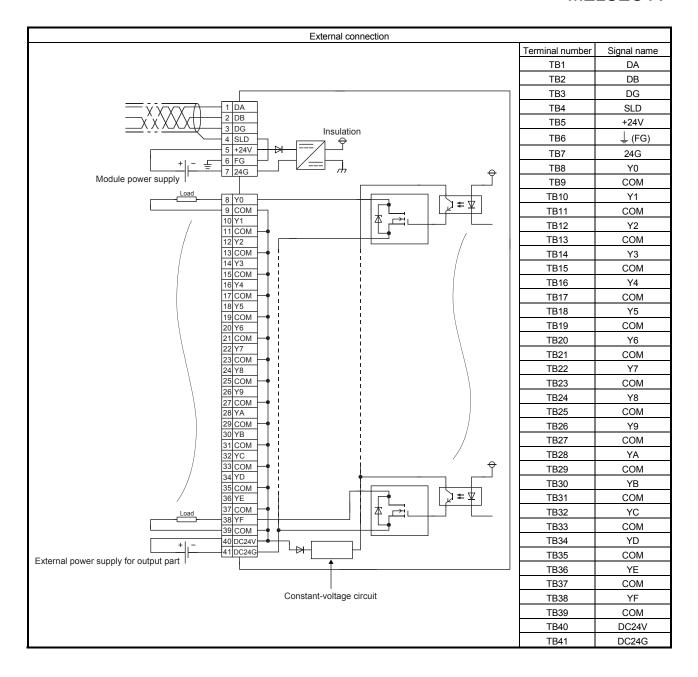
5 - 14 5 - 14

## 5.1.8 AJ65SBTB2-16T1 transistor output module (sink type)

		Туре	Transistor output module		
Item			AJ65SBTB2-16T1	Appea	arance
Number of	output points		16 points		
Isolation method			Photocoupler		
Rated load voltage			12/24VDC		
Operating I	oad voltage range	е	10.2 to 26.4VDC (ripple ratio: within 5%)		
Max. load o	current		0.5A/point, 3.6A/common		
Max. inrush	n current		1.0A, 10ms or less		
Leakage cu	urrent at OFF		0.1mA or lower		
Max. voltag	ge drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
Output type	9		Sink type		
Protection 1	function		None		
		OFF→ON	0.5ms or less		
Response	time	ON→OFF	1.5ms or less (resistive load)	HBB CON	
External po	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)		
output part		Current	24.2mA or lower (TYP. 24VDC/common), excluding external load current	BBB A	
Surge supp		1	Zener diode		
	hod for common		16 points/common (2-wire, terminal block type)	N N N N N N N N N N N N N N N N N N N	
	occupied stations	<u> </u>	32-point assignment/station (16 points used)	A Y B	
rtarrisor or	occupiou cianoni	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	× ×	
Module pov	wer supply	Current	55mA or lower (at 24VDC and all points ON)		
		Odifont	Noise voltage 500Vp-p, noise width 1µs,	000	
Noise imm	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)	COM	
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	L NOS	
Withotalia	vollago		10MΩ or higher between all DC external terminals and ground (500VDC insulation	J A	
Insulation r	esistance		resistance tester)	No Ys	
Protection	degree		IP2X	M	
Weight	acgree		0.25kg		
Wolgin			7-point two-piece terminal block	98 A B C D E F G G G G G G G G G G G G G G G G G G	
	Communication	part.	[Transmission circuit, module power supply, FG]	A B C C C C C C C C C C C C C C C C C C	
	module power s	•	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	SBTB SBTB	
External			Applicable solderless terminal: 2 or less	.vo 1 2 3 4 5 6 7 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	L - L
connection			34-point direct-mount terminal block	1 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
system	I/O power supply	v part,	[I/O power supply, I/O signal]		
	I/O part	•	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	ERR. Y	
			Applicable solderless terminal: 2 or less	1 N 1 N 1 N 1 N 1 N 1 N 1 N 1 N 1 N 1 N	
			M4 screw with plain washer finished round		
Module mo	unting screw		(tightening torque range: 0.78 to 1.08N•m)		
	_		Mountable with a DIN rail in 6 orientations		
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)		
			RAV1.25-3 (compliant with JIS C 2805)		
Applicable calderland terminal		al	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
Applicable solderless terminal		aı	• V2-MS3, RAP2-3SL, TGV2-3N		
	1		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	l	
Wire	Material		Copper		
	Temperature rat	ing	75°C or more		
Accessory			User's manual		

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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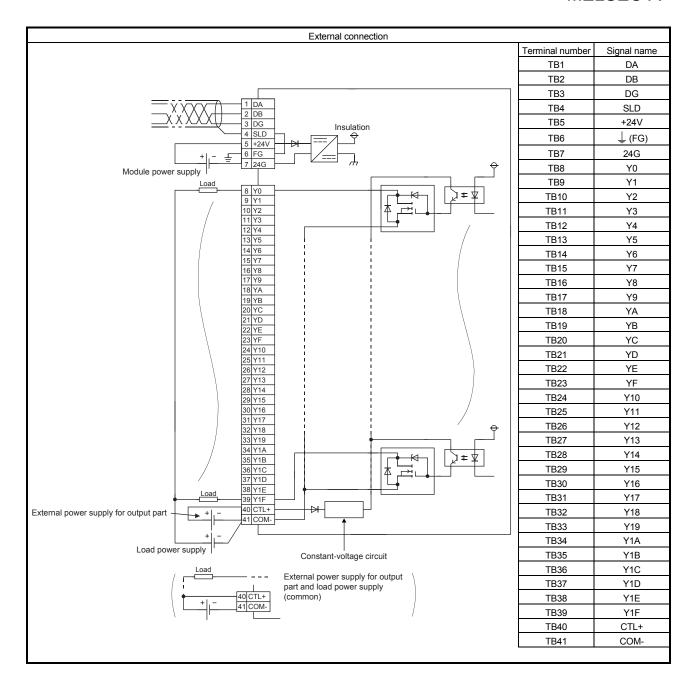
5 - 16 5 - 16

## 5.1.9 AJ65SBTB1-32T transistor output module (sink type)

		Туре	Transistor output module		
Item		-7,6-2	AJ65SBTB1-32T	Appearance	
Number of output points			32 points		
Isolation me	ethod		Photocoupler		
Rated load	voltage		12/24VDC		
Operating I	load voltage rang	е	10.2 to 26.4VDC (ripple ratio: within 5%)		
Max. load o	current		0.5A/point, 4.8A/common		
Max. inrush	n current		1.0A, 10ms or less		
Leakage cu	urrent at OFF		0.25mA or lower		
	ge drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
Output type	•		Sink type	<u>※</u> 日日 にエレナ	
Protection f			Overload protection, overvoltage protection, overheat protection		()-()
		OFF→ON	0.5ms or less		
Response t	time	ON→OFF	1.5ms or less (resistive load)	10150 10150	
External po	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	H H H	1 1 2 ( ) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
output part		Current	50mA or lower (TYP. 24VDC/common), excluding external load current		
Surge supp		04.10.11	Zener diode	, X17	
	hod for common		32 points/common (1-wire, terminal block type)	716   716	
	occupied stations	3	32-point assignment/station (32 points used)	) 1   Y14   Y16   Y   Y13   Y15   Y17	
TAUTHOCT OF	occupied stations	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	12   X18	
Module pov	wer supply	Current	65mA or lower (at 24VDC and all points ON)	E1F	
		Current	Noise voltage 500Vp-p, noise width 1µs,	1191A1B1C1D1E1	().()
Noise imm	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)	141B10	
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground	🐔	
vviuistana	voitage		10MΩ or higher between all DC external terminals and ground (500VDC	11121314151617 Y	
Insulation r	resistance		insulation resistance tester)	11 14 15 11 A	(7.5)
Protection of	dearee		IP2X	12 13 14 Y8 Y8 Y8	
Weight	acgree		0.25kg		
Wolgin			7-point two-piece terminal block		
	Communication	part	[Transmission circuit, module power supply, FG]		
	module power s	•	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	39 A B C	
External	·		Applicable solderless terminal: 2 or less	7839 / 78181 7 7 7	10.0 F
connection			34-point direct-mount terminal block		
system	I/O power suppl	y part,	[I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	2 3 4 5 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	
			Applicable solderless terminal: 2 or less		- 1020 P/
			M4 screw with plain washer finished round	⊮  + 9	
Module mo	ounting screw		(tightening torque range: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orientations	PW L RI	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)		
			RAV1.25-3 (compliant with JIS C 2805)		Ħ '
Applicable	solderless termin	al	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
Applicable solderless terminal		ui .	• V2-MS3, RAP2-3SL, TGV2-3N		
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		
Wire	Material		Copper		
Temperature rating		ing	75°C or more		
Accessory			User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

5 - 17 5 - 17



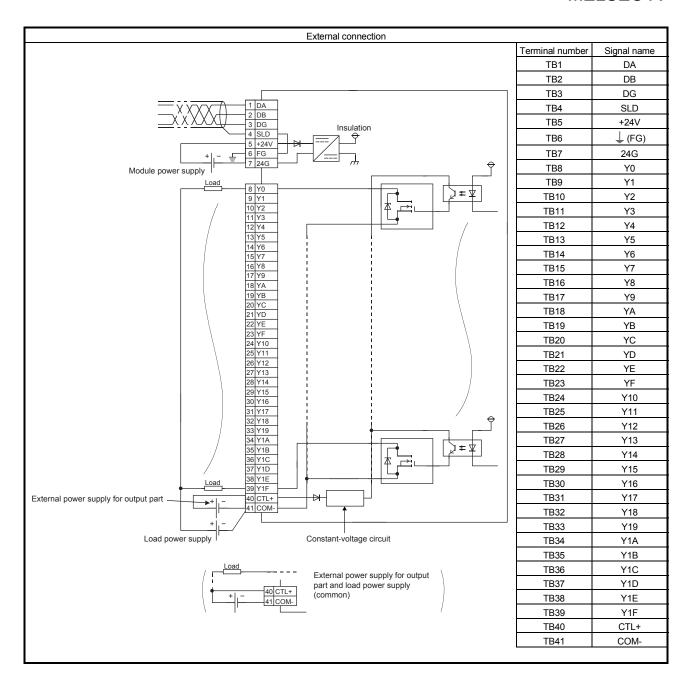
5 - 18 5 - 18

## 5.1.10 AJ65SBTB1-32T1 transistor output module (sink type)

		Type	Transistor output module	
Item			AJ65SBTB1-32T1	Appearance
Number of output points			32 points	
Isolation m	nethod		Photocoupler	1
Rated load	d voltage		12/24VDC	1
Operating	load voltage rang	ge	10.2 to 26.4VDC (ripple ratio: within 5%)	1
Max. load	current		0.5A/point, 4.8A/common	1
Max. inrus	h current		1.0A, 10ms or less	1
Leakage c	current at OFF		0.1mA or lower	
Max. volta	ge drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	
Output typ	e		Sink type	
Protection			None	
		OFF→ON	0.5ms or less	
Response	time	ON→OFF	1.5ms or less (resistive load)	
External po	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	
output part		Current	50mA or lower (TYP. 24VDC/common), excluding external load current	
Surge sup		1	Zener diode	
	thod for common	1	32 points/common (1-wire, terminal block type)	
	f occupied station		32-point assignment/station (32 points used)	
114111201 01	. cccapica ctatio	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
Module power supply		Current	65mA or lower (at 24VDC and all points ON)	
		Odificit	Noise voltage 500Vp-p, noise width 1µs,	
Noise imm	nunity		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	
***************************************	ronago		10MΩ or higher between all DC external terminals and ground (500VDC	
Insulation	resistance		insulation resistance tester)	
Protection	dearee		IP2X	
Weight	409.00		0.25kg	
			7-point two-piece terminal block	
	Communication	n part,	[Transmission circuit, module power supply, FG]	
	module power		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
External	·		Applicable solderless terminal: 2 or less	Address: 12   1   1   1   1   1   1   1   1   1
connection	ו		34-point direct-mount terminal block	
system	I/O power supp	oly part,	[I/O power supply, I/O signal]	
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	
			M4 screw with plain washer finished round	RINI ERR.
Module mo	ounting screw		(tightening torque range: 0.78 to 1.08N•m)	DAN LININ
			Mountable with a DIN rail in 6 orientations	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
			• RAV1.25-3 (compliant with JIS C 2805)	
Applicable	solderless termi	nal	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
Applicable soldeness terrillia			• V2-MS3, RAP2-3SL, TGV2-3N	
100	The state of the		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	4
Wire	Material		Copper 75°C or more	-
Temperature rating		ating	75°C or more	- <del> </del>
Accessory	1		User's manual	<u> </u>

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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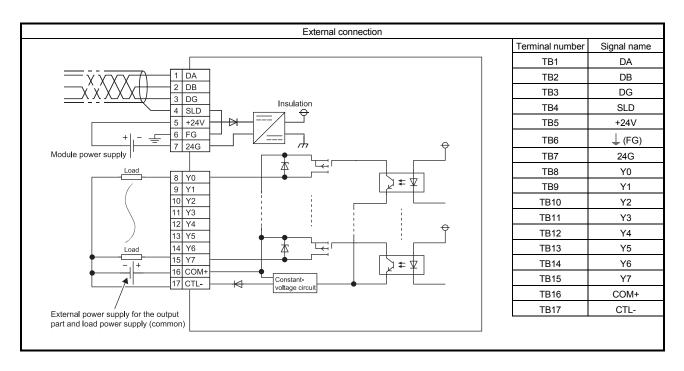
5 - 20 5 - 20

#### 5.1.11 AJ65SBTB1-8TE transistor output module (source type)

Туре		Type	Transistor output module		
Item			AJ65SBTB1-8TE	Appearance	
Number of output points			8 points		
Isolation method			Photocoupler		
Rated load	voltage		12/24VDC	7	
Operating I	oad voltage rang	е	10.2 to 26.4VDC (ripple ratio: within 5%)		
Max. load o	current		0.1A/point, 0.8A/common		
Max. inrush	current		1.0A, 10ms or less	7	
Leakage cu	urrent at OFF		0.1mA or lower		
Max. voltag	ge drop at ON		0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A		
Output type	;		Source type	7	
Protection f	function		Overload protection, overheat protection	7	
		OFF→ON	0.5ms or less	7	
Response t	time	ON→OFF	1.5ms or less (resistive load)		
External po	wer supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	1	
output part		Current	15mA or lower (TYP. 24VDC/common), excluding external load current		
Surge supp	pressor	•	Zener diode	1	
	hod for common		8 points/common (1-wire, terminal block type)		(3)
Number of	occupied stations	3	32-point assignment/station (8 points used)		(3)
	•	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)		(3)
Module pov	wer supply	Current	35mA or lower (at 24VDC and all points ON)		
			Noise voltage 500Vp-p, noise width 1µs,		፡፡፡ ₩
Noise imm	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)		3 h l
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground		
			10M $\Omega$ or higher between all DC external terminals and ground (500VDC		
Insulation r	esistance		insulation resistance tester)	2 3 4 E E E E E E E E E E E E E E E E E E	®
Weight			0.14kg		
			7-point two-piece terminal block		(3)
	Communication	part,	[Transmission circuit, module power supply, FG]		
C. da es al	module power supply part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		(3)
External connection			Applicable solderless terminal: 2 or less		
system	1		10-point direct-mount terminal block		
Зузісті	I/O power supply	y part,	[I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
			Applicable solderless terminal: 2 or less	_	
			M4 screw with plain washer finished round		
Module mo	unting screw		(tightening torque range: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orientations	4	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	4	
			• RAV1.25-3 (compliant with JIS C 2805)		
Applicable solderless terminal		al	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N		
	<u>-</u>		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	-	
Wire	Material		Copper	_	
	Temperature rating		75°C or more	<u> </u>	
Accessory	Accessory		User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

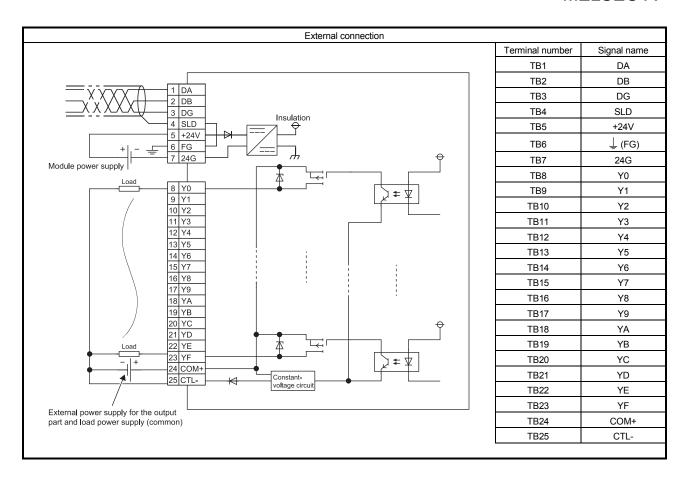
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## 5.1.12 AJ65SBTB1-16TE transistor output module (source type)

	_	Type	Transistor output module		
Item			AJ65SBTB1-16TE	Appea	rance
Number of output points			16 points		
Isolation met	hod		Photocoupler		
Rated load v	oltage		12/24VDC		
Operating loa	ad voltage rang	е	10.2 to 26.4VDC (ripple ratio: within 5%)		
Max. load cu	irrent		0.1A/point, 1.6A/common		
Max. inrush	current		1.0A, 10ms or less		
Leakage cur	rent at OFF		0.1mA or lower		
Max. voltage	drop at ON		0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A		
Output type			Source type		
Protection fu	nction		Overload protection, overheat protection		
D		OFF→ON	0.5ms or less		
Response tir	ne	ON→OFF	1.5ms or less (resistive load)		
External pow	er supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)		
output part		Current	30mA or lower (TYP. 24VDC/common), excluding external load current	B B B B B B B B B B B B B B B B B B B	110-51
Surge suppr	essor		Zener diode		(3%)   -
Wiring metho	od for common		16 points/common (1-wire, terminal block type )		
Number of o	ccupied stations	S	32-point assignment/station (16 points used)		- 105-01
NA. d. Iv		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	4 8	
Module power	er supply	Current	50mA or lower (at 24VDC and all points ON)	8 → 8	
Nais a issues	-14		Noise voltage 500Vp-p, noise width 1µs,	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
Noise immur	iity		noise frequency 25 to 60Hz (DC type noise simulator condition)		1030 / 1
Withstand vo	oltage		500VAC for 1 minute between all DC external terminals and ground	Y89 A B C D E F U U U U U U U U U U U U U U U U U U	
Insulation re	niotanoo		10M $\Omega$ or higher between all DC external terminals and ground (500VDC	AJ65SBTB1-16TE	1 (258) 1 - 1/ 1
IIISUIAUOII IE	sistance		insulation resistance tester)	Y89 A	
Weight			0.18kg		
			7-point two-piece terminal block	Y01234567 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	Communication	n part,	[Transmission circuit, module power supply, FG]	2 3 4 0 0 0 0 246 (FG)	
External	module power supply part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	× × × × × × × × × × × × × × × × × × ×	1 0:0 1 1
connection			Applicable solderless terminal: 2 or less		
system			18-point direct-mount terminal block	L RUN DA D	I D.O.I
	I/O power sup	ply part,	[I/O power supply, I/O signal]		
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less		
			M4 screw with plain washer finished round	-	
Module mou	nting screw		(tightening torque range: 0.78 to 1.08N•m)		
Wodule Mou	nung screw		Mountable with a DIN rail in 6 orientations		
Applicable D	IN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	_	
Applicable Dily fall			• RAV1.25-3 (compliant with JIS C 2805)	7	
Applicable solderless terminal		ial	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N		
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		
Wire	Material		Copper	7	
Temperature rating		ating	75°C or more	7	
Accessory			User's manual	7	
0000001 j	, toocoool y				

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

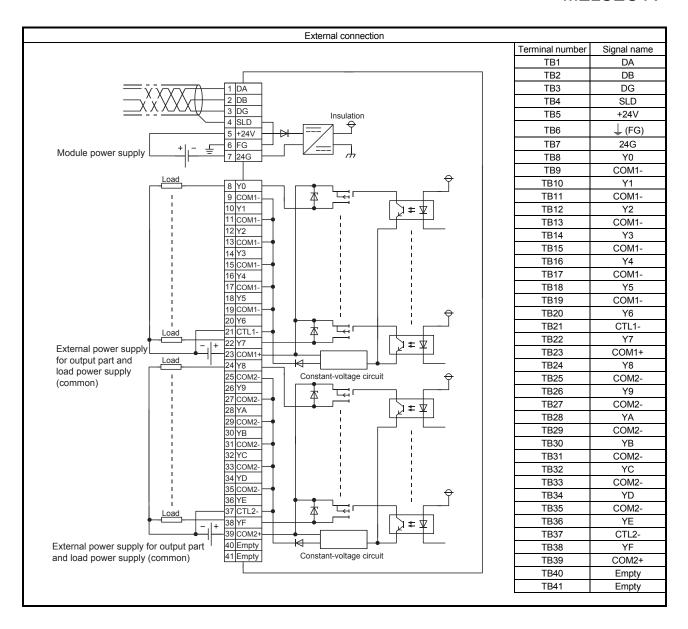


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## 5.1.13 AJ65SBTB1B-16TE1 transistor output module (source type)

		Туре	Transistor output module			
Item			AJ65SBTB1B-16TE1	Appearan	nce	
Number of output points			16 points			
Isolation method			Photocoupler	]		
Rated load v	oltage		12/24VDC	1		
Operating loa	ad voltage rang	je	10.2 to 26.4VDC (ripple ratio: within 5%)	1		
Max. load cu			0.5A/point, 4A/common	1		
Max. inrush			1.0A, 10ms or less	1		
Leakage cur	rent at OFF		0.1mA or lower	1		
Max. voltage	drop at ON		0.5VDC or lower (TYP.) 0.5A, 0.8VDC or lower (MAX.) 0.5A		1	
Output type			Source type			
Protection fu	ınction		None	BBB 421 CONZAIN CONZAI	#   <b> </b>	
		OFF→ON	0.5ms or less			
Response tir	ne	ON→OFF	1.5ms or less (resistive load)	S CTL2	á (4)	
External now	ver supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	A VD V VD	16000000000000000000000000000000000000	
output part	roi ouppiy ioi	Current	10mA or lower (TYP. 24VDC/common), excluding external load current		y lál	
Surge suppr	essor	Odircit	Zener diode	- N → N N N N N N N N N N N N N N N N N		
	od for common		8 points/common (1-wire, terminal block type)	00		
	ccupied station		32-point assignment/station (16 points used)			
Number of o	ccupied station		· · · · · · · · · · · · · · · · · · ·		# M !	
Module power	er supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)			
	-	Current	45mA or lower (at 24VDC and all points ON)	-             (	<b>a</b>	
Noise immur	nity		Noise voltage 500Vp-p, noise width 1µs,			
\\/ithatand.ua			noise frequency 25 to 60Hz (DC type noise simulator condition)			
Withstand vo	nage		500VAC for 1 minute between all DC external terminals and ground	- II		
Insulation res	sistance		10MΩ or higher between all DC external terminals and ground (500VDC			
Danta eti e e el			insulation resistance tester)			
Protection de	egree		IP2X	- I I I		
Weight	Т		0.26kg		9 6	
	0		7-point two-piece terminal block		3 2 7	
	Communication	•	[Transmission circuit, module power supply, FG]		<b>8</b> 8	
External	module power	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	BIB HATEL	# 18 h	
connection	-		Applicable solderless terminal: 2 or less			
system	I/O novver even	nlı nart	34-point direct-mount terminal block	Wasser A. 6. 6. 7    0   0   0   0   0   0     Wasser A. 6. 6. 7   0   0   0   0   0     Wasser A. 6. 6. 7   0   0   0   0   0     0   0   0   0		
	I/O power sup	ріу рагт,	[I/O power supply, I/O signal]			
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<b>9</b>   9   1	
	1		··			
Madula mau	enting corous		M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)			
Module mou	nung screw		Mountable with a DIN rail in 6 orientations			
Applicable D	NN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)			
Applicable D	IIV Tall		, , ,	<del>-</del>		
			<ul> <li>RAV1.25-3 (compliant with JIS C 2805)</li> <li>[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]</li> </ul>			
Applicable solderless terminal		nal	• V2-MS3, RAP2-3SL, TGV2-3N			
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]			
Wire	Material		Copper	†		
1	Temperature i	rating	75°C or more	†		
Accessory			User's manual	1		
nuucooui y			OSCI S Mandai	1		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

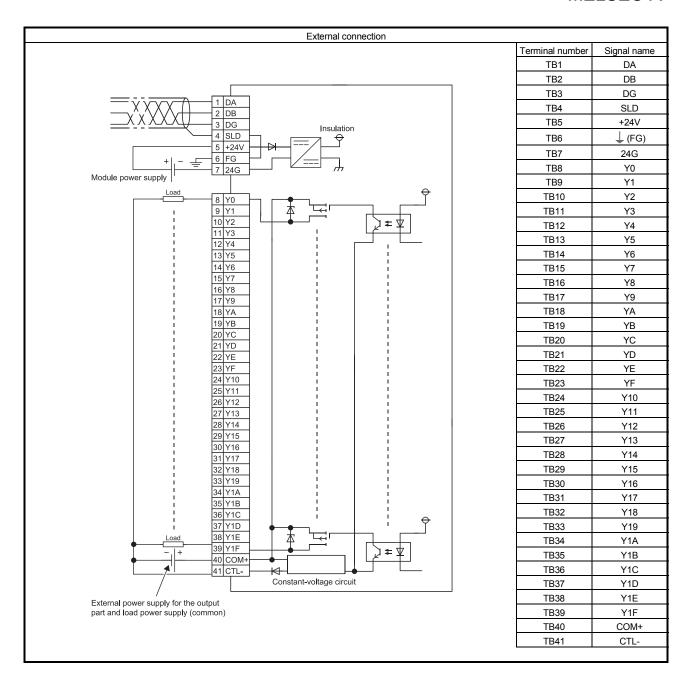


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### 5.1.14 AJ65SBTB1-32TE1 transistor output module (source type)

		Туре	Transistor output module	
Item		.,,,,,	AJ65SBTB1-32TE1	Appearance
Number of	foutput points		32 points	
Isolation method			Photocoupler	7
Rated load voltage			12/24VDC	7
Operating load voltage range			10.2 to 26.4VDC (ripple ratio: within 5%)	7
Max. load			0.5A/point, 4.8A/common	7
Max. inrust	h current		1.0A, 10ms or less	7
Leakage ci	urrent at OFF		0.1mA or lower	7
Max. voltag	ge drop at ON		0.5VDC or lower (TYP.) 0.5A, 0.8VDC or lower (MAX.) 0.5A	
Output type	e		Source type	
Protection	function		None	
_		OFF→ON	0.5ms or less	
Response	time	ON→OFF	1.5ms or less (resistive load)	
External po	ower supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	
output part		Current	15mA or lower (TYP. 24VDC/common), excluding external load current	
Surge supp	pressor		Zener diode	
Wiring met	thod for common		32 points/common (1-wire, terminal block type)	
Number of	foccupied stations	;	32-point assignment/station (32 points used)	
		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
Module po	wer supply	Current	60mA or lower (at 24VDC and all points ON)	
N	. 11		Noise voltage 500Vp-p, noise width 1µs,	
Noise imm	iunity		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand	voltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation r	rasiatanaa		10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
insulation i	resistance		insulation resistance tester)	
Protection	degree		IP2X	
Weight	•		0.26kg	
			7-point two-piece terminal block	
	Communication	part,	[Transmission circuit, module power supply, FG]	
External	module power s	upply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
connection	<b></b>		Applicable solderless terminal: 2 or less	
system			34-point direct-mount terminal block	
1	I/O power supply	part,	[I/O power supply, I/O signal]	
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	
Modulo ma	ounting scrow		M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)	POW LEGAL EFFECTOR 2 ST.
Module mounting screw			Mountable with a DIN rail in 6 orientations	
Annlicable	Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
, ippiidable	Silv ruii		• RAV1.25-3 (compliant with JIS C 2805)	<del>-</del>
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
Applicable solderless terminal		al	• V2-MS3, RAP2-3SL, TGV2-3N	
			[Applicable wire size: 1.25 to 2.0mm <sup>2</sup> (16 to 14 AWG) stranded wire]	
Wire	Material		Copper	7
	Temperature rat	ing	75°C or more	7
Accessory	,		User's manual	$\exists$

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

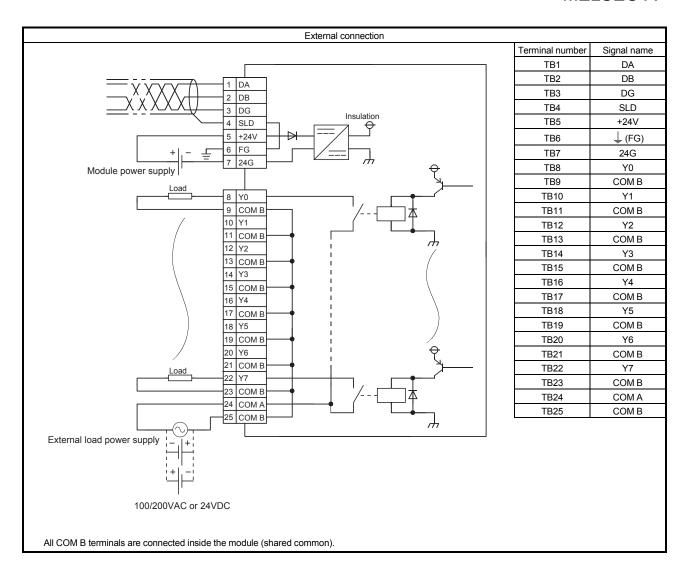


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### 5.1.15 AJ65SBTB2N-8R contact output module

		Туре	Contact output module	
Item		. урс	AJ65SBTB2N-8R	Appearance
Number of	output points		8 points	, , , , , , , , , , , , , , , , , , ,
Isolation m			Relay	
- Condition House			2A/point, 4A/common	
Rated load	I voltage/current		at 24VDC (resistive load) or 240VAC (cos $\phi$ =1)	
Min. switch	ning load		5VDC, 1mA	
Max. switch	hing voltage		264VAC, 125VDC	
D	4:	OFF→ON	10ms or less	
Response	time	ON→OFF	12ms or less	
		Mechanical	20 million times or more	
			Rated switching voltage/current load: 100 thousand times or more	
Life			200VAC 1.5A, 240VAC 1A (cosφ=0.7): 100 thousand times or more	
		Electrical	200VAC 1A, 240VAC 0.5A (cosφ=0.35): 100 thousand times or more	
			24VDC 1A, 100VDC 0.1A (L/R=7ms): 100 thousand times or more	7
Max. switch	hing frequency	•	3600 times/hour	
Surge supp			None	
	thod for commor	າ	8 points/common (2-wire, terminal block type)	OWNER CONTROL OF THE
	occupied station		32-point assignment/station (8 points used)	1
	'	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
Module po	wer supply	Current	85mA or lower (at 24VDC and all points ON)	We   1 2 3 4   We
			Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs,	
			noise frequency 25 to 60Hz (noise simulator condition)	LEUN LERN COMB COOMS
Noise imm	unity		Fast transient/burst immunity test	
			IEC61000-4-4:1kV	
			2830VACrms for 3 cycles between all AC external terminals and ground	
Withstand	voltage		(2000m above sea level)	
			500VAC for 1 minute between all DC external terminals and ground	WATER STATE OF THE
			$10 \text{M}\Omega$ or higher between all AC external terminals and ground (500VDC	SOUND COMB
Insulation r	recistance		insulation resistance tester)	
IIISulation	esistance		10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
			insulation resistance tester)	<b>→</b>   8 €   8 E     ( × )   ~
Weight	1		0.25kg	
			7-point two-piece terminal block	SSBTB2
	Communicatio		[Transmission circuit, module power supply, FG]	Aussbird by Dal Doc   Control of the
External	module power	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
connection			Applicable solderless terminal: 2 or less	
system			18-point direct-mount terminal block	
	I/O power supp	oly part,	[I/O power supply, I/O signal]	
I/O part			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	
			Applicable solderless terminal: 2 or less	<del>-  </del>
Mandada and anti-			M4 screw with plain washer finished round	
Module mounting screw			(tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations	
Applicable	Applicable DIN rail		TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)	<del> </del>
, thhireanie	Applicable DIN fall		• RAV1.25-3 (compliant with JIS C 2805)	<del> </del>
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
Applicable solderless terminal		inal	• V2-MS3, RAP2-3SL, TGV2-3N	
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	
Wire	Material		Copper	<del> </del>
	Temperature r	ating	75°C or more	7
Accessory			User's manual	7
Accessory				1

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

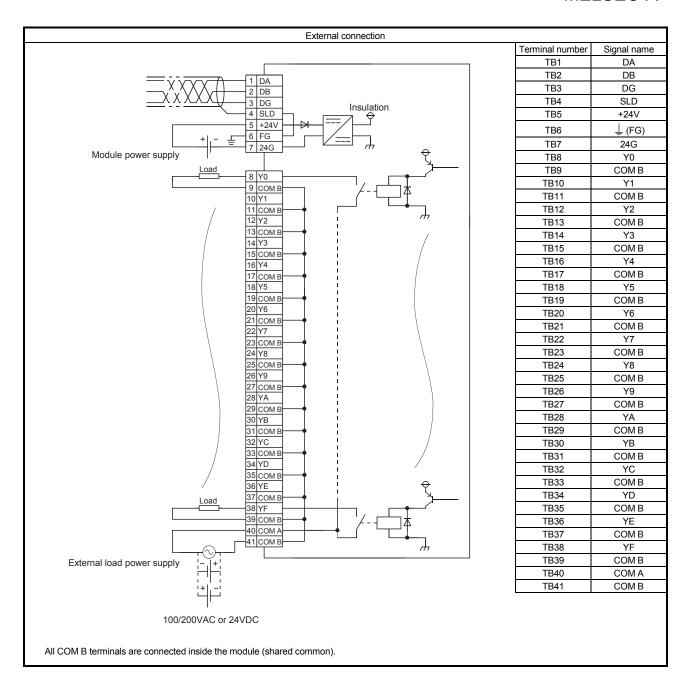


### 5.1.16 AJ65SBTB2N-16R contact output module

		Type	Contact output module						
Item			AJ65SBTB2N-16R	Appear	rance				
Number of	output points		16 points						
Isolation method			Relay	†					
			2A/point, 8A/common	†					
Rated load	voltage/current		at 24VDC (resistive load) or 240VAC (cos $\phi$ =1)						
Min. switch	ing load		5VDC, 1mA	1					
Max. switch	ning voltage		264VAC, 125VDC						
D	Max. switching voltage		10ms or less						
Response t	ume	ON→OFF	12ms or less						
		Mechanical	20 million times or more						
			Rated switching voltage/current load: 100 thousand times or more						
Life			200VAC 1.5A, 240VAC 1A (cos	1					
		Electrical	200VAC 1A, 240VAC 0.5A (cosφ=0.35): 100 thousand times or more		-				
			24VDC 1A, 100VDC 0.1A (L/R=7ms): 100 thousand times or more						
Max. switch	hing frequency		3600 times/hour	T S S S S S S S S S S S S S S S S S S S					
Surge supp			None	Y89 A B C D E F	W M				
	hod for commor	<u> </u>	16 points/common (2-wire, terminal block type)		(A) (A)				
	occupied station		32-point assignment/station (16 points used)	*YO1234567					
	occupiou ciauo.	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)						
Module pov	wer supply	Current	120mA or lower (at 24VDC and all points ON)						
		04.10.11	Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs,	COMI	@ W				
			noise frequency 25 to 60Hz (noise simulator condition)	SOMB SOMB					
Noise immu	unity		inity		Inity   Foot transient/hurst immunity test				
			IEC 61000-4-4:1kV	8.A	W M				
			2830VACrms for 3 cycles between all AC external terminals and ground (2000m	A A	W M				
Withstand v	voltage		above sea level)	×6 ×6					
	_		500VAC for 1 minute between all DC external terminals and ground	7.5 N					
			10M $\Omega$ or higher between all AC external terminals and ground (500VDC insulation	NO B CON	@  W				
Insulation re	raniatanaa		resistance tester)		@  W				
IIISulation	esisiance		$10M\Omega$ or higher between all DC external terminals and ground (500VDC insulation						
			resistance tester)	HH H					
Weight			0.35kg		W M h				
			7-point two-piece terminal block						
	Communication	•	[Transmission circuit, module power supply, FG]						
External	module power	supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	16R 24G					
connection			Applicable solderless terminal: 2 or less	182N-	(A) (A)				
system			34-point direct-mount terminal block	MARKS ALESSBTBZN-16R					
ľ	I/O power supp	oly part,	[I/O power supply, I/O signal]						
I/O part			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		<b>®</b>				
			Applicable solderless terminal: 2 or less	+					
Mad In the second second			M4 screw with plain washer finished round						
Module mounting screw			(tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations						
Applicable DIN rail			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	+					
Applicable DIN fall			• RAV1.25-3 (compliant with JIS C 2805)	†					
			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]						
Applicable solderless terminal		inal	• V2-MS3, RAP2-3SL, TGV2-3N						
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]						
Wire	Material		Copper	1					
	Temperature ra	ating	75°C or more	1					
Accessory		· · · · · · · · · · · · · · · · · · ·	User's manual	1					
Accessory									

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

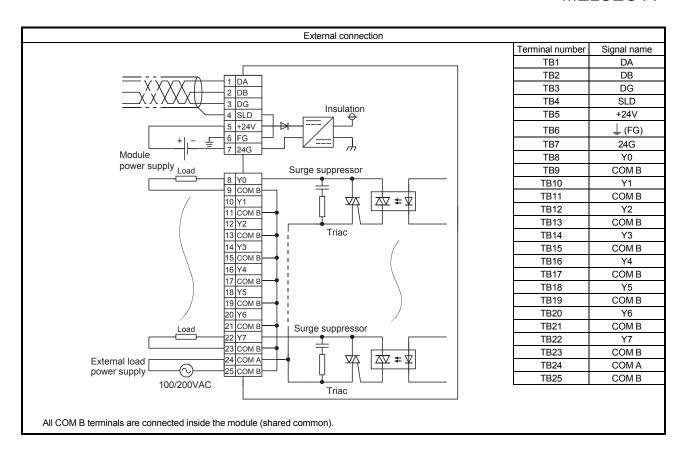
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### 5.1.17 AJ65SBTB2N-8S triac output module

Item			Туре	Triac output module		
Evaluation method   Photocoupler   Rated load voltage   100 to 240VAC, 50/60Hz ±5%	Item		Турс	·	Appea	rance
Evaluation method   Photocoupler   Rated load voltage   100 to 240VAC, 50/60Hz ±5%	Number of	output points		8 points		
Eated laded voltage   100 to 240VAC, 50/60Hz ±5%	Isolation method			·		
Load voltage distortion ratio  Mix. load voltage  284VAC  Max. load voltage  284VAC  0.6Aypoint, 2.4A/common  Min. load voltage(current)  50VAC 100mA, 100VAC 10mA, 240VAC 10mA  Min. load voltage(current)  50VAC 100mA, 100VAC 10mA, 240VAC 10mA  Max. innush current  1.5mArms or lower (at 100VACrms, 60Hz), 3mArms or lower (at 200VACrms, 60Hz), 3mArms or lower (at 200VACrms, 60Hz)  Max. voltage drop at 0N  Response time  0.FF-ON  ON-OFF  Carb of tims and 0.5 cycles or less  Unimetrial of common  3 points/common (2-wire, terminal block type)  Wining method for common  3 points/common (2-wire, terminal block type)  Noise voltage  20.4 to 26.4VDC (ripple ratio: within 5%)  Current  55mA or lower (at 24VDC and all points ON)  Noise voltage: 1500VPp - (AC type), 500VPp - (DC type), noise width 1µs, noise frequency 25 to 60Hz (riose simulator condition)  Fast transient/burst immunity test  EC61000-4-4:1kV  2830VACrms for 3 cycles between all AC external terminals and ground  10MΩ or higher between all AC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all AC external terminals and ground (500VDC insulation resistance tester)  Weight  Communication part, module power supply part, indicate the part of t				·		
Max. load outrent    DisAlpoint, 2.4A/common						
Max. load current    D. 6A/point, 2.4A/common						
Min. load voltage/current  25A, 10mA, 100VAC 10mA, 240VAC 10mA Max invitsh current  25A, 10ms or less 1.5mAms or lower (at 200VACms, 60Hz), 3mAms or lower (at 200VACms, 60Hz)  Max. voltage drop at ON  1.5VACms or lower (at 200VACms, 60Hz)  Max. voltage drop at ON  1.5VACms or lower (at 2.6VAC)  Surge suppressor  CR absorber (0.01µF 47t2)  Wing method for common  8 pointstcommon (2-wire, terminal block type)  Number of occupied stations  32-point assignment/station (8 points used)  Woldage 20.4 to 26 4VDC (ipple ratio- within 5%)  Current  55mA or lower (at 24VDC and all points ON)  Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs, noise frequency 25 to 60Hz (noise simulator condition)  Fast transient/burst immunity test  IEC\$1000-4.4:1kV  2830VACms for 3 cycles between all AC external terminals and ground  (2000m above sea level)  550VAC for 1 minute between all DC external terminals and ground (500VDC insulation resistance tester)  10M\(\Omega  or higher between all DC external terminals and ground (500VDC insulation resistance tester)  0.25kg  Weight  Communication part, module power supply part, life power supp						
Max. inrush current       25A, 10ms or less         Leakage current at OFF       1.5mAms or lower (at 100VACms, 60Hz)         Max. voltage drop at ON       1.5VACms or lower (at 200VACms, 60Hz)         Response time       OFF→ON       1ms or less         OR -→OFF       Total of 1ms and 0.5 cycles or less         Surge suppressor       CR absorber (0.01 µF + 470)         Wilring method for common       8 points/common (2-wire, terminal block type)         Number of occupied stations       32-point assignment/station (8 points used)         Module power supply       Voltage       20 4 to 26 4VDC (inpile ratio: within 5%)         Current       Courrent       55mA or lower (at 24VDC and all points 0N)         Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs, noise frequency 25 to 60Hz (noise simulator condition)       Fast transient/burst immunity fest [EC6100-4.4:1kV]         Withstand voltage       22830VAC/ms for 3 cycles between all AC external terminals and ground (500VDC insulation resistance tester)         Insulation resistance       10MQ or higher between all AC external terminals and ground (500VDC insulation resistance tester)         Weight       2.25kg         Communication part, module power supply part (by power supply part)       M3 c 2 serw (ightening torque range 0.59 to 0.88N·m) Applicable solderless terminal: 2 or less         Module mounting screw       M4 screw with plain washer finished rou				•		
Leakage current at OFF    1.5mArms or lower (at 100VACms, 60Hz), 3mArms or lower (at 200VACms, 60Hz)   Max. voltage drop at ON				,		
Leakage current at OFF  Max. voltage drop at ON  Response time  OFF->ON  Total of 1ms and 0.5 cycles or less  Surge suppressor  OR absorber (0.01µF + 473)  Wrifing method for common  A points/common (2-wire, terminal block type)  Number of occupied stations  Noise or supply  Voltage  20.4 to 26.4VDC (ripple ratio: within 5%)  Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs, noise frequency 25 to 60Hz (noise simulator condition)  Fast transient/burst immunity test  ECG1000-4.4:IkV  2830VAC/ms for 3 cycles between all AC external terminals and ground  Vilhstand voltage  Voltage  10MΩ or higher between all DC external terminals and ground (2000m above sea level)  500VAC for 1 minute between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M2 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10M3 or higher between all DC external terminals and ground (50	Wax. IIII don	rodiforit		·		
Max. voltage drop at ON         1.5VACms or lower (at 0.6A)           Response time         OFF→ON         1 ms or less           Surge suppressor         CR absorber (0.01μF + 47Ω)           Wining method for common         8 points/common (2-wire, terminal block type)           Number of occupied stations         32-point assignment/station (8 points used)           Module power supply         Voltage         20.4 to 26 4VDC (ripple ratio: within 5%)           Current         55mA or lower (at 24VDC and all points ON)           Noise immunity         Noise voltage: 1500/Pp (AC Vpe), 500Vp- (DC type), noise width 1μs, noise frequency 25 to 60Hz (noise simulator condition)           Fast transient/burst immunity test IECC1000-4-4:1kV         2830VACms for 3 cycles between all AC external terminals and ground (500VDC insulation resistance tester)           Writhstand voltage         10MΩ or higher between all AC external terminals and ground (500VDC insulation resistance tester)           Insulation resistance         10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)           Weight         0.25kg           Communication part, module power supply part         (Insulation resistance tester)           Wo power supply part         (Insulation resistance tester)           WO power supply part         (Insulation resistance tester)           Wo power supply part         (Insulation resistance tester) <td>Leakage cu</td> <td>urrent at OFF</td> <td></td> <td></td> <td></td> <td></td>	Leakage cu	urrent at OFF				
Response time OFF→ON Ims or less  Surge suppressor CR absorber (0.01µF + 470.)  Wring method for common 8 points/common (2-wire, terminal block type)  Number of occupied stations 32-point assignment/station (8 points used)  Module power supply Voltage Ok 1 o 26 AVDC (piple ratio, within 5%)  Current S5mA or lower (at 24VDC and all points ON)  Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs, noise frequency 25 to 60Hz (noise simulator condition)  Fast transient/burst immunity terminals and ground (2000m above sea level)  500VAC for 1 minute between all AC external terminals and ground (2000m above sea level)  500VAC for 1 minute between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Weight 0.25kg  Communication part, module power supply, FG]  M3*5.2 screw (tightening torque range: 0.59 to 0.88N·m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.59 to 0.88N·m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08m·m)  Mountable with a DIN rail in 6 orientations  Applicable solderless terminal: 2 and 12 to 16 AWG) stranded wire]  **NAV1.25-3 (compilant with JIS C 28005)  [Applicable wire size: 0.3 to 1.25mm² (16 to 14 AWG) stranded wire]	Max voltag	ne dron at ON		, , ,		
Response time  ON→OFF Total of 1ms and 0.5 cycles or less  Surge suppressor CR absorber (0.01μF + 47t.)  Wring method for common  Number of occupied stations  32-point assignment/station (8 points used)  Voltage  20.4 to 26 4VDC (ripple ratic: within 5%)  Current  S5mA or lower (at 24VDC and all points ON)  Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1μs, noise frequency 25 to 60Hz (noise simulator condition)  Fast transient/burst immunity test [EC61000-4-1*1kV]  2830VACrms for 3 cycles between all AC external terminals and ground  (2000m above sea level)  10MΩ or higher between all AC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all AC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insula	max. voltag	go drop at Ort	OFF→ON	`		
Surge suppressor         CR absorber (0.01μF + 47Ω)           Wiring method for common         8 points/common (2-wire, terminal block type)           Number of occupied stations         32-point assignment/station (8 points used)           Module power supply         Voltage         20.4 to 26.4VDC (ripple ratio: within 5%)           Current         55mA or lower (at 24VDC and all points ON)           Noise immunity         Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1μs, noise frequency 25 to 60Hz (noise simulator condition)           Fast translend/burst immunity test (EC61000-44-11k)         2830VACrms for 3 cycles between all AC external terminals and ground (2000m above sea level)           Withstand voltage         2830VACrms for 3 cycles between all AC external terminals and ground (500VDC insulation resistance tester)           Insulation resistance         10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)           Weight         0.25kg           Communication part, module power supply part Applicable solderless terminal: 2 or less           I/O power supply part Applicable solderless terminal: 2 or less           I/O part         18-point direct-mount terminal block (I/O power supply, I/O signal)           I/O part         MA screw with plain washer finished round (tightening torque range: 0.59 to 0.88N+m)           Applicable solderless terminal: 2 or less           Applicable bilderless terminal: 2 or less </td <td>Response t</td> <td>time</td> <td>-</td> <td></td> <td></td> <td></td>	Response t	time	-			
Wiring method for common Number of occupied stations  Module power supply    Voltage	Surgo cupo	roccor	011-3011	•		
Number of occupied stations  32-point assignment/station (8 points used)  Voltage  20.4 to 26.4VDC (ripple ratio: within 5%)  Current  S5mA or lower (at 24VDC and all points ON)  Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1μs, noise frequency 25 to 60Hz (noise simulator condition) Fast transient/burst immunity test IEC61000-44-tkV  2830VACms for 3 cycles between all AC external terminals and ground (200m above sea level) 500VAC for 1 minute between all DC external terminals and ground 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester) 10MΩ or higher between all DC external terminals and ground (5						8
## Survival Communication part, module power supply part would be power supply part would be solderless terminal block    Vouce   Vou						DEO
## Survival Communication part, module power supply part would be power supply part would be solderless terminal block    Vouce   Vou	Number of	occupied stations				
## Survey of the petween all DC external terminals and ground (500VDC insulation resistance tester)  ## Weight    Communication part, module power supply part	Module pov	wer supply			-	D.O. I
## Survey of the petween all DC external terminals and ground (500VDC insulation resistance tester)  ## Weight    Communication part, module power supply part			Current	·		13.(1
## Survey of the petween all DC external terminals and ground (500VDC insulation resistance tester)  ## Weight    Communication part, module power supply part					SOM COM	110.01
## Survival Communication part, module power supply part would be power supply part would be solderless terminal block    Vouce   Vou	Noise immu	unity			SKIN LE	
## Survival Communication part, module power supply part would be power supply part would be solderless terminal block    Vouce   Vou				,	™ LE	
## Survival Communication part, module power supply part would be power supply part would be solderless terminal block    Vouce   Vou						11.5 (1 17//
## Survey of the petween all DC external terminals and ground (500VDC insulation resistance tester)  ## Weight    Communication part, module power supply part	\	14		_		11.2.(1.1/
## Survey of the petween all DC external terminals and ground (500VDC insulation resistance tester)  ## Weight    Communication part, module power supply part	vvitnstand v	voitage		,	RATE 2 1 2 1 4 2 1	D.O
## Survival Communication part, module power supply part would be power supply part would be solderless terminal block    Vouce   Vou				· · · · · · · · · · · · · · · · · · ·	- H H T 1	DEO   N.J.
## Survival Communication part, module power supply part would be power supply part would be solderless terminal block    Vouce   Vou					NN NO.	11.5-(1.1/1
insulation resistance tester)  Weight  0.25kg  7-point two-piece terminal block [Transmission circuit, module power supply, FG] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply part, I/O part M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] • V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	Insulation re	esistance		,		
Weight  Communication part, module power supply part  External connection system  I/O power supply part, I/O part  Module mounting screw  Applicable be olderless terminal  Applicable solderless terminal  Applicable be solderless terminal  Applicable solderless terminal  Applicable solderless terminal  Applicable be solderless terminal  Applicable solderless terminal  Applicable solderless terminal  Applicable be solderless terminal  Applicable solderless terminal block  Applicable solderless terminal block  Book solderless terminal block  Book solderless terminal soloes  Book soloes soloe						60
Communication part, module power supply part M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply part, I/O part M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	\/\oight			,	- N - N - N - N - N - N - N - N - N - N	12(1)
system  I/O power supply part, I/O part  I/O part  I/O part  I/O part  I/O part  I/O power supply, I/O signal]  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	vveigni				→   S8 - >4 →	
system  I/O power supply part, I/O part  I/O part  I/O part  I/O part  I/O part  I/O power supply, I/O signal]  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		Communication	nart		3TB2	11.7(.)
system  I/O power supply part, I/O part  I/O part  I/O part  I/O part  I/O part  I/O power supply, I/O signal]  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]					J65SE	
system  I/O power supply part, I/O part  I/O part  I/O part  I/O part  I/O part  I/O power supply, I/O signal]  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	External	module power s	пирріу рап		A A	
system  I/O power supply part, I/O part  I/O part  I/O part  I/O part  I/O part  I/O power supply, I/O signal]  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	connection			· ·		
I/O part  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	system	I/O nower suppl	v nart			
Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]			y part,			
M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]						
Module mounting screw  (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable solderless terminal  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]		•		· ·		
Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable solderless terminal  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	Module mounting screw			·		
Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable solderless terminal  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]				, , , , , , , , , , , , , , , , , , , ,		
PAV1.25-3 (compliant with JIS C 2805)  [Applicable solderless terminal	Applicable DIN rail					
Applicable solderless terminal  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	P.P			· · · · · · · · · · · · · · · · · · ·		
V2-MS3, RAP2-3SL, TGV2-3N     [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	A collected and described			, ,		
[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	Applicable solderless terminal		nal	, , ,		
Wire Material Copper						
	Wire	Material		Copper		
Temperature rating 75°C or more		Temperature rat	ting	75°C or more		
Accessory User's manual	Accessory			User's manual		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

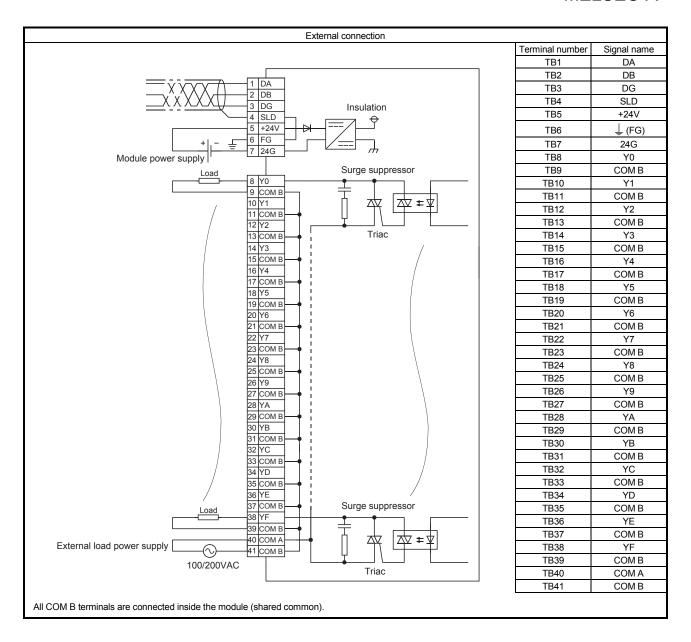


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### 5.1.18 AJ65SBTB2N-16S triac output module

		Туре	Triac output module		
Item			AJ65SBTB2N-16S	Appear	rance
Number of	output points		16 points		
Isolation method			Photocoupler		
Rated load voltage			100 to 240VAC, 50/60Hz ±5%		
Load voltage distortion ratio			Within 5%		
Max. load			264VAC		
Max. load			0.6A/point, 4.8A/common		
Min. load v	oltage/current		50VAC 100mA, 100VAC 10mA, 240VAC 10mA		
Max. inrust			25A, 10ms or less		
			1.5mArms or lower (at 100VACrms, 60Hz),		
Leakage G	urrent at OFF		3mArms or lower (at 200VACrms, 60Hz)		
Max. voltaç	ge drop at ON		1.5VACrms or lower (at 0.6A)		
D	4:	OFF→ON	1ms or less		
Response	ume	ON→OFF	Total of 1ms and 0.5 cycles or less	Y 8 A B C D E F	
Surge supp	pressor		CR absorber (0.01 $\mu$ F + 47 $\Omega$ )	WBCO ABO	
	thod for common		16 points/common (2-wire, terminal block type)	% 8 % A M	
	occupied station		32-point assignment/station (16 points used)		@  \@
	occupiou cialion	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	S GOME	
Module por	wer supply	Current	85mA or lower (at 24VDC and all points ON)	No. 1 2 3 4 5 6 7   No. 1 2 1 4 5 6 7   No.	
		Curront	Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs,	R. Yo	W M
			noise frequency 25 to 60Hz (noise simulator condition)	TAN	
Noise imm	ınity		Fast transient/burst immunity test	WB V9	(20)   -
			IEC 61000-4-4:1kV	8 8 CON	@  W
			2830VACrms for 3 cycles between all AC external terminals and ground (2000m	COMI	(3) (3)
Withstand	voltage		above sea level)	COMB	
VIIIIOIAIIA	voltage		500VAC for 1 minute between all DC external terminals and ground	Ye John Janes	(M)
			$10\text{M}\Omega$ or higher between all AC external terminals and ground (500VDC insulation	Y5	
			resistance tester)		
Insulation r	resistance		10M $\Omega$ or higher between all DC external terminals and ground (500VDC insulation		
			resistance tester)		
Weight			0.35kg	BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	
			7-point two-piece terminal block	SOM PARTIES OF THE PA	
	Communication	n part.	[Transmission circuit, module power supply, FG]		
	module power s		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		
External			Applicable solderless terminal: 2 or less	16S	
connection			34-point direct-mount terminal block	182N-	
system	I/O power supp	ly part,	[I/O power supply, I/O signal]	MESS AJESSBTBZN-	(20)   -
	I/O part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)		@  @
			Applicable solderless terminal: 2 or less		
			M4 screw with plain washer finished round		
Module mounting screw			(tightening torque range: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orientations		
Applicable DIN rail			TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)		
			RAV1.25-3 (compliant with JIS C 2805)		
Applicable solderless terminal		nal	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]		
, ippliouble	CONTROL CONTROL		• V2-MS3, RAP2-3SL, TGV2-3N		
	Table		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	1	
Wire	Material		Copper		
	Temperature ra	iting	75°C or more	1	
Accessory			User's manual	<u> </u>	

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

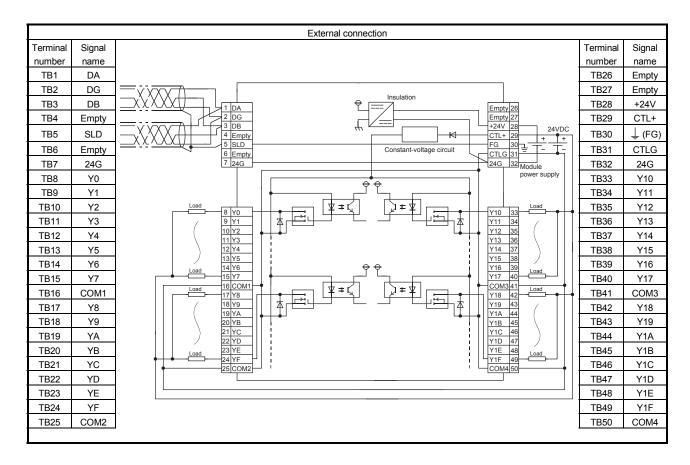


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#### 5.1.19 AJ65DBTB1-32T1 transistor output module (sink type)

Туре		Transistor output module	
Item		AJ65DBTB1-32T1	Appearance
Number of output points		32 points	
Isolation method		Photocoupler	 
Rated load voltage		12/24VDC	 
Operating load voltage rang	ge	10.2 to 31.2VDC (ripple ratio: within 5%)	 
Max. load current		0.5A/point, 8A/common (2A/terminal)	 
Max. inrush current		1.2A, 10ms or less	 
Leakage current at OFF		0.1mA or lower	 
Max. voltage drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	
Output type		Sink type	Į.
Protection function		None	Transport
Poononce time	OFF→ON	0.5ms or less	MELSEG AJ65DBTB1-32T1
Response time	ON→OFF	1.5ms or less (resistive load)	STATION NO. 224 - 129 -
External power supply for	Voltage	10.2 to 31.2VDC (ripple ratio: within 5%)	La (C) × 1
output part	Current	50mA or lower (at 24VDC and all points ON), excluding external load current	B RATE OF DO DE DISCHE
Surge suppressor		Zener diode	CCtink 1372
Wiring method for common		32 points/common (4 points) (1-wire, terminal block type)	
Number of occupied station	IS	32-point assignment/station (32 points used)	DG DA NC NC
Madula assumation	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	NC DB 024W CTL4
Module power supply	Current	65mA or lower (at 24VDC and all points ON)	NC SLD (FG) CTLG
Noise immunity		Noise voltage 500Vp-p, noise width 1µs,	246
Noise initiality		noise frequency 25 to 60Hz (DC type noise simulator condition)	Y1 Y0 Y11 Y10
Withstand voltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation resistance		10M $\Omega$ or higher between all DC external terminals and ground (500VDC	Y3 Y4 Y14
insulation resistance		insulation resistance tester)	Y5 Y6 Y15 Y16
Protection degree		IP2X	Y17 CONI Y17 CONS
Weight		0.7kg	Y18 Y19 Y19
		50-point terminal block	YA YB
External connection system	1	[Transmission circuit, module power supply, FG, I/O power supply, I/O signal]	YC YD Y1C Y1D
External confidencial dysteri	•	M3×7 screw (tightening torque range: 0.68 to 0.92N•m)	YE TO YEE TO YEE
		Applicable solderless terminal: 2 or less	COM4 YIF
Module mounting screw		M4 screw with plain washer finished round	AJ650BIBI -3271
		(tightening torque range: 0.78 to 1.08N•m)	1
Applicable solderless terminal		• R1.25-3.5 (compliant with JIS C 2805)	
		[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	I
		RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	I
Motorial		` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `	İ
Wire	Material	Copper 75°C or more	Í
VVIIC	rating	173 G OI IIIOIE	
Accessory	raung	User's manual	i
Part sold separately		A6DIN1C, A2CCOM-TB	i
ran solu separately		AUDIN TO, AZCCOW-TB	

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

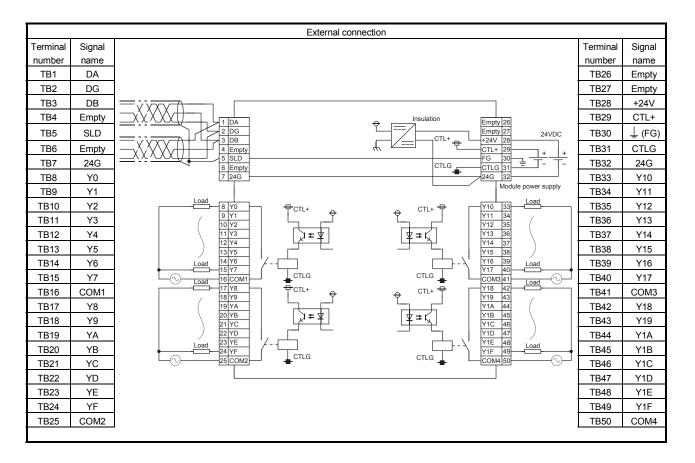


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#### 5.1.20 AJ65DBTB1-32R contact output module

		Туре	Contact output module	
Item			AJ65DBTB1-32R	Appearance
Number of output poi	ints		32 points	
Isolation method			Photocoupler	
			2A/point, 4A/common (2A/terminal)	
Rated load voltage/cu	urrent		at 24VDC (resistive load) or 240VAC (cosφ=1)	
Min. switching load			5VDC, 1mA	
Max. switching voltag	ge		264VAC, 125VDC	
Decrease time	OFF→0	N	10ms or less	
Response time	ON→OF	F	12ms or less	
Ĺ	Mechani	ical	20 million times or more	
			Rated switching voltage/current load: 100 thousand times or more	
Life	Electrica	al	200VAC 1.5A, 240VAC 1A (cosφ=0.7): 100 thousand times or more	
	Licotifica		200VAC 1A, 240VAC 0.5A (cosφ=0.35): 100 thousand times or more	ļ
			24VDC 1A, 100VDC 0.1A (L/R=7ms): 100 thousand times or more	
Max. switching freque	ency		3600 times/hour	MELSEG AJ65DBTB1-32R
Surge suppressor		T	None	STATI ON NO. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
External power supply output part	y for	Voltage	24VDC ±10% (ripple ratio: 4Vp-p or lower)	2   DA   112   DA
(CTL+ and CTLG terr	minals)	Current	180mA or lower (at 24VDC and all points ON)	B RATE
Wiring method for cor	mmon		8 points/common (1-wire, terminal block type)	
Number of occupied s	stations		32-point assignment/station (32 points used)	DA NO NO
Module power supply	, V	oltage	20.4 to 26.4VDC (ripple ratio: within 5%)	DG NC +24V
Wodule power suppry	C	urrent	80mA or lower (at 24VDC and all points ON)	NC SLD
Noise immunity			Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs,	NC 24G CTLG
140/3C IIIIII dility			noise frequency 25 to 60Hz (noise simulator condition)	
Withstand voltage			1500VAC for 1 minute between all AC external terminals and ground	
With Staria Voltage			500VAC for 1 minute between all DC external terminals and ground	Y3 Y2 Y13 Y13
			10M $\Omega$ or higher between all AC external terminals and ground (500VDC	Y4 Y15 Y15
Insulation resistance			insulation resistance tester)	Y6 Y17 Y16
			10M $\Omega$ or higher between all DC external terminals and ground (500VDC	1/8 OW 1/18 OWE
			insulation resistance tester)	79 Y19 Y1A
Protection degree			IP1X	71B
Weight			0.7kg	
			50-point terminal block	YE YF COM
External connection s			Transmission circuit, module power supply, FG,	AMSOBIBLE
External connection s	system		I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m)	-32F
			Applicable solderless terminal: 2 or less	
			M4 screw with plain washer finished round	
Module mounting scre	ew		(tightening torque range: 0.78 to 1.08N•m)	
			• R1.25-3.5 (compliant with JIS C 2805)	
Applicable solderless terminal			[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]	
		I	• RAV2-3.5 (compliant with JIS C 2805)	
			[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	
Wire	Material		Copper	
	Tempera		75°C or more	
	rating			
Accessory			User's manual	
Part sold separately			A6DIN1C, A2CCOM-TB	_

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



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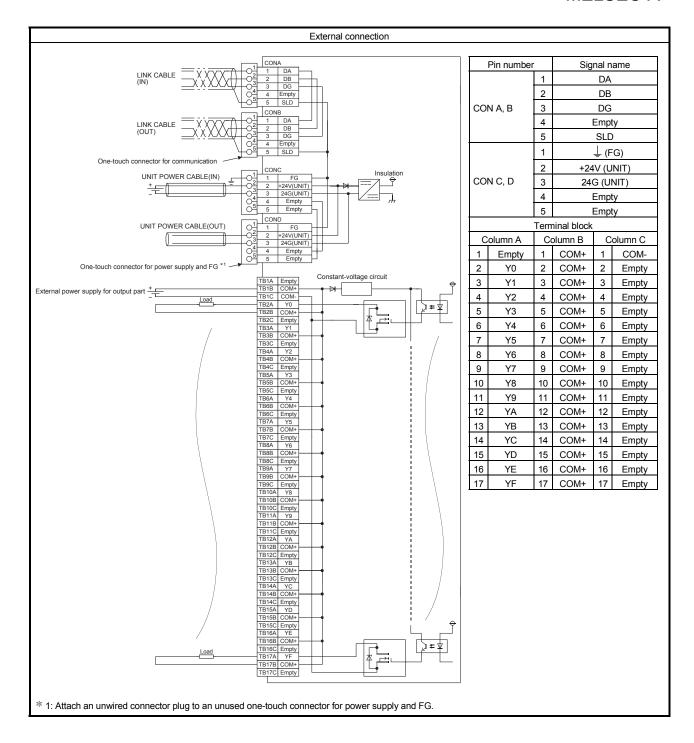
# 5.2 Spring Clamp Terminal Block Type Output Module

# 5.2.1 AJ65VBTS2-16T transistor output module (sink type)

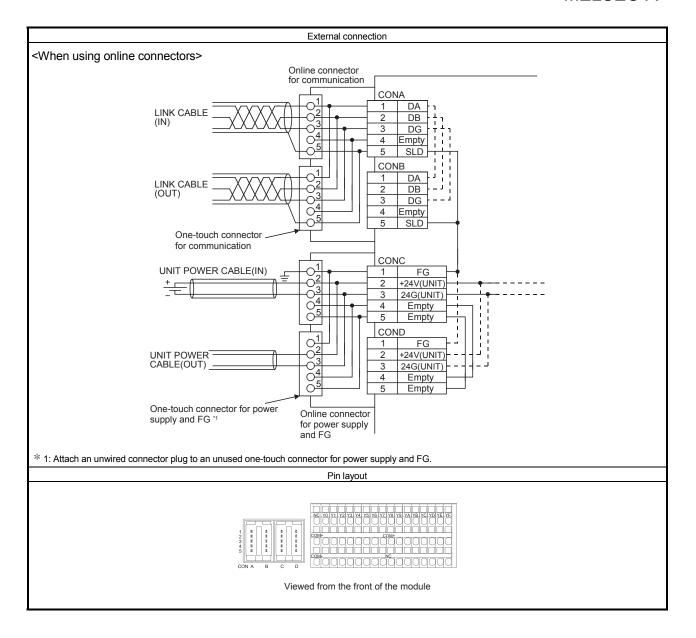
		Туре	Transistor output module	
Item		.,,,,	AJ65VBTS2-16T	Appearance
Number of c	utput poin	its	16 points	
Isolation method			Photocoupler	
Rated load voltage			12/24VDC	
Operating lo	ad voltage	e range	10.2 to 26.4VDC (ripple ratio: within 5%)	
Max. load cu	urrent		0.5A/point, 4A/common	
Max. inrush	current		1.0A, 10ms or less	
Leakage cur	rent at OF	F	0.1mA or lower	
Max. voltage	e drop at C	ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	
Output type			Sink type	
Protection fu	ınction		None	
Doonanaa tii		OFF→ON	1ms or less	
Response ti	me	ON→OFF	1ms or less (resistive load)	
External pov	ver	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	
supply for ou	utput part	Current	30mA or lower (at 24VDC and all points ON), excluding external load current	
Surge suppr	essor		Zener diode	
Wiring meth	od for con	nmon	16 points/common (2-wire, spring clamp terminal block type)	
Number of c	ccupied s	tations	32-point assignment/station (16 points used)	
Module pow	er	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
supply		Current	45mA or lower (at 24VDC and all points ON)	
Noise immu	nit.		Noise voltage 500Vp-p, noise width 1µs,	
Noise immu	riity		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand vo	oltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation re	eietanca		10M $\Omega$ or higher between all DC external terminals and ground (500VDC	
Ilisulation re	Sistance		insulation resistance tester)	.
Protection d	egree		IP1XB	
Weight	_		0.24kg	
			One-touch connector for communication [Transmission circuit]	
	Commu	inication part	5-pin IDC plug is sold separately: A6CON-L5P	
		·	<optional></optional>	
External	<u> </u>		Online connector for communication: A6CON-LJ5P	
connection			One-touch connector for power supply and FG [Module power supply, FG]	
system	Power s	supply part	5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD <optional></optional>	ωο ωο      -   -   -   -   -   -
			Online connector for power supply: A6CON-PWJ5P	OBO O O O O O O O O O O O O O O O O O O
	I/O part		2-piece spring clamp terminal block [I/O power supply, I/O signals]	1
Applicable D		•	TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	No   No   No   No   No   No   No   No
	Connecto	r for	Applicable cable:	↑ 1241248100044
	communic		FANC-110SBH, FA-CBL200PSBH, CS-110	
			0.66 to 0.98mm² (18 AWG)	1
	Connecto	r for power	[\phi 2.2 to 3.0mm (A6CON-PW5P), \phi 2.0 to 2.3mm (A6CON-PW5P-SOD)]	
	supply an	d FG	Wire diameter: 0.16mm or more	
			Insulating coating material: PVC (heat-resistant)	
Applicable	Spring cla	mp terminal	Stranded wire 0.08 to 1.5mm <sup>2</sup> (28 to 16 AWG) * 1	
wire size	block for I	/0	Wire strip length: 8 to 11mm	_
			TE0.5 [Applicable wire size: 0.5mm²]	
			TE0.75 [Applicable wire size: 0.75mm <sup>2</sup> ]	
	Applic		TE1 [Applicable wire size: 0.9 to 1.0mm <sup>2</sup> ]	
	solder	rless terminal	TE1.5 [Applicable wire size: 1.25 to 1.5mm²]	
			TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm²]	
			TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]	-
Accessory			User's manual, Holding fixtures for screw installation	

 $<sup>\</sup>ensuremath{^{*}}$  1: Insert one wire per terminal.

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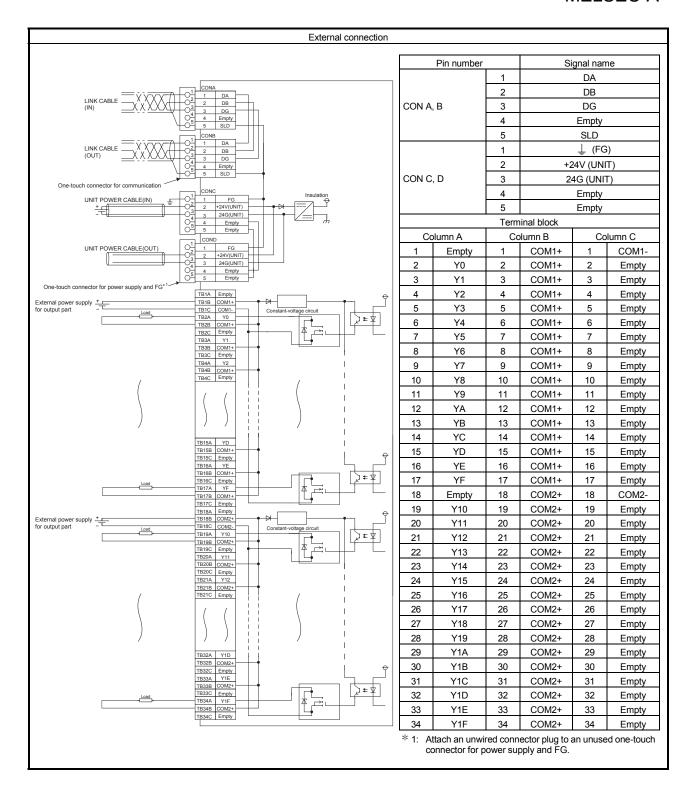


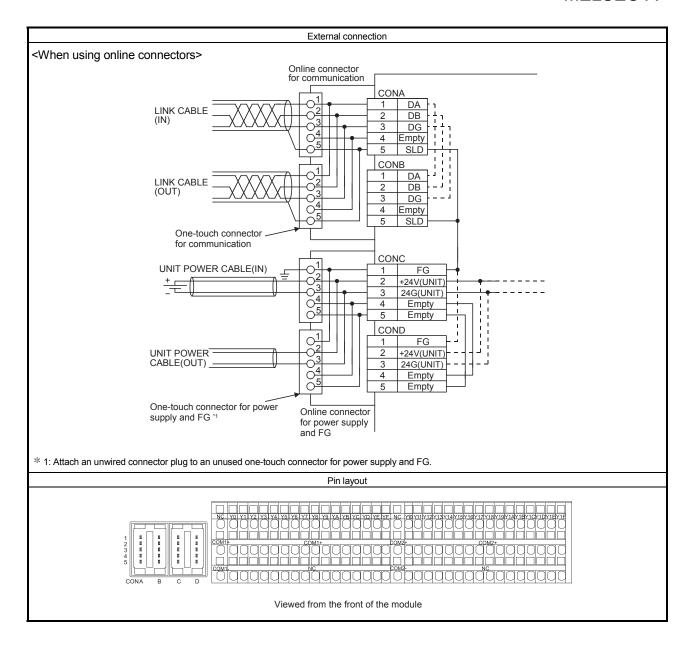
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# 5.2.2 AJ65VBTS2-32T transistor output module (sink type)

		Туре	Transistor output module	
Item		.,,,,,	AJ65VBTS2-32T	Appearance
Number of output points		ts	32 points	
Isolation method Rated load voltage			Photocoupler	7
Rated load voltage			12/24VDC	<u>]</u>
Operating load voltage range			10.2 to 26.4VDC (ripple ratio: within 5%)	1
Max. load current			0.5A/point, 4A/common	1
Max. load current Max. inrush current			1.0A, 10ms or less	1
Max. inrush current Leakage current at OFF		F	0.1mA or lower	1 (0)
Max. voltage	Leakage current at OFF  Max. voltage drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	
Output type	·		Sink type	
Protection fu	ınction		None	11 11484 64 65
		OFF→ON	1ms or less	
Response ti	me	ON→OFF	1ms or less (resistive load)	
External pov	ver	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	11 11484 84 81
supply for ou		Current	30mA or lower (at 24VDC and all points ON), excluding external load current	11 H#8#6#6#6A
Surge suppr	essor		Zener diode	
Wiring meth		imon	16 points/common (2-wire, spring clamp terminal block type)	
Number of c			32-point assignment/station (32 points used)	
	·	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
Module pow	er supply	Current	60mA or lower (at 24VDC and all points ON)	
			Noise voltage 500Vp-p, noise width 1µs,	
Noise immu	nity		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand vo	oltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation re			$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)	TO DO
Protection d	earee		IP1XB	
Weight	-9		0.40kg	
•	Commu	nication	One-touch connector for communication [Transmission circuit] 5-pin IDC plug is sold separately: A6CON-L5P <optional></optional>	
External			Online connector for communication: A6CON-LJ5P	1 11588888
connection system	Power s	supply part	One-touch connector for power supply and FG [Module power supply, FG] 5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD <optional> Online connector for power supply: A6CON-PWJ5P</optional>	
	I/O part		2-piece spring clamp terminal block [I/O power supply, I/O signals]	
Applicable D			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
	Connecto	r for	Applicable cable:	
	communic	cation	FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connecto supply an	r for power d FG	0.66 to 0.98mm² (18 AWG) [\$\phi2.2\$ to 3.0mm (A6CON-PW5P), \$\phi2.0\$ to 2.3mm (A6CON-PW5P-SOD)] Wire diameter: 0.16mm or more Insulating coating material: PVC (heat-resistant)	± 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Applicable	Spring cla	mn	Stranded wire 0.08 to 1.5mm² (28 to 16 AWG) * 1	-
wire size		lock for I/O	Wire strip length: 8 to 11mm	
wile Size	Applic solder termin	able less	TE0.5 [Applicable wire size: 0.5mm²] TE0.75 [Applicable wire size: 0.75mm²] TE1 [Applicable wire size: 0.9 to 1.0mm²] TE1.5 [Applicable wire size: 1.25 to 1.5mm²] TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm²]	
			TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ]	
Accessory			User's manual, Holding fixtures for screw installation	

 $<sup>\</sup>boldsymbol{\ast}$  1: Insert one wire per terminal.





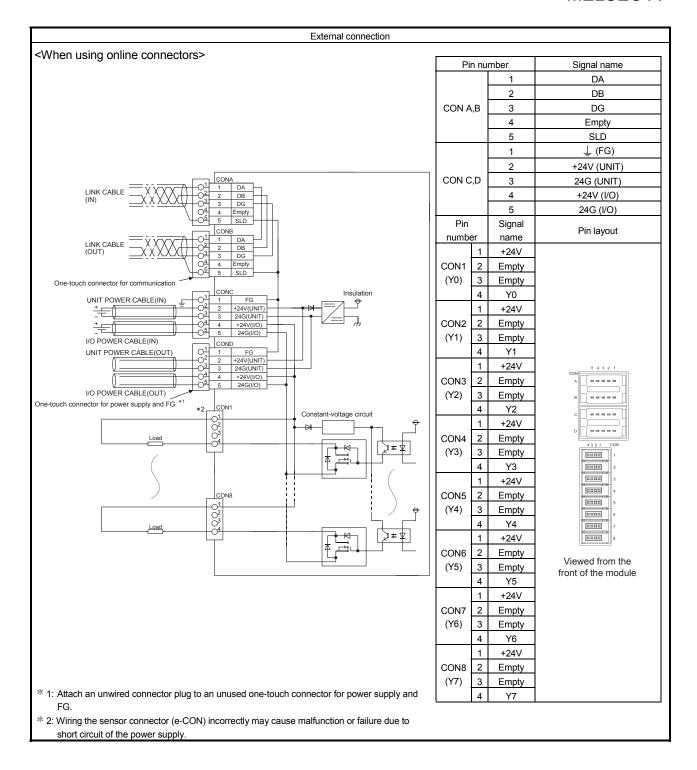
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## 5.3 Sensor Connector (e-CON) Type Output Module

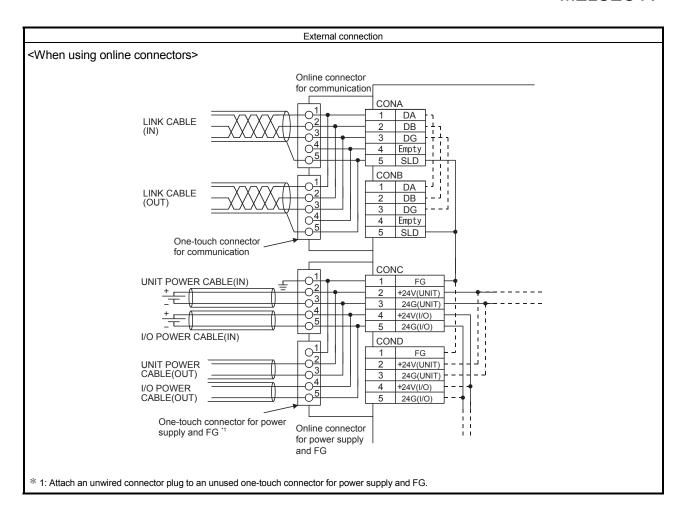
# 5.3.1 AJ65VBTCE2-8T transistor output module (sink type)

	Туре	Transistor output module			
Item	,,,,	AJ65VBTCE2-8T	Appearance		
Number of o	output points	8 points			
Isolation method		Photocoupler	1		
Rated load voltage		12/24VDC	1		
Operating load voltage range		10.2 to 26.4VDC (ripple ratio: within 5%)			
Max. load c	urrent	0.1A/point, 0.8A/common			
Max. inrush	current	0.7A, 10ms or less			
Leakage cu	rrent at OFF	0.1mA or lower			
Max. voltag	e drop at ON	0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A			
Output type		Sink type			
Protection f	unction	Overload protection, overvoltage protection, overheat protection			
Response ti	OFF→ON	1ms or less			
Response	ON→OFF	1ms or less (resistive load)			
External por supply for o	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)			
part	Current	5mA or lower (at 24VDC and all points ON), excluding external load current	CON ON 12 23		
Surge supp		Zener diode	94000		
	nod for common	8 points/common (2-wire, sensor connector (e-CON) type)	B B B B B B B B B B B B B B B B B B B		
	occupied stations	32-point assignment/station (8 points used)	40 \$		
Module pov		20.4 to 26.4VDC (ripple ratio: within 5%)	40 S 20 A 10 T 10 T 1		
supply	Current	35mA or lower (at 24VDC and all points ON)	-		
Noise immu	ınity	Noise voltage 500Vp-p, noise width 1µs,	D		
\\/ithatand\	rolto a o	noise frequency 25 to 60Hz (DC type noise simulator condition)			
Withstand v	ollage	500VAC for 1 minute between all DC external terminals and ground 10MΩ or higher between all DC external terminals and ground (500VDC insulation	MILSO AJ65VBTCE2-8T PW O		
Insulation re	esistance	resistance tester)	Y0 L RUNO		
Protection of	legree	IP1XB	Y1 DODD LERR.O		
Weight	legice	0.10kg	Y2 00 00 10 20		
veignt	Communication part	One-touch connector for communication [Transmission circuit] 5-pin IDC plug is sold separately: A6CON-L5P <optional> Online connector for communication: A6CON-LJ5P</optional>	Y3 30 40 50 50 60 70 70		
External connection system	Power supply part	One-touch connector for power supply and FG [Module power supply, I/O power supply, FG] 5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD <optional> Online connector for power supply: A6CON-PWJ5P</optional>	Y5 REED Y6 REED Y7 REED CCtink		
	I/O part	Sensor connector (e-CON) [I/O signals]			
I/O part		4-pin IDC plug is sold separately. * 1			
Applicable [	DIN rail	TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	4		
	Connector for communication	Applicable cable: FANC-110SBH, FA-CBL200PSBH, CS-110			
Applicable wire size	Connector for power supply and FG	0.66 to 0.98mm² (18 AWG) [φ2.2 to 3.0mm (A6CON-PW5P), φ2.0 to 2.3mm (A6CON-PW5P-SOD)] Wire diameter: 0.16mm or more Insulating coating material: PVC (heat-resistant)			
	Connector for I/O	Sensor connector (e-CON).  Applicable connector plugs are sold separately. * 1 (applicable wire size: 0.08 to 0.5mm², depending on the connector plug)			
Accessory		User's manual, Holding fixtures for screw installation			

 $<sup>\</sup>boldsymbol{\ast}$  1: Refer to Section 1.6.2 for details.



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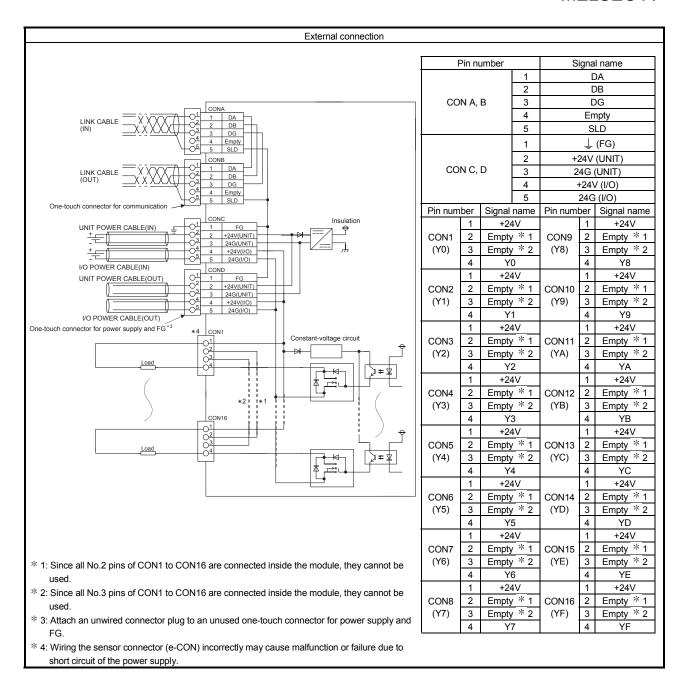


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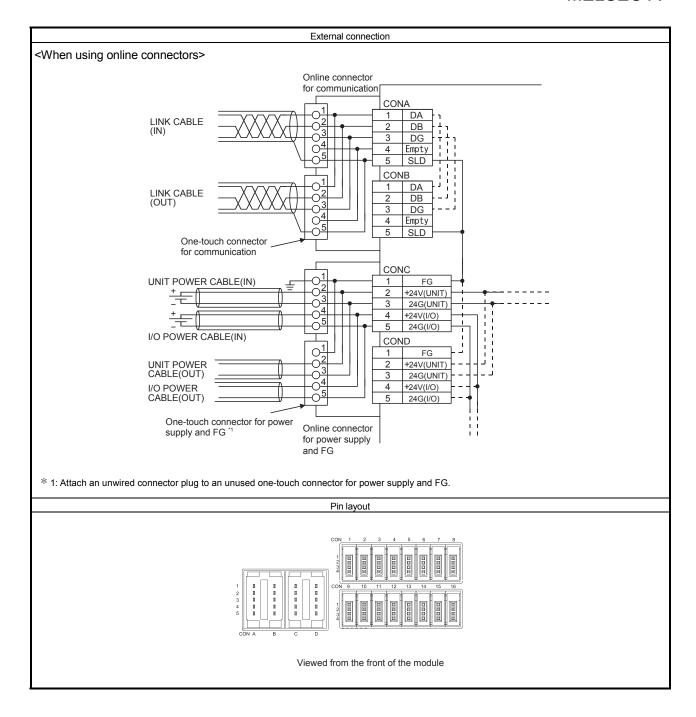
## 5.3.2 AJ65VBTCE2-16T transistor output module (sink type)

	_	Туре	Transistor output module		
Item			AJ65VBTCE2-16T	Appearance	
Number of o	output points	S	16 points		
Isolation method			Photocoupler		
Rated load voltage			12/24VDC		
Operating load voltage range		range	10.2 to 26.4VDC (ripple ratio: within 5%)		
Operating load voltage range  Max. load current			0.1A/point, 1.6A/common		
Max. load current Max. inrush current			0.7A, 10ms or less		
Leakage cu	Max. inrush current Leakage current at OFF		0.1mA or lower		
Max. voltag	e drop at ON	N	0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A		
Output type			Sink type		
Protection f	unction		Overload protection, overvoltage protection, overheat protection		
D	OF	F→ON			
Response to	Me	l→OFF	1ms or less (resistive load)		
External por supply for o	VOI	ltage	10.2 to 26.4VDC (ripple ratio: within 5%)		
part	Cui	rrent	10mA or lower (at 24VDC and all points ON), excluding external load current		
Surge supp			Zener diode	C. Cripic	
Wiring meth			16 points/common (2-wire, sensor connector (e-CON) type)		
Number of o			32-point assignment/station (16 points used)	5-1-6-1	
Module pov		ltage	20.4 to 26.4VDC (ripple ratio: within 5%)		
supply	Cui	rrent	45mA or lower (at 24VDC and all points ON)	65VB	
Noise immu	nitv		Noise voltage 500Vp-p, noise width 1µs,	P 0000 % 0000 %	
	,		noise frequency 25 to 60Hz (DC type noise simulator condition)		
Withstand v	oltage		500VAC for 1 minute between all DC external terminals and ground		
Insulation re	esistance		10M $\Omega$ or higher between all DC external terminals and ground (500VDC insulation		
			resistance tester)		
Protection of	egree		IP1XB		
Weight			0.10kg	~0-0	
	Commun	nication	One-touch connector for communication [Transmission circuit] 5-pin IDC plug is sold separately: A6CON-L5P <optional></optional>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
			Online connector for communication: A6CON-LJ5P	-0 0 0 ₹0 0 0 0	
External			One-touch connector for power supply and FG	9 8AIE SIANION WO. S	
connection system	Power su	upply	[Module power supply, I/O power supply, FG] 5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD <optional></optional>		
			Online connector for power supply: A6CON-PWJ5P	( )	
	I/O part		Sensor connector (e-CON) [I/O signals]		
			4-pin IDC plug is sold separately. * 1		
Applicable [			TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)		
	Connector communication		Applicable cable: FANC-110SBH, FA-CBL200PSBH, CS-110		
Applicable wire size	Connector power supp FG		0.66 to 0.98mm² (18 AWG) [φ2.2 to 3.0mm (A6CON-PW5P), φ2.0 to 2.3mm (A6CON-PW5P-SOD)] Wire diameter: 0.16mm or more Insulating coating material: PVC (heat-resistant)		
	Connector I/O	for	Sensor connector (e-CON).  Applicable connector plugs are sold separately. * 1		
			(applicable wire size: 0.08 to 0.5mm², depending on the connector plug)		
Accessory			User's manual, Holding fixtures for screw installation		

st 1: Refer to Section 1.6.2 for details.



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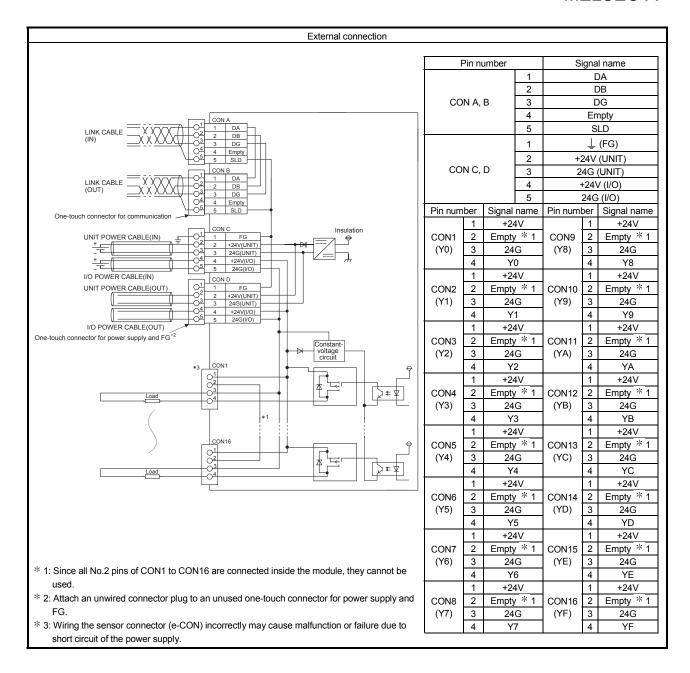


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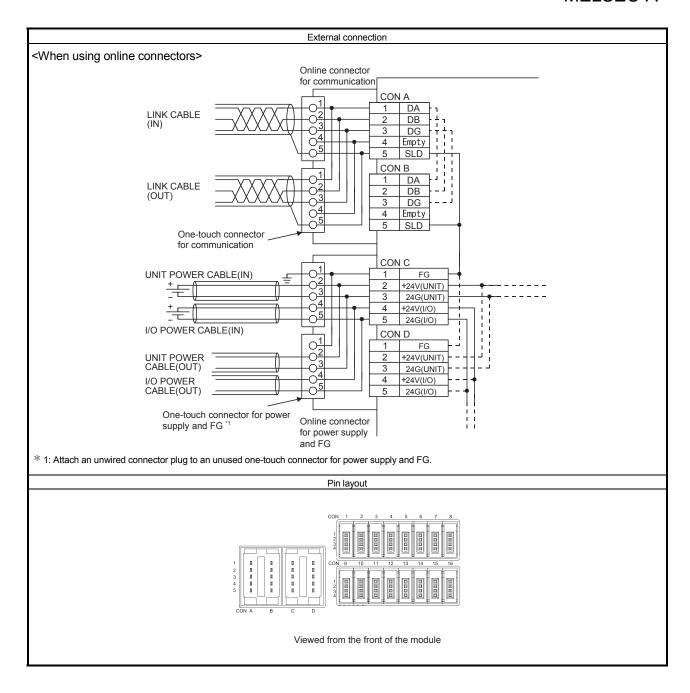
## 5.3.3 AJ65VBTCE3-16TE transistor output module (source type)

		Туре	Transistor output module				
Item		· ·	AJ65VBTCE3-16TE	Appearance			
Number of o	utput points	,	16 points	, p - 2 - 2 - 2			
Isolation method			Photocoupler				
Rated load voltage			12/24VDC				
	Operating load voltage range		10.2 to 26.4VDC (ripple ratio: within 5%)				
Max. load cu			0.1A/point, 1.6A/common				
Max. inrush			0.7A, 10ms or less				
Leakage cur	rent at OFF	=	0.1mA or lower				
Max. voltage	drop at Of	V	0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A				
Output type			Source type				
Protection fu	nction		Overload protection, overheat protection				
D	OF	F→ON	1ms or less				
Response tir	ne ON	l→OFF	1ms or less (resistive load)				
External pow	V OI	tage	10.2 to 26.4VDC (ripple ratio: within 5%)				
supply for ou		rrent	11mA or lower (at 24VDC and all points ON), excluding external load current				
part Surge suppre	l l		Zener diode				
Supply curre		ected	Zeriei diode				
device	int for confi	ecieu	1.0A or lower/common	C Time			
Wiring metho	od for comr	mon	16 points/common (3-wire, sensor connector (e-CON) type)	0000 w 0000 w			
Number of o	ccupied sta	ations	32-point assignment/station (16 points used)				
Module power	er Vol	tage	20.4 to 26.4VDC (ripple ratio: within 5%)				
supply	Cui	rrent	45mA or lower (at 24VDC and all points ON)				
NI de la decembra			Noise voltage 500Vp-p, noise width 1µs,				
Noise immur	nity		noise frequency 25 to 60Hz (DC type noise simulator condition)				
Withstand vo	oltage		500VAC for 1 minute between all DC external terminals and ground				
Insulation res	sistance		$10 \text{M}\Omega$ or higher between all DC external terminals and ground (500VDC insulation				
			resistance tester)				
Protection de	egree		IP1XB				
Weight			0.11kg				
	0		One-touch connector for communication [Transmission circuit]				
	Commun	lication	5-pin IDC plug is sold separately: A6CON-L5P	00000			
	part		<optional> Online connector for communication: A6CON-LJ5P</optional>	SON NOTITATE STATES NO SOLUTION NO SOLUTIO			
External			One-touch connector for power supply and FG				
connection			[Module power supply, I/O power supply, FG]				
system	Power su	pply	5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD				
	part		<pre><pre><pre><pre></pre></pre></pre></pre>				
			Online connector for power supply: A6CON-PWJ5P				
	I/O part		Sensor connector (e-CON) [I/O signals]				
	I/O part		4-pin IDC plug is sold separately. * 1				
Applicable D	Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)				
	Connector	for	Applicable cable:				
	communica	ation	FANC-110SBH, FA-CBL200PSBH, CS-110				
	Connector	for	0.66 to 0.98mm <sup>2</sup> (18 AWG)				
	power supp		[φ2.2 to 3.0mm (A6CON-PW5P), φ2.0 to 2.3mm (A6CON-PW5P-SOD)]				
	FG	p., and	Wire diameter: 0.16mm or more				
			Insulating coating material: PVC (heat-resistant)				
	Connector	for	Sensor connector (e-CON).				
	I/O		Applicable connector plugs are sold separately. * 1				
	-		(applicable wire size: 0.08 to 0.5mm², depending on the connector plug)				
Accessory			User's manual, Holding fixtures for screw installation				

<sup>\* 1:</sup> Refer to Section 1.6.2 for details.



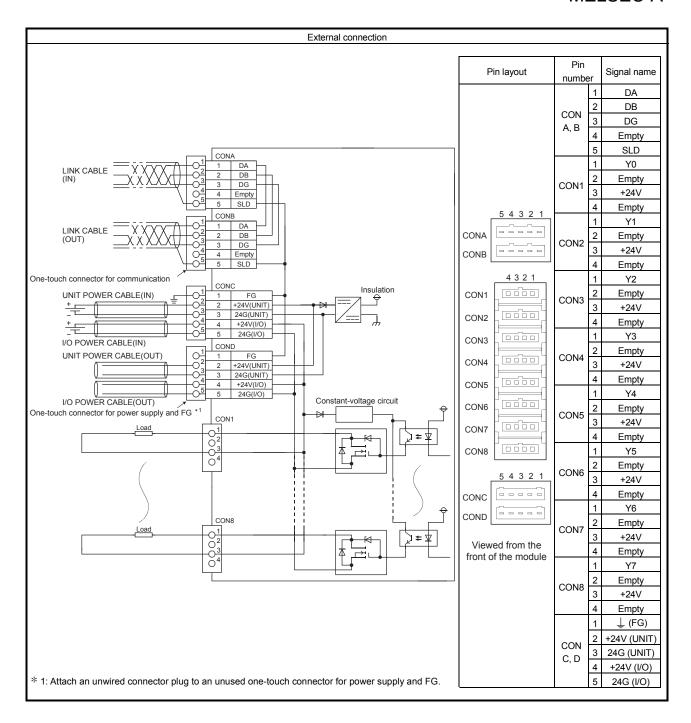
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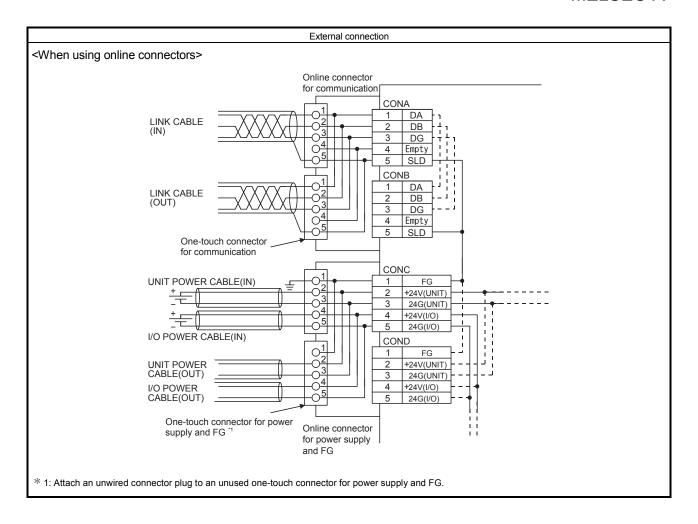
## 5.4 One-Touch Connector Type Output Module

# 5.4.1 AJ65VBTCU2-8T transistor output module (sink type)

		Туре	Transistor output module	
Item			AJ65VBTCU2-8T	Appearance
Number of output points			8 points	
Isolation method			Photocoupler	
Rated load voltage			12/24VDC	
Operating lo	oad voltage range	)	10.2 to 26.4VDC (ripple ratio: within 5%)	
Max. load c	current		0.1A/point, 0.8A/common	
Max. inrush	current		0.7A, 10ms or less	
Leakage cu	urrent at OFF		0.1mA or lower	
Max. voltag	je drop at ON		0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A	
Output type			Sink type	
Protection f	function		Overload protection, overvoltage protection, overheat protection	
Doononoo t	timo	OFF→ON	1ms or less	
Response t	ıme	ON→OFF	1ms or less (rated load, resistive load)	
External po	wer supply for	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)	MELSEG AJ65VBTCU2-8T
output part		Current	5mA or lower (TYP., 24VDC/common)	CON 7
Surge supp	pressor		Zener diode	A II
Wiring meth	hod for common		8 points/common (2-wire, one-touch connector type)	]
Number of	occupied stations		32-point assignment/station (8 points used)	B B
Madula nav	war aynah	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	YO PW
Module pov	wei suppiy	Current	35mA or lower (at 24VDC and all points ON)	
Noise imm	unity.		Noise voltage 500Vp-p, noise width 1µs,	Y1 L RUN
Noise immu	uriity		noise frequency 25 to 60Hz (DC type noise simulator condition)	
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground	
Insulation re	ooistanso		$10M\Omega$ or higher between all DC external terminals and ground (500VDC insulation	1
IIISUIAUOITI	esisiance		resistance tester)	
Protection of	degree		IP1XB	Y3 20 40 40 40 40 40
Weight			0.15kg	7 O
	Communication part		One-touch connector for communication	
			[Transmission circuit]	
			5-pin IDC plug is sold separately.	
			<optional></optional>	
External			Online connector for communication: A6CON-LJ5P	
connection			One-touch connector for power supply and FG	an - P
system	Da	4	[Module power supply, I/O power supply, FG]	CON C
	Power supply part		5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD <optional></optional>	CON -X
			Online connector for power supply: A6CON-PWJ5P	
			One-touch connector for I/O	CC-Link
			4-pin IDC plug is sold separately.	
Applicable I	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	
P.P. 22.2.3	Connector for		Applicable cable:	
	communication		FANC-110SBH, FA-CBL200PSBH, CS-110	
	Connector for power supply		0.66 to 0.98mm <sup>2</sup> (18 AWG)	
			[φ2.2 to 3.0mm (A6CON-PW5P), φ2.0 to 2.3mm (A6CON-PW5P-SOD)]	
Applicable			Wire diameter: 0.16mm or more	
wire size			Insulating coating material: PVC (heat-resistant)	
	Connector for I/O		φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)	
			[Applicable wire size: 0.14 to 0.2mm <sup>2</sup> ]	
			φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)	
			[Applicable wire size: 0.3 to 0.5mm <sup>2</sup> ]	
Accessory			User's manual	



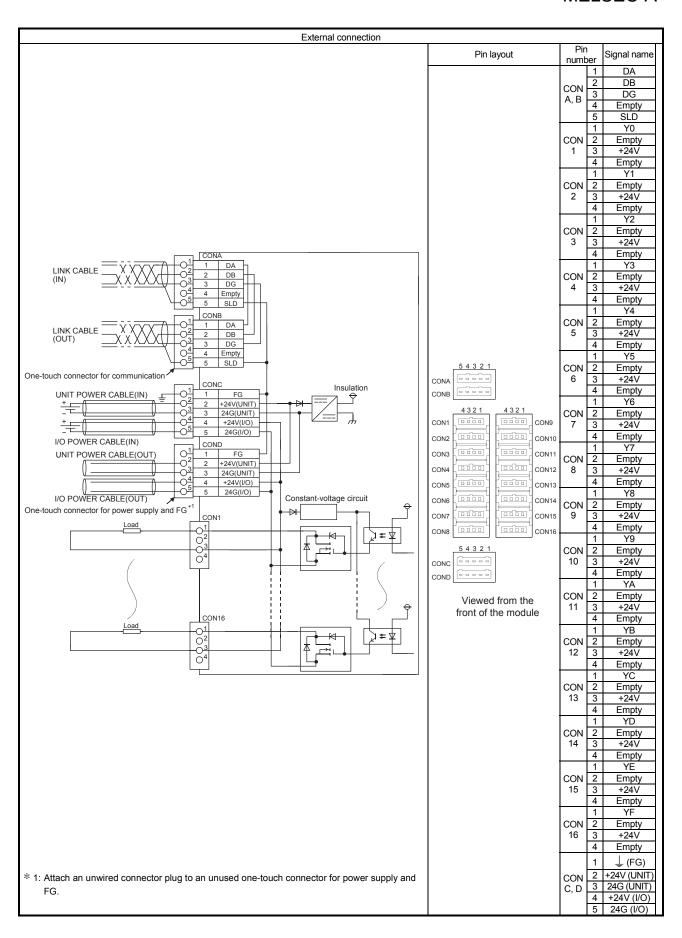
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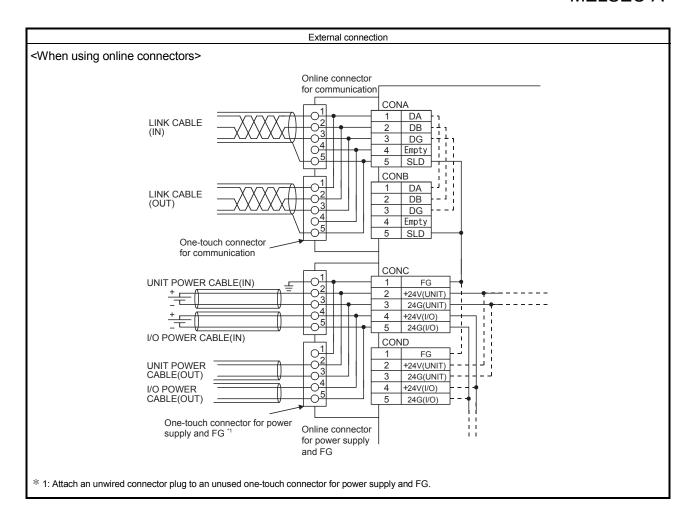
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## 5.4.2 AJ65VBTCU2-16T transistor output module (sink type)

		Туре	Transistor output module			
Item		.,,,,	AJ65VBTCU2-16T	Appearance		
Number of c	output poi	nts	16 points			
Isolation me	thod		Photocoupler			
Rated load v	voltage		12/24VDC			
Operating lo	ad voltag	e range	10.2 to 26.4VDC (ripple ratio: within 5%)			
Max. load cu	urrent		0.1A/point, 1.6A/common			
Max. inrush	current		0.7A, 10ms or less			
Leakage cui	rrent at O	FF	0.1mA or lower			
Max. voltage	e drop at	ON	0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A			
Output type			Sink type			
Protection fu	unction		Overload protection, overvoltage protection, overheat protection			
Dooponoo ti	mo	OFF→ON	1ms or less			
Response ti	me	ON→OFF	1ms or less (resistive load)			
External pov supply for or		Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)			
part	·	Current	10mA or lower (TYP. 24VDC/common), excluding external load current	MELSEG AJ65VBTCU2-16T		
Surge suppr			Zener diode	CÓN → L		
Wiring meth			16 points/common (2-wire, one-touch connector type)	A I		
Number of c			32-point assignment/station (16 points used)	con ⊃k		
Module pow	er	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	B		
supply		Current	40mA or lower (at 24VDC and all points ON)			
Noise immu	nitv		Noise voltage 500Vp-p, noise width 1μs,	L RUN		
			noise frequency 25 to 60Hz (DC type noise simulator condition)	L ERR		
Withstand v	oltage		500VAC for 1 minute between all DC external terminals and ground			
Insulation re	sistance		$10M\Omega$ or higher between all DC external terminals and ground (500VDC insulation			
			resistance tester)	30 40 50 60		
Protection d	egree		IP1XB			
Weight	1		0.19kg			
			One-touch connector for communication	8 0 0 A 0 A 0 B 0 C 0 C 0 D 0 E 0 E 0 E 0 C 0 C 0 C 0 C 0 C 0 C 0 C		
	Communication part		[Transmission circuit]			
			5-pin IDC plug is sold separately.	Y0~Y7 Y8~YF F °		
			Optional> Online connector for communication: A 6CON L. IED.			
External			Online connector for communication: A6CON-LJ5P	CON C W		
connection			One-touch connector for power supply and FG [Module power supply, I/O power supply, FG]	CON		
system	Power supply part		5-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD	CON J X		
			Sophilibe plag is sold separately. According wall, According wall-sold	CC-Link		
			Online connector for power supply: A6CON-PWJ5P			
			One-touch connector for I/O			
			4-pin IDC plug is sold separately.			
Applicable D	OIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)			
	Connector for communication		Applicable cable:			
			FANC-110SBH, FA-CBL200PSBH, CS-110			
	Connoct	ar far	0.66 to 0.98mm <sup>2</sup> (18 AWG)			
	IFG		[\$2.2 to 3.0mm (A6CON-PW5P), \$2.0 to 2.3mm (A6CON-PW5P-SOD)]			
Applicable			Wire diameter: 0.16mm or more			
wire size			Insulating coating material: PVC (heat-resistant)			
	Connector for I/O		φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)			
			[Applicable wire size: 0.14 to 0.2mm <sup>2</sup> ]			
			φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)			
			[Applicable wire size: 0.3 to 0.5mm <sup>2</sup> ]			
Accessory			User's manual			



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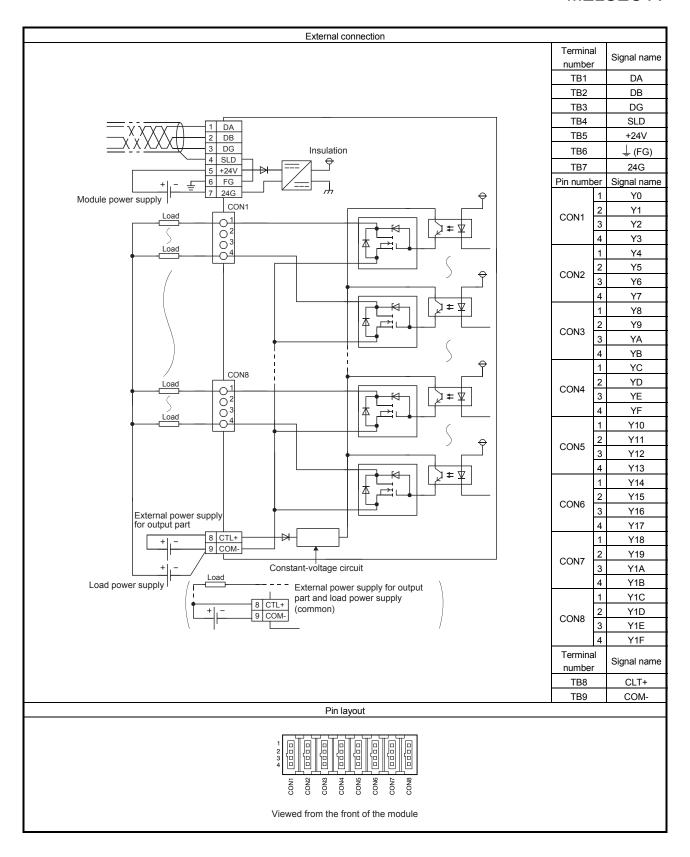


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#### 5.4.3 AJ65SBTC1-32T transistor output module (sink type)

Туре			Transistor output module			
Item			AJ65SBTC1-32T	Appearance		
Number of	output points		32 points			
Isolation me	ethod		Photocoupler			
Rated load	voltage		12/24VDC			
	oad voltage range		10.2 to 26.4VDC (ripple ratio: within 5%)			
Max. load o	current		0.1A/point, 3.2A/common			
Max. inrush	n current		1.0A, 10ms or less			
Leakage cu	urrent at OFF		0.25mA or lower			
Max. voltag	ge drop at ON		0.3VDC or lower (TYP.) 0.1A, 0.6VDC or lower (MAX.) 0.1A			
Output type	9		Sink type			
Protection f	function		Overload protection, overvoltage protection, overheat protection			
D	C	OFF→ON	0.5ms or less			
Response t	ime	ON→OFF	1.5ms or less (resistive load)			
External po	ower supply for output	Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)			
part	,	Current	50mA or lower (TYP. 24VDC/common), excluding external load current			
Surge supp	pressor		Zener diode			
	hod for common		32 points/common (1-wire, one-touch connector type)	₹		
	occupied stations		32-point assignment/station (32 points used)			
	•	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)			
Module pov	wer supply	Current	60mA or lower (at 24VDC and all points ON)			
		1	Noise voltage 500Vp-p, noise width 1µs,			
Noise immu	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)	100 00 00 00 00 00 00 00 00 00 00 00 00		
Withstand v	voltage		500VAC for 1 minute between all DC external terminals and ground			
			10M $\Omega$ or higher between all DC external terminals and ground (500VDC	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Insulation re	esistance		insulation resistance tester)			
Protection of	degree		IP2X			
Weight			0.16kg	1-32T		
			7-point two-piece terminal block	78 9 A L L L L L L L L L L L L L L L L L L		
	Communication part,		[Transmission circuit, module power supply, FG]	6 7 78 9 A B B B B B B B B B B B B B B B B B B		
	module power supply	part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)			
External			Applicable solderless terminal: 2 or less	2 3 4 5 0 0 0 0 0 12 131411 12 131411 12 131411 12 131411 13 13 13 13 13 13 13 13 13 13 13 13 13 1		
connection			2-point direct-mount terminal block			
system	I/O power supply part		[I/O power supply]			
.,	power supply part		M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)			
			Applicable solderless terminal: 2 or less	DA C		
	I/O part		Dedicated one-touch connector [I/O signals]			
	1		4-pin IDC plug is sold separately.			
Modulo ma	ounting screw		M4 screw with plain washer finished round  (tightening targue range: 0.78 to 1.08Nem)			
ivioquie II10	unung screw		(tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations			
Annlicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)			
Applicable	Communication part,	Applicable solderless	• RAV1.25-3 (compliant with JIS C 2805)			
	module power supply		[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]			
	part power supply		• V2-MS3, RAP2-3SL, TGV2-3N			
Applicable	I/O power supply part	terminal	[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]			
wire size	pant. supply part		φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220)			
			[Applicable wire size: 0.14 to 0.2mm² (26 to 24 AWG) stranded wire]			
	I/O part		φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)			
			[Applicable wire size: 0.3 to 0.5 mm² (22 to 20 AWG) stranded wire]			
Wire	Material		Copper			
	Temperature rating		75°C or more			
Accessory			User's manual			

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



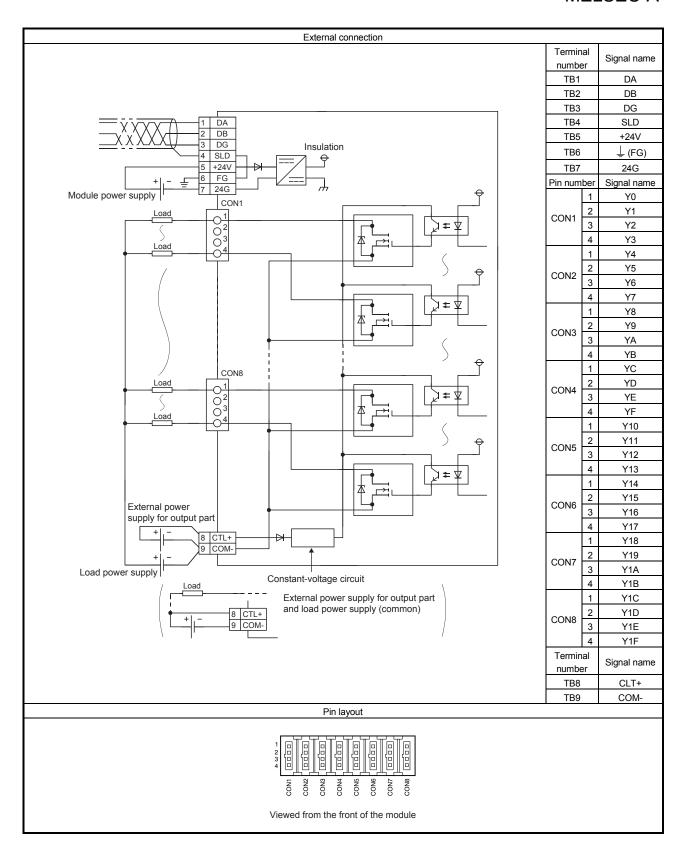
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## 5.4.4 AJ65SBTC1-32T1 transistor output module (sink type)

			Туре	Transistor output module				
Item		_	Турс	AJ65SBTC1-32T1	Appearance			
Number of	output points			32 points	j. j.			
Isolation m				Photocoupler	7			
Rated load				12/24VDC	7			
	load voltage r	ange		10.2 to 26.4VDC (ripple ratio: within 5%)	7			
Max. load		<u>-</u>		0.1A/point, 3.2A/common	7			
Max. inrus				1.0A, 10ms or less	7			
	urrent at OFF			0.1mA or lower	7			
	ge drop at ON			0.3VDC or lower (TYP.) 0.1A, 0.6VDC or lower (MAX.) 0.1A	7			
Output type				Sink type	7			
Protection				None	7			
1 1010011011	Tarrottori	OFF-	→ON	0.5ms or less	7			
Response	time	ON→		1.5ms or less (resistive load)	7			
Evternal no	ower supply	Volta		10.2 to 26.4VDC (ripple ratio: within 5%)	7			
for output p		Curre		50mA or lower (TYP. 24VDC/common), excluding external load current	7			
Surge sup		Curre	<i>a</i> 14	Zener diode	7			
	hod for comm	ion		32 points/common (1-wire, one-touch connector type)				
	occupied stat			32-point assignment/station (32 points used)	- I se O I I			
14011DEL OI	occupicu stat	Volta	ne .	20.4 to 26.4VDC (ripple ratio: within 5%)				
Module po	wer supply			<u> </u>				
		Curre	#11L	60mA or lower (at 24VDC and all points ON) Noise voltage 500Vp-p, noise width 1µs,	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
Noise imm	unity			noise frequency 25 to 60Hz (DC type noise simulator condition)	0000 H			
Withstand	voltane			500VAC for 1 minute between all DC external terminals and ground	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
VVIIIISIAITU	voitage			10MΩ or higher between all DC external terminals and ground (500VDC				
Insulation i	resistance			insulation resistance tester)	\$ 00 \$ 12 \$ 12 \$ 00 \$ \$ 12 \$ 12 \$ 12 \$ 1			
Protection	degree			IP2X				
Weight	acgree			0.16kg	V8 9 A B C D E F W1819 IA BICIDIE IF BICIDIE IA BICIDIE			
vveignt				7-point two-piece terminal block				
	Communicat	tion na	rt	[Transmission circuit, module power supply, FG]	7. Y 8.9 A B C B B C B B C B B C B B C B B C B B C B B C B B B C B			
	module pow			M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
				Applicable solderless terminal: 2 or less	A A A A A A A A A A A A A A A A A A A			
External				2-point direct-mount terminal block	100 1 2 3 4 5 6 7 7 1 2 3 4 6 6 7 7 1 2 3 4 5 6 7 7 1 2 3 4 6 6 7 7 1 2 3 4 5 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 7 1 2 3 4 5 6 6 7 1 2 3 4 5 6 6 7 1 2 3 4 5 6 6 7 1 2 3 4 5 6 6 7 1 2 3 4 5 6 6 7 1 2 3 4 5 6 6 7 1 2 3 4 5 6 6 7 1 2 3 4 5 6			
connection				[I/O power supply]	1   2   3   4   4   4   4   4   4   4   4   4			
system	I/O power su	ipply p	art	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	# # # # # # # # # # # # # # # # # # #			
				Applicable solderless terminal: 2 or less				
	I/O part			Dedicated one-touch connector [I/O signals]				
	I/O part			4-pin IDC plug is sold separately.				
				M4 screw with plain washer finished round				
Module mo	ounting screw			(tightening torque range: 0.78 to 1.08N•m)				
				Mountable with a DIN rail in 6 orientations	_			
Applicable	DIN rail		1	TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)	_			
	Communicat	tion						
	part,		Applicable	• RAV1.25-3 (compliant with JIS C 2805)				
	module pow	er	solderless	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]				
Amm Books	supply part		terminal	• V2-MS3, RAP2-3SL, TGV2-3N				
	I/O power su	ірріу		[Applicable wire size: 1.25 to 2.0mm <sup>2</sup> (16 to 14 AWG) stranded wire]				
wire size	part		l	#1 0 to 1.4 (ACCON P214) #1.4 to 2.0 (ACCON P220)	-			
				φ1.0 to 1.4 (A6CON-P214), φ1.4 to 2.0 (A6CON-P220) [Applicable wire size: 0.14 to 0.2mm² (26 to 24 AWG) stranded wire]				
	I/O part			[Applicable wire size: 0.14 to 0.2mm- (26 to 24 AWG) stranded wire]				
				[Applicable wire size: 0.3 to 0.5 mm <sup>2</sup> (22 to 20 AWG) stranded wire]				
Wire	Material			Copper	┥			
VVIIC		ration		75°C or more				
Δοορορογί	Temperature	raurig	J		$\dashv$			
Accessory				User's manual				

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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## 5.5 FCN Connector Type Output Module

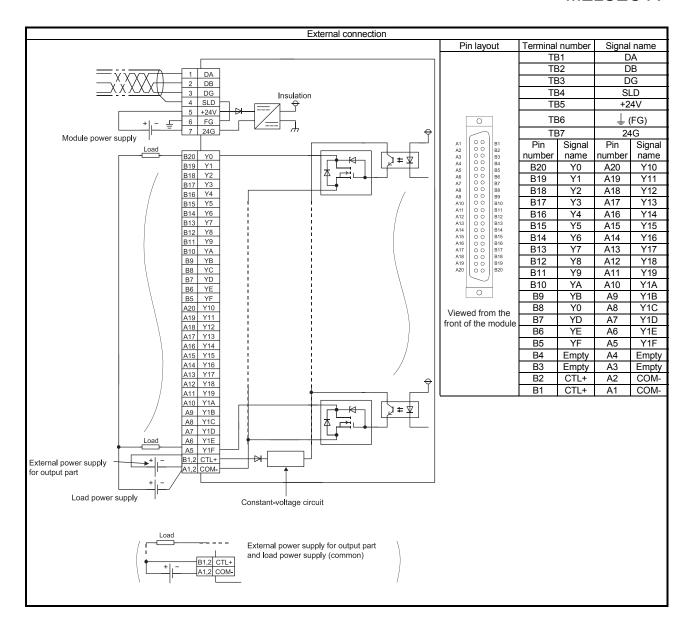
## 5.5.1 AJ65SBTCF1-32T type transistor output module (sink type)

		Туре		·				
Item			AJ65SBTCF1-32T	Appea	rance			
Number of	output points		32 points					
Isolation me	ethod		Photocoupler					
Rated load	voltage		12/24VDC					
Operating le	oad voltage ran	ge	10.2 to 26.4VDC (ripple ratio: within 5%)					
Max. load o	current		0.1A/point, 3.2A/common					
Max. inrush	current		1.0A, 10ms or less					
Leakage cu	irrent at OFF		0.1mA or lower					
Max. voltag	lax. voltage drop at ON		0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A					
Output type	Output type		Sink type					
Protection f	Protection function		Overload protection, overvoltage protection, overheat protection					
	OFF→ON		0.5ms or less					
Response t	time	ON→OFF	1.5ms or less (resistive load)	1				
External power supply for Voltage		Voltage	10.2 to 26.4VDC (ripple ratio: within 5%)					
output part Current			50mA or lower (TYP. 24VDC/common), excluding external load current					
Surge suppressor		<u> </u>	Zener diode					
	nod for commor	1	32 points/common (1-wire, FCN connector type)	RATE 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
	occupied station		32-point assignment/station (32 points used)	- 1 N N N N N N N N N N N N N N N N N N	0 0			
		Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)		0 0			
Module pov	ver supply	Current	60mA or lower (at 24VDC and all points ON)	1111941 000 111 2 21	0 0			
		100	Noise voltage 500Vp-p, noise width 1µs,	ANBYIGH VB VC	0 0			
Noise immu	unity		noise frequency 25 to 60Hz (DC type noise simulator condition)	4 2 2				
Withstand v	Withstand voltage		500VAC for 1 minute between all DC external terminals and ground	V-0V V-10V-V				
With lottering V	ronago		10MΩ or higher between all DC external terminals and ground (500VDC	Y89 A B C D E F OUT OF  OF OUT OUT OF OUT OUT OF OUT OUT OF OUT OUT OUT OUT OUT OUT OUT OUT OUT OUT				
Insulation re	esistance		insulation resistance tester)					
Weight			0.15kg					
· · o.g. · ·			7-point two-piece terminal block	6 7 789 A B 1617 1719111111111111111111111111111111				
	Communicatio	n part.	[Transmission circuit, module power supply, FG]	7 17 Y 117 Y 117 Y 115 SE				
External	module power	•	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)	5 6 6 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9				
connection			Applicable solderless terminal: 2 or less	2 3 4 5 0 0 0 0 12131418 MRR\$36 (FG)				
system	I/O power supp	oly part,	40-pin connector [I/O power supply, I/O signal]	R Y0 1 2 3 4 5 6 7	1 (020) 1			
	I/O part	, ,	(A6CON1, A6CON2, A6CON3, A6CON4)		@  @			
			M4 screw with plain washer finished round					
Module mo	unting screw		(tightening torque range: 0.78 to 1.08N•m)	PW LRU OA				
			Mountable with a DIN rail in 6 orientations					
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)					
	Communicatio	n Applicable	RAV1.25-3 (compliant with JIS C 2805)					
	part,	solderless	[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]					
	module power	terminal*1	• V2-MS3, RAP2-3SL, TGV2-3N					
Applicable	supply part		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]					
wire size			• 0.08 to 0.3mm² (28 to 22 AWG) stranded wire (A6CON1 and A6CON4)*2					
	I/O power supp	oly part,	• 0.08 to 0.2mm² (28 to 24 AWG) stranded wire (A6CON2)					
	I/O part		• 0.08mm² (28 AWG) stranded wire, φ0.25mm (30 AWG) single wire					
			(A6CON3)					
Wire	Material		Copper					
	Temperature ra	ating	75°C or more					
Applicable	connector/		ASTRYV36 ASTRYV54					
terminal blo	ock conversion r	nodule	A6TBXY36, A6TBXY54					
Accessory			User's manual					

<sup>\*1</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

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<sup>\*2</sup> Use cables with outside diameter of 1.3mm or shorter to connect 40 cables to the connector. In addition, consider the amount of current to be used and select appropriate cables.

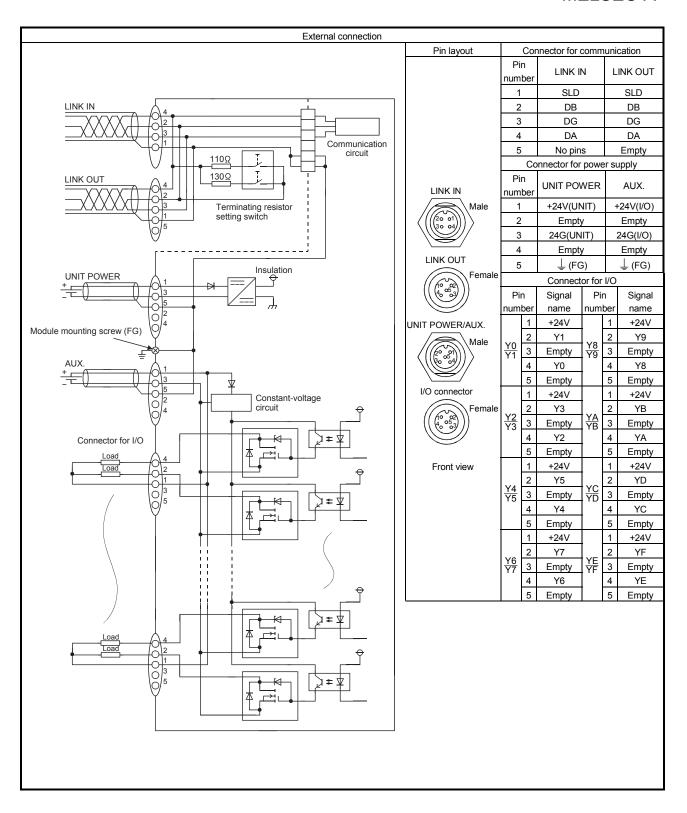


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# 5.6 Waterproof Type Output Module

# 5.6.1 AJ65FBTA2-16T transistor output module (sink type)

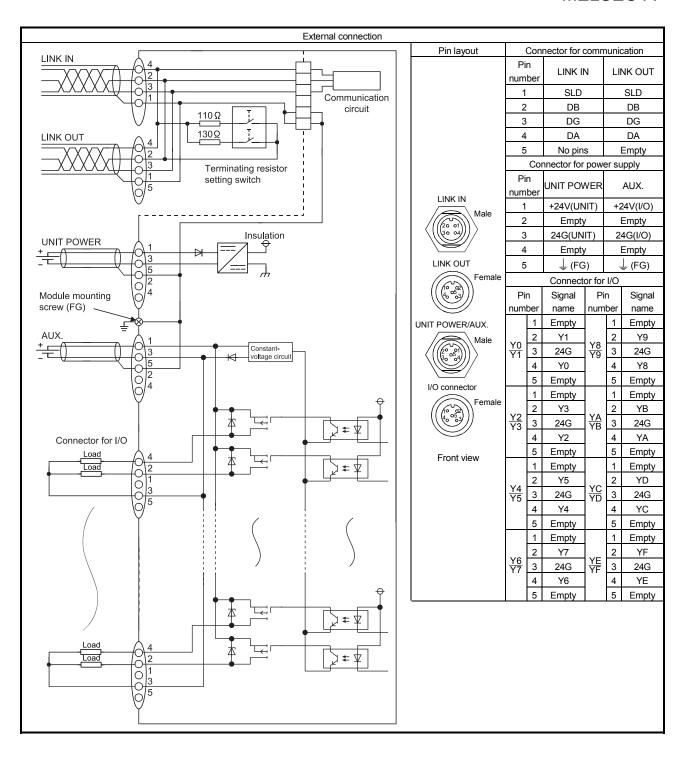
	Туре	Transistor output module				
Item		AJ65FBTA2-16T	Appearance			
Number of output points		16 points				
Isolation method		Photocoupler				
Rated load voltage		12/24VDC				
Operating load voltage r	ange	10.2 to 28.8VDC (ripple ratio: within 5%)				
Max. load current		0.5A/point, 4A/common				
Max. inrush current		1.0A, 10ms or less				
Leakage current at OFF		0.25mA or lower				
Max. voltage drop at ON		0.15VDC or lower (TYP.) 0.5A, 0.25VDC or lower (MAX.) 0.5A	MELSEC AJ65FBTA2-16T			
Output type		Sink type	CC-Link			
Protection function		Overload protection, overheat protection	2 19 J T L L L L L L L L L L L L L L L L L L			
Deenenee time	OFF→ON	0.5ms or less	X 100 X 178 X 400 X 170 X 500			
Response time	ON→OFF	1.5ms or less (resistive load)	UNIT POWER AUX. XHE OFF			
External power supply	Voltage	10.2 to 28.8VDC (ripple ratio: within 5%)				
for output part	Current	20mA or lower (at 24VDC and all points ON), excluding external load current				
Surge suppressor		Zener diode				
Wiring method for comm	non	16 points/common (2-wire, waterproof connector type)				
Number of occupied star	tions	32-point assignment/station (16 points used)				
Module power supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)				
iviodule power supply	Current	50mA or lower (at 24VDC and all points ON)				
Noise immunity		Noise voltage 500Vp-p, noise width 1µs,				
Noise initiality		noise frequency 25 to 60Hz (DC type noise simulator condition)				
Withstand voltage		500VAC for 1 minute between all DC external terminals and ground				
Insulation resistance		$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)				
Protection degree		IP67				
Weight		0.40kg				
Accessory		User's manual				
Optional item		Waterproof cap: A6CAP-WP2 (20 pieces)				
Other connecting device	s	Refer to Section 1.6.1.				



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# 5.6.2 AJ65FBTA2-16TE transistor output module (source type)

	Туре	Transistor output module					
Item		AJ65FBTA2-16TE	Appearance				
Number of output points		16 points					
Isolation method		Photocoupler					
Rated load voltage		12/24VDC					
Operating load voltage rang	ge	10.2 to 28.8VDC (ripple ratio: within 5%)					
Max. load current		1.0A/point, 4A/common					
Max. inrush current		2.0A, 10ms or less					
Leakage current at OFF		0.3mA or lower					
Max. voltage drop at ON		0.15VDC or lower (TYP.) 1.0A, 0.2VDC or lower (MAX.) 1.0A	( <del>-</del>				
Output type		Source type	MELSEC AJ65FBTA2-16TE CC-Link				
Protection function		Overload protection, overheat protection (The LED turns on when any protection is activated.)	STATION MO. POWER OF L. PILIN PROTECT OF OIL EER X 90 OF 95 X 90 O				
	OFF→ON	0.5ms or less					
Response time	ON→OFF	1.5ms or less (resistive load)	UNIT POWER AUX. X76 6 YF				
External power supply for	Voltage	10.2 to 28.8VDC (ripple ratio: within 5%)					
output part	Current	30mA or lower (at 24VDC and all points ON), excluding external load current					
Surge suppressor	our on	Zener diode					
Wiring method for common	ı	16 points/common (2-wire, waterproof connector type)	Y0 Y8 Y8				
Number of occupied station	ns	32-point assignment/station (16 points used)					
Module power supply	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	Y2 ( Y5 Y6 Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y				
iviodule power supply	Current	50mA or lower (at 24VDC and all points ON)					
Noise immunity		Noise voltage 500Vp-p, noise width 1µs, noise frequency 25 to 60Hz (DC type noise simulator condition)	V4				
Withstand voltage		500VAC for 1 minute between all DC external terminals and ground	Y4 W Y5				
Insulation resistance		$10M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)	TE OF THE				
Protection degree		IP67					
Weight		0.40kg					
Accessory		User's manual					
Optional item		Waterproof cap: A6CAP-WP2 (20 pieces)					
Other connecting devices		Refer to Section 1.6.1.					



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# 6 SPECIFICATIONS FOR COMBINED MODULES

This chapter describes the specifications for a combined module that can be connected to the CC-Link system.

## 6.1 Terminal Block Type Combined Module

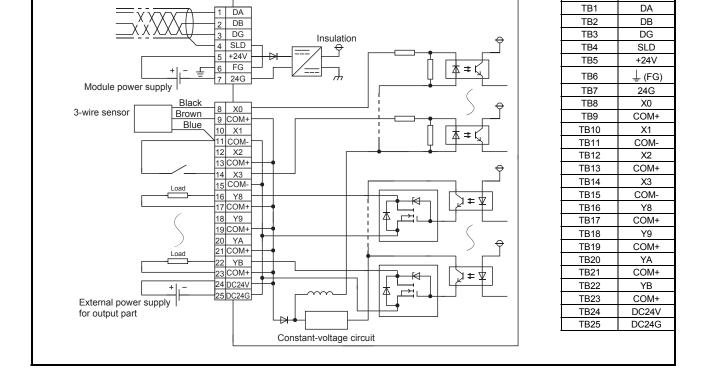
## 6.1.1 AJ65SBTB32-8DT combined module

	T	/pe			output combined module		
Item			AJ65	SBTB32-8DT	·	Appea	arance
		Input			Output		
	input points	4 points	Number of outp		4 points		
Isolation me	ethod	Photocoupler	Isolation metho	d	Photocoupler		
Rated input	t voltage	24VDC	Rated load volta	age	24VDC		
Rated input	t current	Approx. 7mA	Operating load	voltage range	19.2 to 26.4VDC (ripple ratio: within 5%)		
	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load curre	nt	0.5A/point, 1.2A/common		
Max. number input points	er of simultaned	100%	Max. inrush cur	rent	1.0A, 10ms or less		
ON voltage	ON current	14VDC or higher/ 3.5mA or higher	Leakage curren	t at OFF	0.25mA or lower		
OFF voltage	e/OFF current	6VDC or lower/ 1.7mA or lower	Max. voltage dr	op at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
			Output type		Sink type		
Input resista	ance	Approx. 3.3kΩ	Protection funct	tion	Overload protection, overvoltage protection, overheat protection		
Response t		ON 1.5ms or less (at 24VDC)	Response time	OFF→ON	0.5ms or less		
response t	ON→C	FF 1.5ms or less (at 24VDC)	response unite	ON→OFF	1.5ms or less (resistive load)		
			External power	Voltage	19.2 to 26.4VDC (ripple ratio: within 5%)		8 8
			supply for output part	Current	14.6mA or lower (at 24VDC and all points ON), excluding external load current	SAMON NO. 18 PATE BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	
Input type		Positive common (sink type)	Surge suppress	sor			
Supply curred device	rent for connecte	1.0A or lower/common			NS Y8		
Wiring meth	hod for common	8 points/common (input: 3-w	ire terminal block	type, output: 2	-wire terminal block type)	COM+	
Number of o	occupied station				Z-8DT		
Module pov	wer Voltage				Auessetes2-edi		
supply	Current						
Noise immu	unity	Noise voltage 500Vp-p, nois noise frequency 25 to 60Hz		mulator condition	X0123788 AB	(3) (3)	
Withstand v	voltage	500VAC for 1 minute between	en all DC external	terminals and	ground		
Insulation re	esistance	10M $Ω$ or higher between all tester)	DC external term	inals and grour	nd (500VDC insulation resistance	LIRLIN LEGG.	
Protection of	degree	IP2X					
Weight		0.18kg					
External connection	Communication part, module power supply part	7-point two-piece terminal bl M3×5.2 screw (tightening to Applicable solderless termin	rque range: 0.59 t		e power supply, FG]		
system	I/O power supp part, I/O part	M3×5.2 screw (tightening to Applicable solderless termin	rque range: 0.59 t al: 2 or less	to 0.88N•m)	-		
	unting screw	M4 screw with plain washer Mountable with a DIN rail in	6 orientations		range: 0.78 to 1.08N•m)		
Applicable I	oplicable DIN rail TH35-7.5Fe, TH35-7.5Al (co		ompliant with IEC	60715)			
		<ul> <li>RAV1.25-3 (compliant with</li> </ul>	IJIS C 2805)				
Applicable s	Applicable solderless terminal [Applicable wire size: 0.3 to V2-MS3, RAP2-3SL, TGV: [Applicable wire size: 1.25]			•	•		
Wire				,	-		
	Temperature rating	75°C or more				7	
Accessory		User's manual				7	
		•			o table above. I lee applicable wir		

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

number

Signal name



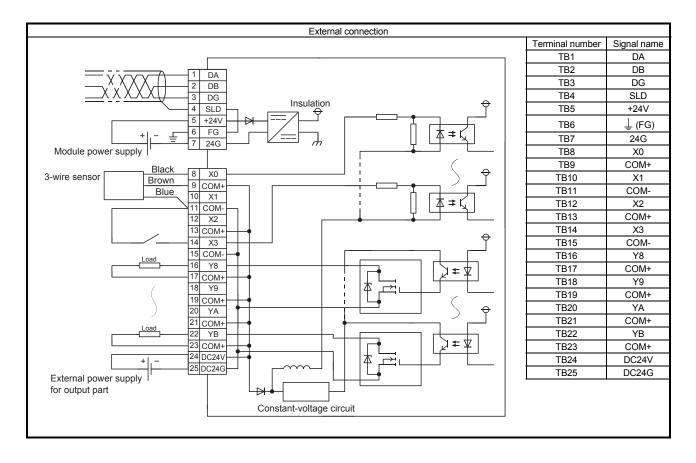
External connection

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## 6.1.2 AJ65SBTB32-8DT2 combined module

		Туре		DC in	put transisto	r output combined module		
Item	_				B32-8DT2	,	App	earance
		În	put			Output		
Number of	input po	ints	4 points	Number of o	utput points	4 points		
Isolation me	ethod		Photocoupler	Isolation me	thod	Photocoupler		
Rated input	t voltage	!	24VDC	Rated load v	oltage	24VDC		
Rated input	t current		Approx. 7mA	Operating lo	ad voltage	19.2 to 26.4VDC (ripple ratio: within 5%)		
Operating v	voltage r	ange	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load cu	ırrent	0.5A/point, 1.2A/common	1	
Max. numb		nultaneous	100%	Max. inrush	current	1.0A, 10ms or less		
ON voltage		rent	14VDC or higher/3.5mA or higher	Leakage cur	rent at OFF	0.1mA or lower		
OFF voltag	OFF voltage/OFF current		6VDC or lower/1.7mA or lower	Max. voltage	e drop at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	1	
Input resistance			Approx. 3.3kΩ	Output type		Sink type	<del> </del>	
		OEE JON	1 5mg or loop (at 24) (DC)	Protection fu		None	+	
Response t	time	OFF→ON	1.5ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less	+	
		ON→OFF	1.5ms or less (at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)	+	
				External	Voltage	19.2 to 26.4VDC (ripple ratio: within 5%)		
				power		14.6mA or lower		
					Current	(at 24VDC and all points ON),	B B B B B B B B B B B B B B B B B B B	
				output part		excluding external load current	WA YA	
Input type			Positive common (sink type)	Surge suppr	essor	Zener diode	8 B B B B B WAY 9 YA	
Supply curr device	rent for c	onnected	1.0A or lower/common	Cuigo cuppi	00001	No. 87		
Wiring meth	hod for c	ommon	8 points/common (input: 3-wire te	rminal block t	ype, output:	2-wire terminal block type)		
Number of	occupie	d stations	32-point assignment/station (8 po				ZT 08	
Module pov	wer	Voltage	20.4 to 26.4VDC (ripple ratio: with			Auesbraz-edz		
supply		Current	45mA or lower (at 24VDC and all				× × × × × × × × × × × × × × × × × × ×	
			Noise voltage 500Vp-p, noise wid			X0123Y89ABBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB		
Noise immu	unity			ise frequency 25 to 60Hz (DC type noise simulator condition)				
Withstand v	voltage		500VAC for 1 minute between all	242				
Insulation re	esistano	e	10M $\Omega$ or higher between all DC etester)	external termin	nals and grou	und (500VDC insulation resistance	PN I RUIN LERR XO	
Protection of	degree		IP2X					
Weight	y		0.18kg					
. v orgrit	Commi	unication	7-point two-piece terminal block				†	
	part,		Transmission circuit, module pov	ver supply FO	31			
	module	power	M3×5.2 screw (tightening torque		-			
External	supply	•	Applicable solderless terminal: 2	. •	,			
connection system	I/O pow	er supply	18-point direct-mount terminal blo [I/O power supply, I/O signal]				1	
	part, I/O part	i 	M3×5.2 screw (tightening torque Applicable solderless terminal: 2	•	0.88N•m)			
Module mo	ounting s	crew	M4 screw with plain washer finish Mountable with a DIN rail in 6 orion	, 0	ntening torqu	e range: 0.78 to 1.08N•m)		
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compli	ant with IEC 6	0715)			
			RAV1.25-3 (compliant with JIS)	C 2805)				
Applicable :	solderles	ss terminal	[Applicable wire size: 0.3 to 1.2 • V2-MS3, RAP2-3SL, TGV2-3N	,	6 AWG) stra			
			[Applicable wire size: 1.25 to 2.	0mm <sup>2</sup> (16 to 1	4 AWG) stra	nded wire]		
Wire	Materia	l	Copper				4	
	Temper	ature rating	75°C or more				4	
Accessory			User's manual					

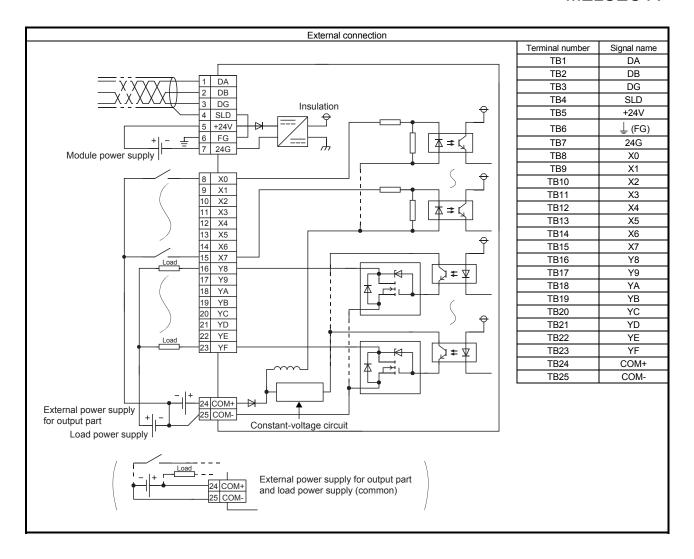
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.3 AJ65SBTB1-16DT combined module

Item	DC input transistor output com	DC input									С	DC inp	out	tran	nsistor	r o	utput combined module							
Number of injust points   Spoints   Number of output points   Spoints	AJ65SBTB1-16DT	AJ65SBTE									AJ	J65SB	ТВ	31-16	6DT					Α	ppea	rance		
Solation method   Photocoupler   Solation method   Photocoupler   Saled input voltage   24VDC   Rated input voltage   24VDC   Rated input voltage   42VDC   Rated input voltage   19.2 to 26 4VDC   (inpple ratio within 5%)   (input points   1.0A, 10ms or less   1.0A, 10ms	Output																Output			-	-			
Rated input voitage	nber of output points 8 points	Number of outp	Nι				N	N	N	N	Numbe	er of ou	utp	out p	oints	8	3 points		_					
Rated input current  Approx. 7mA  Operating load voltage (19.2 to 26.4VDC (ripple ratio: within 5%)  Max. number of simultaneous input points  100%  Max. number of simultaneous input points  100%  Max. invish current  1.0A, 10ms or less  ON voltage/OFF current  8VDC or lower/1.7mA or lower  William or less (at 24VDC)  Approx. 3.3k(1)  Protection function  ON—OFF  1.5ms or less (at 24VDC)  External power supply for output part  Positive common  15 points/common (1-wire, terminal block type)  William and though of the common  15 points/common (1-wire, terminal block type)  William or less (at 24VDC (1-with limits)  Noise immunity  Noise immunity  Noise will approve supply part  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10MO or higher between all DC external terminals and ground (500VDC insulation resistance last)  10M	ation method Photocoup	solation metho	Iso				ls	Is	Is	ls/	Isolation	on metl	thod	d		F	Photocoupler							
Poperating voltage range (p2 to 26 AVDC (poperating voltage range) (p2 to 26 AVDC (poperating voltage range) (p2 to 26 AVDC (poperatio: within 5%) (p3 voltage) (p3 voltage) (p4 voltage) (p4 voltage) (p5 voltage) (p5 voltage) (p6 voltage) (p6 voltage) (p7 voltage) (	•						_	_	_	_						2	24VDC							
Operating voltage range													ad v	volta	age									
Double   100%	load current 0.5A/point	Max. load curre	Ma	5%)	า 5%)		М	N	M	М	Max. loa	load cur	ırreı	ent		C	0.5A/point, 2.4A/common							
OFF voltage/OFF current higher   Leakage current at OFF   0.25mA or lower   OFF voltage/OFF current   6VDC or lower/1.7mA or lower   Input resistance   Approx. 3.3k\(\Omega)   Output type   Sink type   OFF—ON   1.5ms or less (at 24VDC)   ON—OFF   1.5ms or less (at 24VDC)   External power supply for output part   ON—OFF   1.5ms or less (at 24VDC)   ON—OFF   1.5ms or less (at 24VDC)   External power supply for output part   ON—OFF   1.5ms or less (at 24VDC)   ON—OFF   1.5ms or less (at 24VDC)   ON—OFF   1.5ms or less (at 24VDC)   ON—OFF   1.5ms or less or less or less (at 24VDC)   ON—OFF   1.5ms or less o	i. inrush current 1.0A, 10m	Max. inrush current					М	N	N	М	1	.0A, 10ms or less												
OFF voltage/OFF current   OVUC of lower1/max of lower   Max. voltage drop at ON   0 gVDC or lower (MAX.) 0.5A	kage current at OFF 0.25mA or	Leakage current at OFF		5mA or	3.5mA or		Le	L	L	C	).25mA or lower													
Input resistance  Response time  OFF—ON 1.5ms or less (at 24VDC)  Response time  OFF—ON 1.5ms or less (at 24VDC)  Response time  OFF—ON 1.5ms or less (at 24VDC)  Response time  OFF—ON 0.5ms or less  ON—OFF 1.5ms or less (resistive load)  19.2 to 26.4VDC  (place recommon (sink type)  Positive common (sink type)  Wiring method for common  16 points/common (1-wire, terminal block type)  Number of occupied stations  32-point assignment/station (16 points used)  Module power voltage  Supply  Current  Soma or less (resistive load)  19.2 to 26.4VDC  (ripple ratio: within 5%)  17.8mA or lower  (at 24VDC and all points ON), excluding external load current  External connection system  Noise immunity  Noise voltage 500VpC, noise width 1µs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Nistination resistance  Insulation resistance	voltage drop at ( )N I	Max. voltage dr	er Ma	nA or lower	7mA or lower	wer	М	N	M	М	Max. vc	voltage	dro	rop a	at ON		, ,							
Response time OFF->ON   1.5ms or less (at 24VDC)   Response   OFF->ON   0.5ms or less (resistive load)   0.5ms or less (resistive load)   OFF->ON   0.5ms or less (resistive load)   0.5ms o	out type Sink type	Output type	Οι				0	0	0	0	Output 1	ıt type				9	Sink type							
Response time  ON-OFF  I.5ms or less (at 24VDC)  External power supply for output part  External power supply for output part  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  16 points/common (1-wire, terminal block type)  Number of occupied stations  32-point assignment/station (16 points used)  Module power  Voltage  20 4 to 26 4VDC (ripple ratio: within 5%)  Noise immunity  Noise voltage 500V-p. noise width 1µs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply, part  Applicable solderless terminal: 2 or less  Module mounting screw  Ma3-62 screw (tightening torque range: 0.59 to 0.88N·m)  Applicable solderless terminal: 2 or less  Module mounting screw  Module power supply, in 6 orientations  Applicable solderless terminal:  Applicable solderless terminal  Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper	ection function	Protection func	Pr				Pi	Р	Р	Pı	Protecti	ction fur	nct	tion			•	•						
Response time  ON-OFF  I.5ms or less (at 24VDC)  External power supply for output upart  External power supply for output upart  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Zener diode  Incurrent  Sexulding external load current  Sexulding external load current  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Wiring method for common  Sexulding external load current  Input type  Positive common (sink type)  Surge suppressor  Zener diode  Incurrent  Input type  Intuit type  Positive common (sink type)  Surge suppressor  Zener diode  Intuit type  Intuit type  Intuit type  Positive common (sink type)  Surge suppressor  Zener diode  Intuit type  In	ponse OFF→ON 0.5ms or le	Response	Re	IVDC)	24VDC)		R	R	R	R	Respon	onse	C	OFF.	→ON	ı	).5ms or less							
External power supply for output part   17.8mA or lower (at 24VDC and all points ON), excluding external load current   17.8mA or lower (at 24VDC and all points ON), excluding external load current   18.5ma or lower (at 24VDC and all points ON), excluding external load current   18.5ma or lower (at 24VDC and all points ON), excluding external load current   18.5ma or lower (at 24VDC and all points used)   18.5ma or lower (at 24VDC and all points used)   18.5ma or lower (at 24VDC and all points ON)   18.5ma or lower (at 24VDC and all p	ON→OFF 1.5ms or le	ime (	tin	IVDC)	24VDC)		tir	tir	tir	tir	time		C	ON-	→OFF	1	.5ms or less (resistive load)		l—	<b>1</b>			1	<b>—</b>
Input type	ernal IVoltage I	External	Ex	•	·		E	Е	Е	E:	Externa	nal	٧	Volta	age				SATE 2		SOM+	(33)	(E)	
Input type	er supply 17 8mA or		1.				1.	Ι.	Ι.	Ι.	•		y 🗀			т,			- B 4		¥ .	(3)		
Input type	Current (at 24VDC	. 10										tput	c	Curre	ent				TION NO	H H H	(33)	(3)		
Input type		part	pa				pa	p	pa	pa	part								STA 40 20 10		× .		(3)	
Myring method for common   16 points/common (1-wire, terminal block type		Surge suppress	) Su	sink type)	n (sink type)	e)	Sı	s	s	Sı	Surae s	suppre	ess	sor						8~ ∞	87 87 87		(3)	
Number of occupied stations         32-point assignment/station (16 points used)           Module power supply         Voltage         20.4 to 26.4VDC (ripple ratio: within 5%)           Supply         Current         50mA or lower (at 24VDC and all points ON)           Noise immunity         Noise voltage 500Vp-p, noise width 1µs, noise frequency 25 to 60Hz (DC type noise simulator condition)           Withstand voltage         500VAC for 1 minute between all DC external terminals and ground (500VDC insulation resistance tester)           Protection degree         IP2X           Weight         0.18kg           7-point two-piece terminal block [Transmission circuit, module power supply part module power supply part module power supply part, I/O part         Applicable solderless terminal: 2 or less           Module mounting screw         M4 screw with plain washer finished round (tightening torque range: 0.59 to 0.88N·m) Applicable solderless terminal: 2 or less           Module mounting screw         M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N·m) Mountable with a DIN rail in 6 orientations           Applicable solderless terminal         - RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]           Wire         Material Material Copper Temperature rating         Copper Temperature rating         75°C or more		al block type)			` ' '		minal	nina	nina	inal	al block	ck type	: )			•				_	$H \times H$	(3)	(3)	
Noise immunity  Noise voltage 500Vp-p, noise width 1μs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  Communication part, module power supply part  Applicable solderless terminal: 2 or less  1/O power supply part, l/O power supply part, l/O part  Module mounting screw  Module mounting screw  Module mounting screw  Module and the power supply for the part of	s used)	oints used)	(16 poir	nt/station (16	nent/station (16	n (16 p	6 poi	poi	poi	poi	oints us	used)							90		**************************************		(3)	
Noise immunity  Noise voltage 500Vp-p, noise width 1μs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  Communication part, module power supply part  Applicable solderless terminal: 2 or less  1/O power supply part, l/O power supply part, l/O part  Module mounting screw  Module mounting screw  Module mounting screw  Module and the power supply for the part of	.0.4 to 26.4VDC (ripple ratio: within 5%)						1 A B C	2		(3)														
Noise immunity    Noise immunity   Nois	,				at 24VDC and a	and al			III III	- ×		(33	) [											
Insulation resistance  Protection degree  Protection degree  IP2X  Weight  O.18kg  7-point two-piece terminal block [Transmission circuit, module power supply, FG] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply part, I/O part M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable solderless terminal:  Applicable solderless terminal:  Applicable solderless terminal:  Max-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V-2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper  Temperature rating  T5°C or more	Noise voltage 500Vp-p, noise width 1µs,					5 6 7					رطح													
Insulation resistance  Protection degree  Protection degree  IP2X  Weight  O.18kg  7-point two-piece terminal block [Transmission circuit, module power supply, FG] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply part, I/O part M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable solderless terminal:  Applicable solderless terminal:  Applicable solderless terminal:  Max-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V-2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper  Temperature rating  T5°C or more	noise frequency 25 to 60Hz (DC type noise simulator condition)						3 4		24G (FG)	(33)														
rester)  Protection degree    Protection degree   Protection degre	external terminals and ground	DC external ter	en all Do	ute between a	nute between a	een al	all D	all D	all D	all D	DC exte	xternal t	ten	rmina	als an	nd	ground		Ş.	ā I	+24V <b>←</b>		(3)	
Protection degree IP2X  Weight 0.18kg  Communication part, module power supply part Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.59 to 0.88N•m)  Applicable DIN rail TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  Applicable solderless terminal: 2 or less  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable solderless terminal  Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper  Temperature rating 75°C or more	nal terminals and ground (500VE	xternal termina	DC exte	etween all DC	between all DC	all DC e	C ext	ex	ext	ext	xternal	al termir	nal	ls ar	nd gro	our	nd (500VDC insulation resista	ance	200		DB SLD	(23)	(E)	
Communication part, module power supply part wo-piece terminal block [Transmission circuit, module power supply, FG] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply part, I/O part Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply, I/O signal] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] • V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper  Temperature rating 75°C or more																			1150		$\mathcal{Y} \cap$	(8.9)	(3)	λ
External connection system   I/O power supply part   I																					<u>/ [LL]</u>		1	Ħ
External connection system    I/O power supply part   M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)   Applicable solderless terminal: 2 or less			lock	erminal block	e terminal block	block	k	(	(										1					
External connection system	upply, FG]	er supply, FG]	e power	uit, module po	rcuit, module po	ule pov	oowe	owe	owe	owe	er supp	pply, F0	G]											
Applicable solderless terminal: 2 or less  18-point direct-mount terminal block [I/O power supply part, I/O part   M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  Module mounting screw   M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail   TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  PRAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  PV2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire   Material   Copper   Temperature rating   75°C or more	e: 0.59 to 0.88N•m)	ange: 0.59 to 0	rque rar	ntening torque	ghtening torque	torque	ue rai	e ra	e ra	e rai	ange: 0	0.59 to	o 0.	188.0	۷•m)									
system  I/O power supply part, I/O part  Module mounting screw  Module mounting screw  Applicable DIN rail  Applicable solderless terminal  Applicable solderless terminal  Applicable solderless terminal  FRAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper  Temperature rating  T8-point direct-mount terminal block  [I/O power supply, I/O signal]  IR-point direct-mount terminal block  [I/O power supply, I/O signal]  M3×5.2 screw (tightening torque range: 0.78 to 1.08N•m)  Applicable mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  PRAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Temperature rating  75°C or more	SS											3							1					
part,   I/O part   M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)   Applicable solderless terminal: 2 or less   M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)   Mountable with a DIN rail in 6 orientations   Applicable DIN rail   TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)   • RAV1.25-3 (compliant with JIS C 2805)   [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]   • V2-MS3, RAP2-3SL, TGV2-3N   [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]   Wire   Material   Copper   Temperature rating   75°C or more		ck					block	oloc	oloc	lock	ck													
Module mounting screw Module mounting screw			-			-																		
Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper  Temperature rating  75°C or more	•	•	•	• .	• • •	•					•		0.0	188.0	N•m)									
Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper  Temperature rating  T5°C or more																	0.70 ( 4.001)		1					
Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper  Temperature rating  T5°C or more	, , , ,	, ,										٠. ٠	Inte	ening	g torqu	ue	e range: 0.78 to 1.08N•m)							
Applicable solderless terminal  Papelicable solderless terminal  Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper  Temperature rating  75°C or more													307	715)										
Applicable solderless terminal  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire    Material   Copper	· · · · · · · · · · · · · · · · · · ·		•										JU /	110)										
Applicable solderless terminal  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper  Temperature rating 75°C or more	,	•			•						,	,	16	Δ\Λ/4	G) etra	an	ided wirel							
[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper Temperature rating 75°C or more	· · · · · · · · · · · · · · · · · · ·																							
Wire Material Copper Temperature rating 75°C or more	n <sup>2</sup> (16 to 14 AWG) stranded wirel	mm <sup>2</sup> (16 to 14									)mm² (1	(16 to 1	14 /	AW	G) stra	an	ided wire]							
		,															<u> </u>							
A								_																
Accessory User's manual																	<u> </u>							

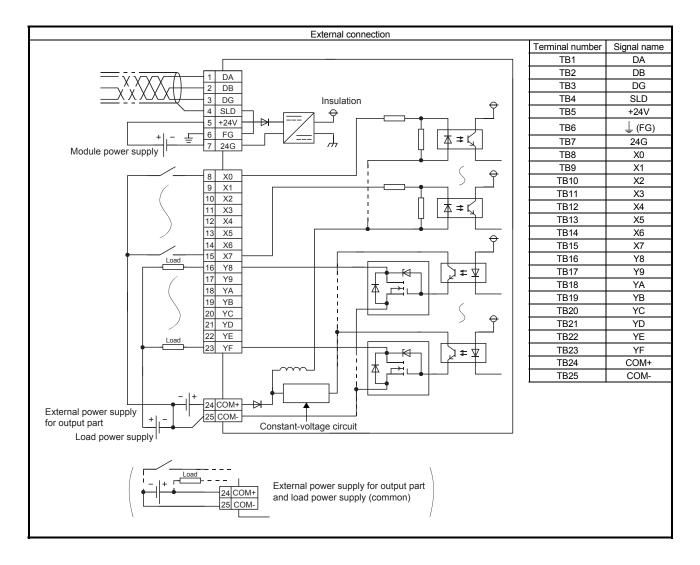
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.4 AJ65SBTB1-16DT1 combined module

		Туре		DC in	nut transisto	r output combined module			
Item					TB1-16DT1	output combined medale	Appea	rance	
		Ing	out	7.00002		Output	7.0000		
Number of in	nioa tua		8 points	Number of o	utput points	8 points	1		
Isolation met			Photocoupler	Isolation me		Photocoupler	1		
Rated input v			24VDC	Rated load v		24VDC	1		
riatou input	· c.tage			Operating lo		19.2 to 26.4VDC	1		
Rated input of	current		Approx. 5mA	range		(ripple ratio: within 5%)			
Operating vo	ltage rai	nge	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.5A/point, 2.4A/common			
Max. number input points	r of simu	ıltaneous	100%	Max. inrush current		1.0A, 10ms or less			
ON voltage/ON current 15VDC or higher/3n		15VDC or higher/3mA or higher	Leakage cur	rent at OFF	0.25mA or lower				
OFF voltage/OFF current 3		rrent	3VDC or lower/0.5mA or lower	Max. voltage	e drop at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A			
				Output type		Sink type			
Input resistar	nce		Approx. 4.7kΩ	Protection fu	ınction	Overload protection, overvoltage			
	1					protection, overheat protection	1		
Response tir	ne 🗀		0.2ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less	1		
. кооролюо ш		ON→OFF	0.2ms or less (at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)		<u> </u>	
				External	Voltage	19.2 to 26.4VDC			
				power	Vollage	(ripple ratio: within 5%)	BBBB BBBB BBBBBBBBBBBBBBBBBBBBBBBBBBBB		
				supply for		17.8mA or lower	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
				output part	Current	(at 24VDC and all points ON),	BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB		
			1	output purt		excluding external load current	HHH H		
Input type			Positive common (sink type)	Surge suppr		Zener diode			
Wiring metho	od for co	mmon	16 points/common (1-wire, termi	nal block type	e)				
Number of o	ccupied	stations	32-point assignment/station (16	points used)		1 4 ×			
Module power	er <u>V</u>	/oltage	20.4 to 26.4VDC (ripple ratio: wit	hin 5%)		W89 A B C D E F			
supply	C	Current	55mA or lower (at 24VDC and al	I points ON)		Hara			
Noise immur	nitv		Noise voltage 500Vp-p, noise wi	• •			XX1 2 3 4 5 6 7 XX1 2 3 4 5 6 7 XX1 2 4 5 6 7 XX1 2 4 5 6 7 XX2 2 4 5 6 7 XX2 2 4 6 7 6 7 XX2 2 4 6 7 6 7		
			noise frequency 25 to 60Hz (DC				2 3 4 5 3 4 5 MBLSS (FG)		
Withstand vo	oltage		500VAC for 1 minute between al				1 2 3		
Insulation res	sistance		=	external termi	inals and gro	und (500VDC insulation resistance	N LERR >		
			tester)				-   3   5   8		
Protection de	egree		IP2X						
Weight	1		0.18kg						
		unication	7-point two-piece terminal block						
	part,		[Transmission circuit, module po		-				
External	module	•	M3×5.2 screw (tightening torque	•	υ υ.ၓၓΝ•m)				
connection	supply	part	Applicable solderless terminal: 2				1		
system	I/O pow	ver supply	18-point direct-mount terminal bl [I/O power supply, I/O signal]	UCK					
	part,		M3×5.2 screw (tightening torque	range: 0 50 +	0 U 88VI•m/				
	I/O part	t	Applicable solderless terminal: 2	•	0.00IN-III)				
	1		M4 screw with plain washer finis		nhtening torg	ue range: 0.78 to 1.08N•m)	1		
Module mou	nting scr	rew	Mountable with a DIN rail in 6 or		jineimiy wiqi	ac range. 0.70 to 1.0014-111)			
Applicable D	IN rail		TH35-7.5Fe, TH35-7.5Al (compl		60715)		1		
ррпоавіс В	1 1011		RAV1.25-3 (compliant with JIS)				1		
			[Applicable wire size: 0.3 to 1.2	_ ′	16 AWG) str	anded wirel			
Applicable so	olderless	s terminal	<ul> <li>V2-MS3, RAP2-3SL, TGV2-3N</li> </ul>	•	10/11/0/30	andoa wiioj			
			[Applicable wire size: 1.25 to 2		14 AWG) str	anded wirel			
Wire	Materia	al	Copper	(			1		
ĺ		rature rating	75°C or more						
Accessory			User's manual				1		
Oser's manual									

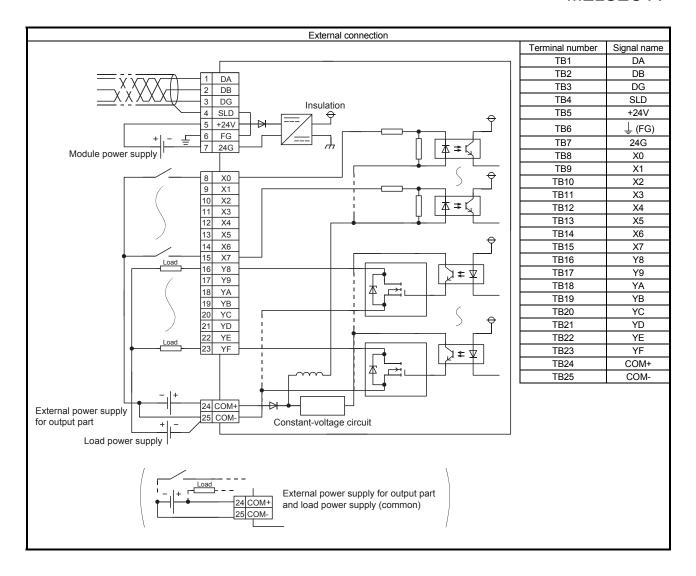
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.5 AJ65SBTB1-16DT2 combined module

		Type		DC inp	ut transistor	output combined module			
Item		.,,,,,			B1-16DT2	catput combined module	Appea	arance	
		In	put			Output			
Number of i	input po	oints	8 points	Number of ou	tput points	8 points	7		
Isolation me			Photocoupler	Isolation meth		Photocoupler	7		
Rated input	t voltage	е	24VDC	Rated load vo	ltage	24VDC	7		
D. L. II		,	A	Operating loa	d voltage	19.2 to 26.4VDC			
Rated input	t curren	t	Approx. 7mA	range		(ripple ratio: within 5%)			
Operating v	oltage/	range	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load cur	rent	0.5A/point, 2.4A/common			
Max. number input points		nultaneous	100%	Max. inrush c	urrent	1.0A, 10ms or less			
ON voltage	ON cu	rrent	14VDC or higher/3.5mA or higher	Leakage current at OFF		0.1mA or lower			
OFF voltage/OFF current		current	6VDC or lower/1.7mA or lower	Max. voltage	drop at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A			
Input resist	L		Approx 2 2kO	Output type		Sink type			
Input resista	апсе		Approx. 3.3kΩ	Protection fun	ction	None			
Deensit	lina a	OFF→ON	1.5ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less	$\Box$		
Response t	ume	ON→OFF	1.5ms or less (at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)			
				External	Voltage	19.2 to 26.4VDC			
				power supply		(ripple ratio: within 5%)			
				for output	Current	17.8mA or lower	STATEMENT   BESTE   BOATE   BASTE   BA		
				part		(at 24VDC and all points ON),	A VC		
						excluding external load current	BBB TAN		
Input type			Positive common (sink type)	Surge suppre	ssor				
Wiring meth	hod for	common	16 points/common (1-wire, termin	nal block type)					
Number of	occupie	d stations	32-point assignment/station (16 p	ooints used)					
Module pov	ver	Voltage	20.4 to 26.4VDC (ripple ratio: with	hin 5%)		X89 A B C D E F D D D D D D D D D D D D D D D D D			
supply		Current	50mA or lower (at 24VDC and all	points ON)					
Noise immu	ınitv		Noise voltage 500Vp-p, noise wid	3 4 5 6 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9					
			noise frequency 25 to 60Hz (DC	oise frequency 25 to 60Hz (DC type noise simulator condition)					
Withstand v	voltage		500VAC for 1 minute between all			•	X01234567 GOODOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO		
Insulation re	esistan	ce	10M $\Omega$ or higher between all DC ε tester)	external termina	als and grou	nd (500VDC insulation resistance	L RAIN LERR. ) DA DG +2 DB SLD 1		
Protection of	degree		IP2X						
Weight			0.18kg						
External		unication nodule power part	7-point two-piece terminal block [Transmission circuit, module pow M3×5.2 screw (tightening torque Applicable solderless terminal: 2	range: 0.59 to 0	•				
connection system	part,	wer supply	18-point direct-mount terminal blo [I/O power supply, I/O signal] M3×5.2 screw (tightening torque	ock	0.88N•m)				
	I/O par	τ	Applicable solderless terminal: 2	J					
Module ===	untina	orow.	M4 screw with plain washer finish	ned round (tight	ening torque	e range: 0.78 to 1.08N•m)			
Module mo	uriung s	sciew	Mountable with a DIN rail in 6 orie	entations					
Applicable I	DIN rail		TH35-7.5Fe, TH35-7.5Al (compli	ant with IEC 60	715)				
			RAV1.25-3 (compliant with JIS)	,					
Applicable s	Applicable solderless terminal  [Applicable wire size: 0.3 to 1.2  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.								
Wire	Materi	al	Copper	,	-,		7		
		erature rating	75°C or more						
Accessory			User's manual						

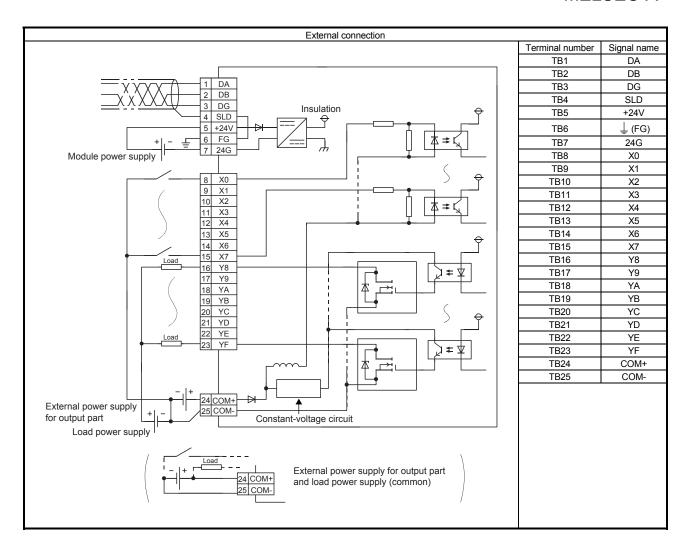
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.6 AJ65SBTB1-16DT3 combined module

		Туре		DC input	t transistor o	output combined module					
Item		.,,,,,		AJ65SBTB		atput combined medale	Appea	rance			
		Ing	out	7.00002.12	02.0	Output	7,4500				
Number of	input po		8 points	Number of outp	out points	8 points					
Isolation me			Photocoupler	Isolation metho	<u> </u>	Photocoupler					
Rated input			24VDC	Rated load volt		24VDC					
		_		Operating load		19.2 to 26.4VDC					
Rated input	t curren	nt	Approx. 5mA	range	· ·	(ripple ratio: within 5%)					
O			19.2 to 26.4VDC	Mary land arms		0.50/25-1-1-2-0.40/25-25-25-2					
Operating v	/oitage	range	(ripple ratio: within 5%)	Max. load curre	ent	0.5A/point, 2.4A/common					
Max. numb input points		multaneous	100%	Max. inrush current		1.0A, 10ms or less					
ON voltage	voltage/ON current 15VDC or higher/3mA or higher		15VDC or higher/3mA or higher	Leakage currer	nt at OFF	0.1mA or lower					
OFF voltage/OFF current		current	3VDC or lower/0.5mA or lower	Max. voltage dı	op at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A					
la anti-anti-anti-anti-anti-anti-anti-anti-			Approx 4.7kO	Output type		Sink type					
Input resista	ance		Approx. 4.7kΩ	Protection func	tion	None					
Response t	time	OFF→ON	0.2ms or less (at 24VDC)	Response time	OFF→ON	0.5ms or less					
Response	ume	ON→OFF	0.2ms or less (at 24VDC)	Response time	ON→OFF	1.5ms or less (resistive load)					
				External power	Voltage	19.2 to 26.4VDC (ripple ratio: within 5%)		(3) (3)			
				supply for		17.8mA or lower	B B B B B B B B B B B B B B B B B B B				
				output part	Current	(at 24VDC and all points ON),					
						excluding external load current	H H H				
Input type			Positive common (sink type)	Surge suppressor Zener diode							
Wiring meth	hod for	common	16 points/common (1-wire, termi	inal block type)			- N × N × N				
Number of	occupie	ed stations	32-point assignment/station (16	points used)							
Module pov	wer	Voltage	20.4 to 26.4VDC (ripple ratio: wi	thin 5%)							
supply		Current	55mA or lower (at 24VDC and a	Il points ON)		X89 A B C D  O O O O O O  X82 - X47  X1 X3 X3					
Noise immu	unity		Noise voltage 500Vp-p, noise winoise frequency 25 to 60Hz (DC	• •	lator condition	Auessa					
Withstand v	voltage		500VAC for 1 minute between a			•	2 3 4 5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
Insulation re	esistan	се	10M $\Omega$ or higher between all DC tester)	external termina	ls and groun	nd (500VDC insulation resistance	MILER X012 3 4 5 6 7  MILES ALGE  MILES ALGE  MILES ALGE  TO 4 (FG)	8 8			
Protection of	degree		IP2X				3 3 3				
Weight			0.18kg								
External connection		nunication part, e power supply	7-point two-piece terminal block [Transmission circuit, module po M3×5.2 screw (tightening torque Applicable solderless terminal: 2	ower supply, FG] e range: 0.59 to 0	I.88N•m)						
system	I/O po part, I/O pa	wer supply	18-point direct-mount terminal bl [I/O power supply, I/O signal] M3×5.2 screw (tightening torque Applicable solderless terminal: 2	e range: 0.59 to 0	J.88N•m)						
Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.088 Mountable with a DIN rail in 6 orientations						erange: 0.78 to 1.08N•m)					
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compl		715)						
Applicable :	solderle	ess terminal	• RAV1.25-3 (compliant with JIS [Applicable wire size: 0.3 to 1.2 • V2-MS3, RAP2-3SL, TGV2-3N	C 2805) 25mm² (22 to 16	AWG) stran	•					
Wire	Materi	al	[Applicable wire size: 1.25 to 2 Copper		Avvo) stran	lueu wilej	$\dashv$				
VVIIC		erature rating	75°C or more	more							
Accessory	Liempe	Sidiuie railily	User's manual				=				
, woodsou y			OSCI S Manual				<u> </u>				

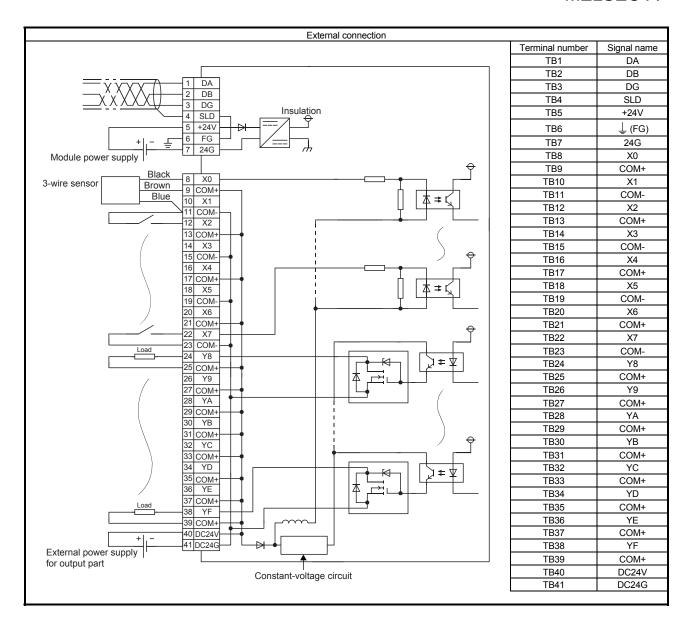
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.7 AJ65SBTB32-16DT combined module

		Туре		DC inpu	t transistor o	output combined module		
Item				AJ65SBTB	32-16DT		Appea	arance
			Input			Output		
Number of	input points	6	8 points	Number of out	put points	8 points		
Isolation me	ethod		Photocoupler	Isolation meth	od	Photocoupler	$\exists$	
Rated input	t voltage		24VDC	Rated load vol	tage	24VDC		
D. I. I I			A	Operating load	d voltage	19.2 to 26.4VDC	7	
Rated input	t current		Approx. 7mA	range		(ripple ratio: within 5%)		
Operating v	voltage rang	ge	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load curr	ent	0.5A/point, 2.4A/common		
Max. numb input points	er of simulta	aneous	100%	Max. inrush cu	ırrent	1.0A, 10ms or less		
ON voltage	e/ON curren	t	14VDC or higher/3.5mA or higher	Leakage curre	ent at OFF	0.25mA or lower		
OFF voltage/OFF current		ent	6VDC or lower/1.7mA or lower	Max. voltage o	frop at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
				Output type		Sink type	$\exists$	
Input resista	ance		Approx. 3.3kΩ	Destaulte of		Overload protection, overvoltage	7	
				Protection fund	ction	protection, overheat protection		
Doggo	OF	F→ON	1.5ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less		
Response t	urne ON	N→OFF	1.5ms or less (at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)	B B RATE	
			<u> </u>		Voltage	19.2 to 26.4VDC		
				External	Voltage	(ripple ratio: within 5%)	STATION STATIO	
				power supply		17.8mA or lower		
				for output part	Current	(at 24VDC and all points ON),	8 <del>&lt;</del> 00 00 ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ±	
						excluding external load current	M# 48	
Input type			Positive common (sink type)	Surge suppres	ssor	Zener diode	V 4A	
Supply curr device	rent for con	nected	1.0A or lower/common			V8 V9		
Wiring meth	hod for com	nmon	16 points/common (input: 3-wire ter	minal block typ	e, output: 2-	wire terminal block type)		
Number of	occupied st	tations	32-point assignment/station (16 poi	nts used)			9X SOM	
Module pov	wer Vo	ltage	20.4 to 26.4VDC (ripple ratio: within	1 5%)			xs	
supply	Cu	ırrent	50mA or lower (at 24VDC and all pe	oints ON)		X4 COM		
			Noise voltage 500Vp-p, noise width	1μs,		T COW	1 m w	
Noise immu	unity		noise frequency 25 to 60Hz (DC typ	• •				
Withstand v	voltage		500VAC for 1 minute between all D	C external term	ninals and gi	round	98 4 8 C D E F	
Insulation re	esistance		$10M\Omega$ or higher between all DC ext tester)	ernal terminals	and ground	(500VDC insulation resistance		
Protection of	degree		IP2X				MESS A.6 7	
Weight	_		0.25kg					
			7-point two-piece terminal block				NI ERR	
	Communic		[Transmission circuit, module powe	r supply, FG]			NW.LRUN OAL	
Cutor:-!	part, modu		M3×5.2 screw (tightening torque ra	nge: 0.59 to 0.8	88N•m)			
External	power sup	ріу рап	Applicable solderless terminal: 2 or	less				
connection system	I/O power	eunnly	34-point direct-mount terminal block	(				
Syst <b>C</b> III	part,	auppiy	[I/O power supply, I/O signal]				1	
	I/O part		M3×5.2 screw (tightening torque ra	•	88N•m)			
	o puit		Applicable solderless terminal: 2 or				<b></b>	
Module mo	ounting scre	w	M4 screw with plain washer finished	, •	ning torque r	ange: 0.78 to 1.08N•m)		
			Mountable with a DIN rail in 6 orien				-	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (complian		5)		4	
Applicable :	solderless t	erminal	<ul> <li>RAV1.25-3 (compliant with JIS C [Applicable wire size: 0.3 to 1.25n</li> <li>V2-MS3, RAP2-3SL, TGV2-3N</li> </ul>	nm² (22 to 16 A	•	-		
	1		[Applicable wire size: 1.25 to 2.0n	nm² (16 to 14 A	WG) strand	ed wire]	<b></b>	
Wire	Material		Copper				_	
	Temperatu	ure	75°C or more					
	rating						-1	
Accessory			User's manual					

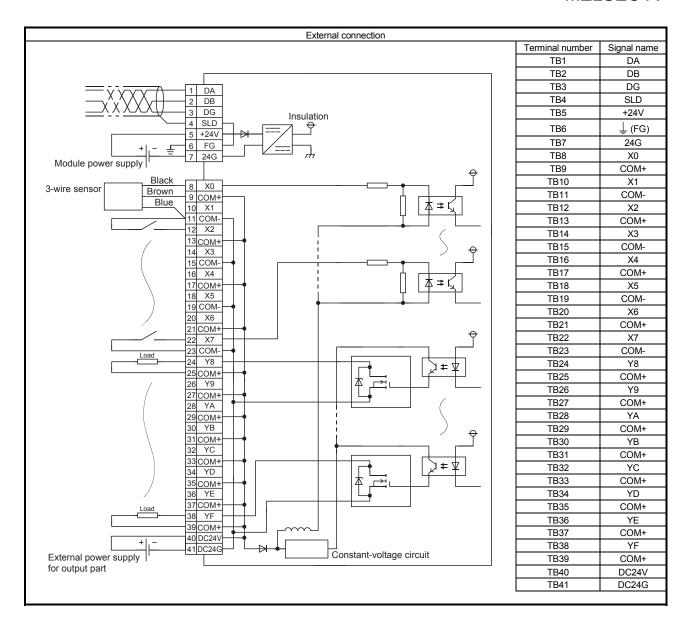
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.8 AJ65SBTB32-16DT2 combined module

	_	Туре		DC inp	ut transistor	output combined module		
Item	_			AJ65SBTE	Appe	arance		
		- I	nput			Output		
Number of	input poi	nts	8 points	Number of out	put points	8 points		
Isolation me	ethod		Photocoupler	Isolation metho	od	Photocoupler		
Rated input	t voltage		24VDC	Rated load vol	tage	24VDC		
Rated input	t current		Approx. 7mA	Operating load range	l voltage	19.2 to 26.4VDC (ripple ratio: within 5%)		
Operating v	voltage ra	ange	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load curr	ent	0.5A/point, 2.4A/common		
Max. numb		ultaneous	100%	Max. inrush cu	ırrent	1.0A, 10ms or less		
ON voltage		ent	14VDC or higher/3.5mA or higher	Leakage current at OFF		0.1mA or lower		
OFF voltage/OFF current		urrent	6VDC or lower/1.7mA or lower	Max. voltage d	lrop at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
			4	Output type		Sink type		
Input resista	ance		Approx. 3.3kΩ	Protection fund	ction	None		
D		OFF→ON	1.5ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less		
Response t	time t		1.5ms or less (at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)	BB B B B B B B B B B B B B B B B B B B	
	•		,			19.2 to 26.4VDC		
				External	Voltage	(ripple ratio: within 5%)		
				power supply		17.8mA or lower		
				for output part	Current	(at 24VDC and all points ON),	- S <del>- </del>	
					<u> </u>	excluding external load current	(\$\frac{1}{4}\text{\$\frac{1}\text{\$\frac{1}{4}\text{\$\frac{1}{4}\text{\$\frac{1}{4}\t	
Input type			Positive common (sink type)	Surge suppres	sor	Zener diode	(+ × × × × × × × × × × × × × × × × × × ×	
Supply curr device	rent for co	onnected	1.0A or lower/common		(8) Y9 COM+ COM			
Wiring meth	hod for co	ommon	16 points/common (input: 3-wire	terminal block tv	pe, output: 2	2-wire terminal block type)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Number of			32-point assignment/station (16 p			, , , , , , , , , , , , , , , , , , ,	we we	
Module pov		Voltage	20.4 to 26.4VDC (ripple ratio: with				(\$)	
supply	T	Current	50mA or lower (at 24VDC and all					
	•		Noise voltage 500Vp-p, noise wid					
Noise immu	unity		noise frequency 25 to 60Hz (DC	2 2 COM+				
Withstand v	voltage		500VAC for 1 minute between all	*** A S C D E F				
Insulation re		•	10M $\Omega$ or higher between all DC etester)		•			
Protection of	degree		IP2X					
Weight	a ogree		0.25kg				NEW 1 2 1 4 5 6 7 7 1 4 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	
	Commu	nication	7-point two-piece terminal block				SUNLERS OF SUNLERS	
	part, mo		[Transmission circuit, module pov					
External		upply part	M3×5.2 screw (tightening torque	_	.88N•m)			
connection		ir y pont	Applicable solderless terminal: 2				_	
system		er supply	34-point direct-mount terminal blo	ock				
,	part,		[I/O power supply, I/O signal]					
	I/O part		M3×5.2 screw (tightening torque	•	.88N•m)			
	<u> </u>		Applicable solderless terminal: 2			0.701 1.0011 1	<del>- </del>	
Module mo	ounting so	rew	M4 screw with plain washer finish Mountable with a DIN rail in 6 orion	, ,	ening torque	range: 0.78 to 1.08N•m)		
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (compli	ant with IEC 607	'15)			
Applicable :	solderles	s terminal	<ul> <li>RAV1.25-3 (compliant with JIS [Applicable wire size: 0.3 to 1.2</li> <li>V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.</li> </ul>	5mm <sup>2</sup> (22 to 16	,	-		
Wire	Material		Copper	(10 10 14 1	o <sub>j</sub> strant	aca mioj	7	
	Temper		75°C or more				1	
A	rating							
Accessory			User's manual					

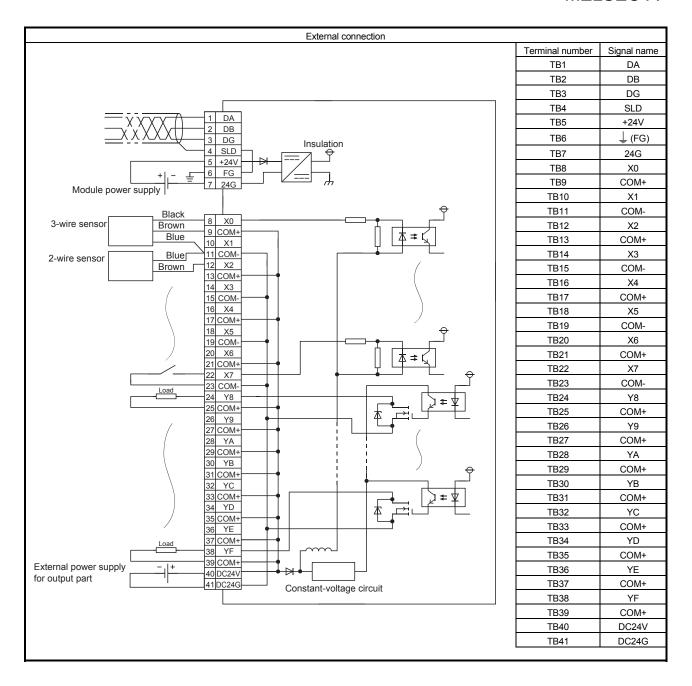
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.9 AJ65SBTB32-16KDT2 combined module

		Type					DC i	nnut transist	or output combined module		
Item								B32-16KDT2	Anne	arance	
Input							AJUJJBT	D32-10KD12	Арре	ararice	
Number of input points 8 points							Number of o	Output Number of output points   8 points			
Isolation me						Photocoupler					
Rated input					Rated load v	oltage	24VDC				
Rated input current			IADDIOX /MA				Operating loaning loaning	ad voltage	20.4 to 28.8VDC (ripple ratio: within 5%)		
Operating v	oltage r	ange	20.4 to 28.8VDC			Max. load cu	rrent	0.5A/point, 2.4A/common			
Max. number input points		nultaneous	,			Max. inrush	current	1.0A, 10ms or less			
ON voltage/	ON cur	rent	14VDC higher	or highe	er/4mA	or	Leakage cur	rent at OFF	0.1mA or lower		
OFF voltage	e/OFF c	urrent	5.5VDC lower	or lowe	r/1.7m <i>/</i>	A or	Max. voltage	drop at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
Input resista	ance		Approx.	3.0kO			Output type		Sink type		
ii iput resista	ance		дрргох.	3.UK12			Protection fu	nction	None		
		Input response speed	0.2ms 0.2ms		5ms 5ms or	10ms 10ms	Response	OFF→ON	0.5ms or less	# 4 2 1   4 2 1   4 4 2 1   4 4 2 1   4 4 2 1   4 4 2 1   4 4 2 1   4 4 2 1   4 4 2 1   4 4 2 1   4 4 2   4 4 4 4 4   4 4 4 4 4 4 4 4 4	
Response ti	ime	OFF→ON	or less 0.2ms	or less	less 5ms or	or less	1 '				
		ON→OFF	or less		less	or less		ON→OFF	1.5ms or less (resistive load) 19.2 to 28.8VDC	T VC	
						External power supply for	Voltage Current	(ripple ratio: within 5%)  10mA or lower (at 24VDC and all points ON),	100   100		
					output part	Current	excluding external load current  Zener diode				
Input type			Positive	commo	n (sink	type)	Surge suppr	essor			
Supply curre device	ent for c	connected	1.0A or lower/common							92	
Wiring meth			16 points/common (input: 3-wire terminal block type, output: 2-wire terminal block type)								
Number of o		d stations Voltage	32-point assignment/station (16 points used) 20.4 to 26.4VDC (ripple ratio: within 5%)								
supply	vei	Current	55mA or lower (at 24VDC and all points ON)								
	ınit.	00.10.11	Noise v	oltage 5	00Vp-p	Y89 A B C D E F P P P P P P P P P P P P P P P P P P P					
Noise immu	ırııty		noise frequency 25 to 60Hz (DC type noise simulator condition)								
Withstand v	oltage		500VAC for 1 minute between all DC external terminals and ground								
Insulation re	esistano	е	$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance tester)								
Protection d	degree		IP2X							R. NO. 1. 2. 3. 4. 5. 6. 7. P.	
Weight			0.26kg								300
	Commu	unication part,	7-point two-piece terminal block [Transmission circuit, module power supply, FG]								3666 3666
<u> </u>		power supply	-		,		e range: 0.59				
	part						2 or less				
connection system				t direct-r			block				
		ver supply part,						1. 0.0011			
	I/O part	L					e range: 0.59 2 or less	เบ บ.ชชพ•m)			
Module mounting screw			Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)								
		Mountable with a DIN rail in 6 orientations									
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)									
Applicable solderless terminal		<ul> <li>RAV1.25-3 (compliant with JIS C 2805)</li> <li>[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]</li> <li>V2-MS3, RAP2-3SL, TGV2-3N</li> </ul>									
			[Applicable wire size: 1.25 to 2.0mm <sup>2</sup> (16 to 14 AWG) stranded wire]								
Wire	Materia										
	Temper	rature rating		75°C or more							
Accessory			User's manual								

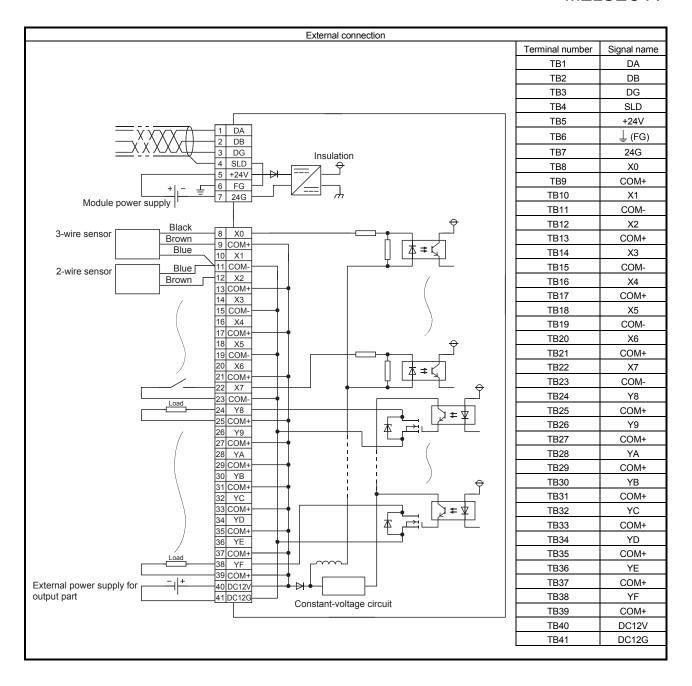
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.10 AJ65SBTB32-16KDT8 combined module

Input   Inp		Type					DC in	out transistor	output combined module			
Imput points   Spoints   Spoints   Number of output points   Spoints   Solation method   Photocoupler   Isolation   Isolation   Photocoupler   Isolation	Type								output combined module		A	
Number of input points Spallotin method Protocoupler Isolation method Protocoupler Isolation method Protocoupler Rated input voltage Rate Rated input voltage Rated i							AJ055B1B	32-16KD18	Outrout		Appea	rance
Sealation method	Number of in					Number of a	utaut painta	'				
Rated input current Approx. 11mA Approx. 11mA Approx. 11mA Operating load voltage (ripple ratio: within 5%) Operating voltage range Operating voltage range (ripple ratio: within 5%) Operating voltage range Operating voltage range Operating voltage range (ripple ratio: within 5%) ON voltage/ON current ON voltage/OF current ON voltage/OF current Approx. 1.0kD Approx		-										
Rated input current Approx. 11mA Coperating load voltage (12 to 14 AVDC (ripple ratios within 5%) (ripple ratios within 5%) (ripple ratios within 5%) (ripple ratios within 5%) (pour points) (pour pour points) (pour point		· · · · · · · · · · · · · · · · · · ·										
Approx. 1 1 m   Approx. 1 m	Nateu Iriput	voilage	12000				_			-		
Coperating Voltage range	Rated input	current										
Input points   100%   Max. Intrust current   1.0A. Tums of less	Operating vo	oltage range			n 5%)		Max. load cu	ırrent	0.5A/point, 2.4A/common			
OFF voltage/OFF current  2.4VDC or lower/17/mA or lower  Approx. 1.0kΩ  Dutput type Sink type Protection function None    Input response   0.2ms   1.5ms   5ms   10ms   5ms   5ms   10ms   5ms		r of simultaneous	100%				Max. inrush	current	1.0A, 10ms or less			
Input resistance   Approx. 1.0kΩ   Output type   Sink type	ON voltage/	ON current	5.6VDC o	or higher	r/4mA or	higher	Leakage cur	rent at OFF	0.1mA or lower			
Input resistance	OFF voltage	OFF current	2.4VDC o	or lower/	1.7mA o	r lower	Max. voltage	drop at ON	1			
Input response   Speed   0.2ms   1.5ms   5ms   10ms   0.5ms   0.2ms   1.5ms   5ms   0.2ms   1.5ms   5ms   0.2ms   1.5ms   0.2ms   0.2ms   1.5ms   0.2ms   0.	Innut recista	nce	Approx 1	1.0kO			Output type			lr		
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the part of the protect of the power supply, I/O signal]  10M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  10M3×5.2 screw (tightenin	iriput resista	iice	Арргох. 1	1.UK22			Protection fu	nction	None			
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part connection system  I/O power supply part  I/O part  M34-point direct-mount terminal block [I/O power supply, I/O signal] part, I/O part  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N+m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded by the supply and the supp		speed					Response	OFF→ON	0.5ms or less	N.W. S RATE	8 4 2 114 2 1	
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part system  I/O power supply part  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N+m)  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  RAV1.25-3 (compliant with ISC 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  Wire  Material  Material  DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance testern)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provide supply and supp	Response tii						time	ON VOEE	DEE 1.5ms or less (resistive load)	OLYS EM	H H H H COM-100	
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part system  I/O power supply part  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N+m)  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  RAV1.25-3 (compliant with ISC 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  Wire  Material  Material  DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance testern)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provide supply and supp		UN→UFF	or less	or less	less	or less			,			
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the part of the protect of the power supply, I/O signal]  10M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  10M3×5.2 screw (tightenin								Voltage		l l Ė	# # # # # # # # # # # # # # # # # # #	
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the part of the protect of the power supply, I/O signal]  10M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  10M3×5.2 screw (tightenin			sup			supply for						
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable solderless terminal:  Protection degree  IP2X  Weight  Communication part, module power supply, FG]  M3*5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Fal (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-M33, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Minute of the minute between all DC external terminals and ground (500VDC insulation resistance tester)  ### Park							Current			91		
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provided in the pr						output part		excluding external load current		8 3		
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provided in the pr	Input type		Positive c	common	(sink typ	pe)	Surge suppressor Zener diode				XX +	
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provided in the pr		nt for connected	1.0A or lower/common									
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part connection system  I/O power supply part  I/O part  M34-point direct-mount terminal block [I/O power supply, I/O signal] part, I/O part  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N+m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded by the supply and the supp	Wiring meth	od for common	16 points/common (input: 3-wire terminal block type, output: 2-wire terminal block type)									
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provided in the pr	Number of o	ccupied stations	32-point assignment/station (16 points used)								**************************************	
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provided in the pr	Module pow	er Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)							_	_ 🔀	
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provided in the pr	supply	Current								1 1		
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  Communication part, module power supply part  External connection system  I/O power supply part  I/O part  Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable solderless terminal: 2 or less  Material  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with IS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Module mounting screw  Material  Material  DMΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  10MΩ occluded in the provided in the pr	Noise immu	nity								2 8 4 9	X X X X	
Insulation resistance  Protection degree  Protection degree  IP2X  Weight  Communication part, module power supply part, I/O part  I/O part  Module mounting screw  Module mounting screw  Applicable DIN rail  Applicable solderless terminal  Applicable solderless terminal  Applicable solderless terminal  Applicable solderless terminal  Material  Material  DC external terminals and ground (500VDC insulation resistance tester)  IP2X  O.26kg  7-point two-piece terminal block [Transmission circuit, module power supply, FG]  M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable solderless terminal  Wire Material  Copper	Withstand vo	oltage								18%		
Communication part, module power supply part system    Communication part, module power supply part	Insulation re	sistance		$10 \text{M}\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance								
Communication part, module power supply part system    Communication part, module power supply part	Protection d	egree								7     2		
Communication part, module power supply, FG]  Part, module power supply part supply part supply part supply part system I/O power supply part Applicable solderless terminal: 2 or less  Module mounting screw  Module mounting screw  Applicable bill rail  Applicable solderless terminal: 2 or less  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m) Mountable with a DIN rail in 6 orientations  Applicable bill rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material  Copper		-								FRR XO		
part, I/O part M3×5.2 screw (tightening torque range: 0.59 to 0.88N·m) Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N·m) Mountable with a DIN rail in 6 orientations  Applicable DIN rail TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] • V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper	External connection	part, module power supply part	M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)						ule power supply, FG]			
Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations  Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper	part, M3×5.2 screw (tightening torque range: 0.59 to 0.88			ge: 0.59 to 0.88N•m)								
Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  • RAV1.25-3 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • V2-MS3, RAP2-3SL, TGV2-3N  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper			M4 screw	v with pla	ain wash	er finishe	ed round (tigh	tening torque	e range: 0.78 to 1.08N•m)		1	
RAV1.25-3 (compliant with JIS C 2805)     [Applicable solderless terminal	Applicable DIN rail							0715)		-		
Wire Material Copper			• RAV1.25 [Applica • V2-MS3	<ul> <li>RAV1.25-3 (compliant with JIS C 2805)</li> <li>[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]</li> <li>V2-MS3, RAP2-3SL, TGV2-3N</li> </ul>								
	Wire											
	I -											
Accessory User's manual												

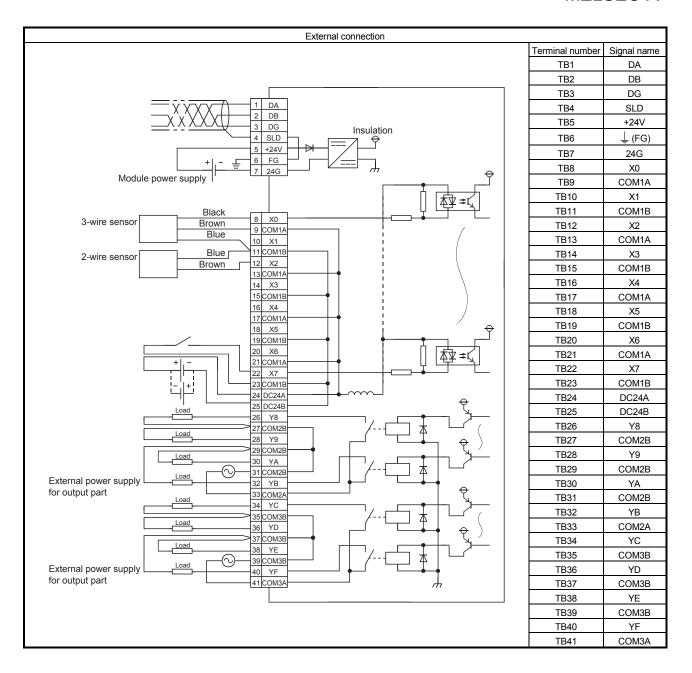
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.11 AJ65SBTB32-16DR combined module

	Туре			DC input	contact output combined module		
Item				AJ65SBTB32-1	6DR	Appea	arance
	In	put			Output		
Number of input points		8 points Number of output points 8 points		8 points			
Isolation method		Photocoupler	_	tion method	Relay		
Rated input voltage		24VDC	Rate	d load voltage	2A/point, 4A/common at 24VDC (resistive load) or 240VAC (cos\phi=1)		
Rated input current		Approx. 7mA	Number of simultaneous ON All points points		All points		
Operating	voltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	Min.	switching load	5VDC, 1mA		
Max. numb	per of ous input points	100%	Max.	switching voltage	264VAC, 125VDC		
	e/ON current	14VDC or higher/3.5mA or higher	Life	Mechanical	20 million times or more  Rated switching voltage/current load: 100 thousand times or more 200VAC 1.5A, 240VAC 1A (cosφ=0.7): 100 thousand times or more	C D E F	
OFF voltag	ge/OFF current	6VDC or lower/1.7mA or lower		Electrical	200VAC 1A, 240VAC 0.5A (cosφ=0.35) 100 thousand times or more 24VDC 1A, 100VDC 0.1A (L/R=7ms): 100 thousand times or more	4 5 6 7 78 9 A B	
Input resist	tance	Approx. 3.3kΩ	Max. switching frequency		3600 times/hour	xo 1 2 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3	
Response	oFF→ON	1.5ms or less (at 24VDC)		onse OFF→ON		COM2E	
Response	ON→OFF	1.5ms or less (at 24VDC)	time	ON→OFF		MAZB YS	
Wiring met	hod for common	8 points/common (3-wire, terminal block type)			4 points/common (2-wire, terminal block type)	M	
Input type		Positive/negative common shared type (sink/source shared type)	Surg	e suppressor	None	X7   DC24	
Supply curr device	rent for connected	1.0A or lower/common			X6 X6 COM 1B COM		
Number of	occupied stations	32-point assignment/station (	WIATA KE				
Module pov		20.4 to 26.4VDC (ripple ratio:		,		4 8 8	
supply	Current	85mA or lower (at 24VDC an					
Noise imm	unity	Noise voltage: 1500Vp-p (AC noise frequency 25 to 60Hz (					
Withstand	voltage	2830VACrms for 3 cycles bet level) 500VAC for 1 minute betwee					
Insulation r	resistance	10M $\Omega$ or higher between all A tester) 10M $\Omega$ or higher between all I tester)					
Protection	dearee	IP1X					
Weight	J	0.28kg					
External connection		7-point two-piece terminal blc M3×5.2 screw (tightening tord Applicable solderless terminal	MIRRER AJGSSTR				
system	//O power supply   34-point direct-mount terminal block [I/O power supply, I/O signal]   part,   M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m)   Applicable solderless terminal: 2 or less						
Module mo	ounting screw	M4 screw with plain washer f Mountable with a DIN rail in 6					
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (cor	npliar	t with IEC 60715)			
Applicable solderless terminal		<ul> <li>RAV1.25-3 (compliant with [Applicable wire size: 0.3 to</li> <li>V2-MS3, RAP2-3SL, TGV2 [Applicable wire size: 1.25 t</li> </ul>					
Wire Material Temperature		Copper 75°C or more					
A000000	rating						
Accessory		User's manual					

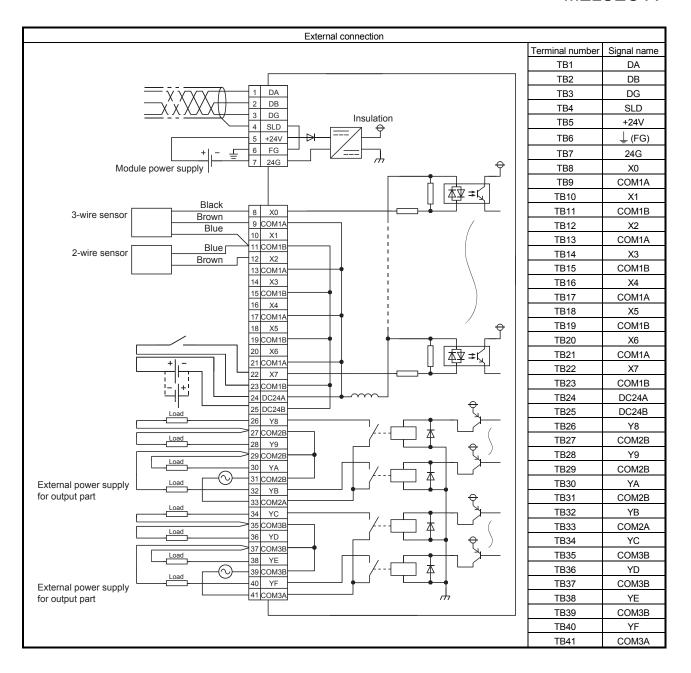
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.12 AJ65SBTB32-16KDR combined module

	Туре						OC input contac	ct output combined module			
Item	,,,,	AJ65SBTB32-16KDR						Appea	arance		
		Input						Output	Pi		
Number of	input points	8 points	oints Number of output points 8 points								
Isolation method		Photocoupler			Isolation n	Isolation method Relay					
Rated input voltage		24VDC			Rated load voltage		2A/point, 4A/common at 24VDC (resistive load) or 240VAC (cos  (cos  =1)				
Rated input current		Approx.	Approx. 7mA Number of simultaneous ON points All points								
Operating voltage range			4 to 28.8VDC ple ratio: within 5%)			Min. switching load		5VDC, 1mA			
	us input points	100%				Max. swite	ching voltage	264VAC, 125VDC			
ON voltage	ON current	14VDC	or higher	/4mA or	higher		Mechanical	20 million times or more	_		
OFF voltag	e/OFF current	5.5VDC	or lower	/1.7mA (	or lower	-		Rated switching voltage/current load: 100 thousand times or more			
Input resist	1	Approx.	3.0kΩ	ı	1	Life	Electrical	200VAC 1.5A, 240VAC 1A (cosφ=0.7): 100 thousand times or more			
Decrese	Input response speed	0.2ms 0.2ms	1.5ms 1.5ms	5ms	10ms 10ms	-		200VAC 1A, 240VAC 0.5A (cosφ=0.35): 100 thousand times or more 24VDC 1A, 100VDC 0.1A (L/R=7ms):	Y8 9 A B C D E F G G G G G G G G G G G G G G G G G G		
Response time	OFF→ON	or less	or less	5ms or less	or less	Max. swite	phing	100 thousand times or more	6.7 789 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		
	ON→OFF	0.2ms or less	or less	5ms or less	10ms or less	frequency	U	3600 times/hour			
Wiring metl	hod for common	8 points/common (3-wire, terminal block type)			Response	OFF→ON	10ms or less				
Input type		Positive/negative common shared type (sink/source shared type)			time	ON→OFF	12ms or less	FIN L RUN L BUN L			
Supply current for connected		1.0A or lower/common			Wiring me common	Wiring method for common 4 points/common (2-wire, terminal block type)					
device		Surge suppressor None					None		) 		
		32-point assignment/station (16 points used)									
Module pov		20.4 to 26.4VDC (ripple ratio: within 5%)									
supply	Current	100mA or lower (at 24VDC and all points ON)  Noise voltage: 1500Vp-p (AC type), 500Vp-p (DC type), noise width 1µs,									
Noise imm	unity		•	1   1   1   1   1   1   1   1   1   1							
Withstand v	voltage	noise frequency 25 to 60Hz (noise simulator condition)  2830VACrms for 3 cycles between all AC external terminals and ground (2000m above sea level)  500VAC for 1 minute between all DC external terminals and ground									
Insulation r	esistance							und (500VDC insulation resistance tester) und (500VDC insulation resistance tester)			
Protection of	degree	IP1X		SSBTB2							
Weight	lo : "	0.29kg							A A John Market		
External	Communication part, module power supply part	M3×5.2	wo-piece screw (ti ble solde								
system		M3×5.2	34-point direct-mount terminal block [I/O power supply, I/O signal] M3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less								
Module mounting screw			w with plole with a			,	ightening torqu	e range: 0.78 to 1.08N•m)			
Applicable	Applicable DIN rail					ant with IEC	60715)				
Applicable solderless terminal		[Applic • V2-MS	25-3 (co cable wire 33, RAP2								
Wire	[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  The Material Copper							+			
-	Temperature 75°C or more rating						1				
			nanual						7		

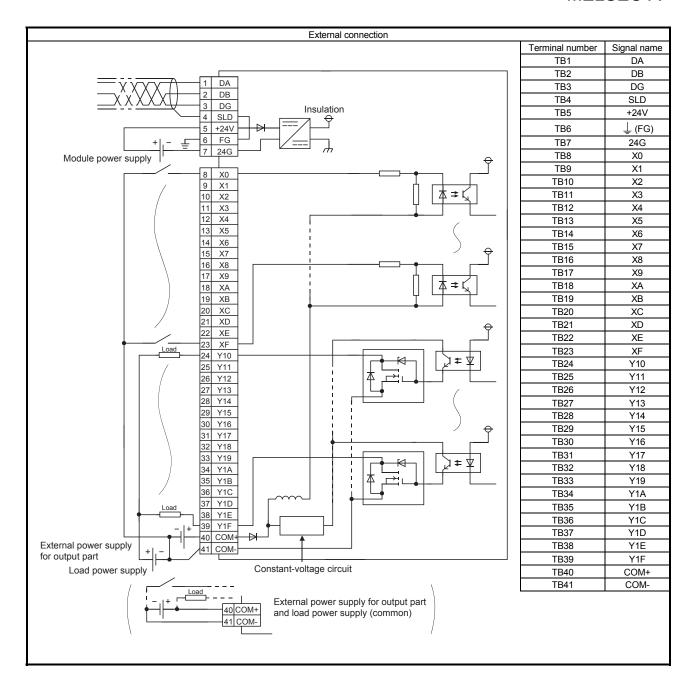
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.1.13 AJ65SBTB1-32DT combined module

	_	Туре		DC input	transistor ou	tput combined module	
Item	_			AJ65SBTB	1-32DT		Appearance
			Input			Output	
Number of input points			16 points	Number of outp	out points	16 points	
Isolation method			Photocoupler	Isolation metho		Photocoupler	
Rated input voltage			24VDC	Rated load volt		24VDC	İ
				Operating load		19.2 to 26.4VDC	İ
Rated input current		t	Approx. 7mA	range	rollago	(ripple ratio: within 5%)	
Operating v	voltage	range	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.5A/point, 3.6A/common	
Max. number input points		nultaneous	100%	Max. inrush cur	rent	1.0A, 10ms or less	
ON voltage	ON cu	rrent	14VDC or higher/3.5mA or higher	Leakage currer	nt at OFF	0.25mA or lower	
OFF voltage	e/OFF	current	6VDC or lower/1.7mA or lower	Max. voltage dı	op at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	
Input resista	ance		Approx. 3.3kΩ	Output type		Sink type  Overload protection, overvoltage	
	U		, .p	Protection func	tion	protection, overheat protection	
		OFF⊸ON	1.5ms or less (at 24VDC)		OFF→ON	0.5ms or less	
Response t	time	1	1.5ms or less (at 24VDC)	Response time	ON→OFF	1.5ms or less (resistive load)	
		JOIN→OI F	1.0113 Of 1633 (at 24VDO)		OIN-OI F	19.2 to 26.4VDC	
				External power	Voltage	(ripple ratio: within 5%)	
				supply for		30mA or lower (24VDC/common),	
				output part	Current	excluding external load current	
Input type			Positive common (sink type)				
Wiring meth	hod for	common	32 points/common (1-wire, terminal				
Number of			32-point assignment/station (32 point				
Module pov		Voltage	20.4 to 26.4VDC (ripple ratio: within				
supply		Current	60mA or lower (at 24VDC and all po				
		0 00	Noise voltage 500Vp-p, noise width				
Noise immu	unity		noise frequency 25 to 60Hz (DC typ				
Withstand v	voltage		500VAC for 1 minute between all De				
Insulation re		ce	10M $\Omega$ or higher between all DC extension (tester)				
Protection of	dearee		IP2X				
Weight			0.25kg				
o.g	Comm	unication	7-point two-piece terminal block				
	part,		Transmission circuit, module power				
Futor!		e power	M3×5.2 screw (tightening torque rar				
External connection	supply	part	Applicable solderless terminal: 2 or	less			
system	I/O 201	war sunnly	34-point direct-mount terminal block				
System	part,	wer supply	[I/O power supply, I/O signal]				
	I/O par	t	M3×5.2 screw (tightening torque rar	nge: 0.59 to 0.88	BN•m)		
	"O pai	•	Applicable solderless terminal: 2 or	less			
Module mounting screw		screw	M4 screw with plain washer finished				
			Mountable with a DIN rail in 6 orient				
Applicable I	DIN rail		TH35-7.5Fe, TH35-7.5Al (compliant		)		+
Applicable solderless terminal		ess terminal	<ul> <li>RAV1.25-3 (compliant with JIS C 2 [Applicable wire size: 0.3 to 1.25m</li> <li>V2-MS3, RAP2-3SL, TGV2-3N</li> </ul>				
Maria Indiana da America da Ameri			[Applicable wire size: 1.25 to 2.0m	m <sup>2</sup> (16 to 14 AV	VG) strande	d wire]	
Wire	Materia		Copper				
	Tempe rating	rature	75°C or more				
Accessory	3		User's manual				†
							ı

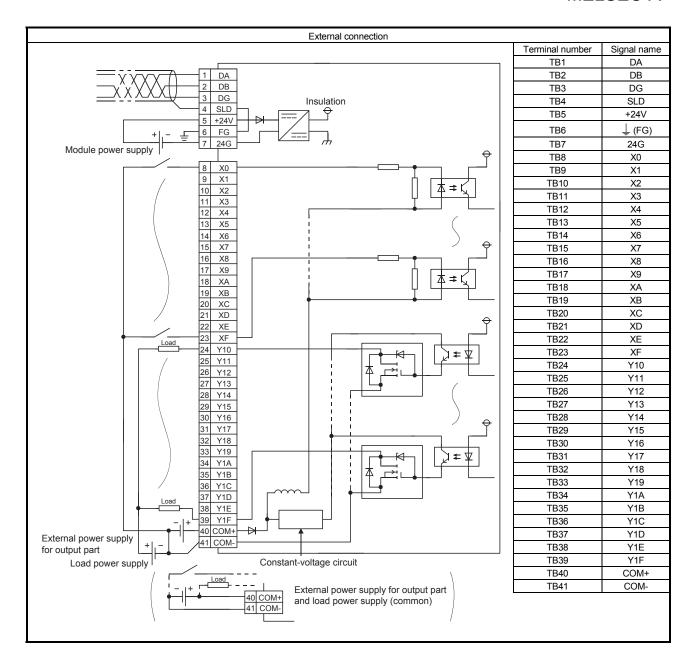
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.14 AJ65SBTB1-32DT1 combined module

		Туре		DC in	put transisto	r output combined module		
Item	_				TB1-32DT1	·	Appe	arance
		In	put			Output		
Number of	input po	oints	16 points	Number of o	utput points	16 points	Ī	
Isolation me	ethod		Photocoupler	Isolation me	thod	Photocoupler	7	
Rated input	t voltage	9	24VDC	Rated load v	/oltage	24VDC	7	
		_		Operating lo	ad voltage	19.2 to 26.4VDC	7	
Rated input	t current	t	Approx. 5mA	range		(ripple ratio: within 5%)		
Operating v	voltage ı	range	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load cu	urrent	0.5A/point, 3.6A/common		
Max. numb		nultaneous	100%	Max. inrush	current	1.0A, 10ms or less		
ON voltage	ON cui	rrent	15VDC or higher/3mA or higher	Leakage cur	rent at OFF	0.25mA or lower	7	
OFF voltage/OFF current 3VDC or lower/0.5mA or lower		Max. voltage		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A				
Input resistance			Approx. 4.7kΩ	Output type Protection fu	ınction	Sink type  Overload protection, overvoltage protection, overheat protection		
		OFF→ON	0.2ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less		
Response t	time	ON→OFF	0.2ms or less (at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	
		011-7011	O.ZIIIS OF IESS (at Z4VDC)	unic	011-7011	19.2 to 26.4VDC		1 60 100 ED
				External	Voltage	(ripple ratio: within 5%)		
				power		24.2mA or lower	→ 8 <del></del>	
				supply for	Current	(at 24VDC and all points ON),	15 716	
			output part	o an i on it	excluding external load current	714		
Input type Positive common (sink type) Surge suppressor Zener diode								
Wiring meth	hod for o	common	32 points/common (1-wire, termin				X X	
Number of occupied stations 32-point assignment/station (32 points used)						- A - A - A - A - A - A - A - A - A - A		
Module pov		Voltage	20.4 to 26.4VDC (ripple ratio: with				# 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 60 m
supply		Current	60mA or lower (at 24VDC and all				\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
			Noise voltage 500Vp-p, noise wid					
Noise immu	unity		noise frequency 25 to 60Hz (DC t					
Withstand v	voltage		500VAC for 1 minute between all			32DT1	₩  @ ₩	
			10M $\Omega$ or higher between all DC e					
Insulation re	esistano	ce	tester)					
Protection of	degree		IP2X				2 3 4 EG)	
Weight			0.25kg					
	Comm	unication	7-point two-piece terminal block				ALL DIS LE	
	part,		[Transmission circuit, module pov		-			(B) (B)
External		e power	M3×5.2 screw (tightening torque i	•	0.88N•m)			
connection	supply	part	Applicable solderless terminal: 2				4	
system	I/O pov	wer supply	34-point direct-mount terminal blo [I/O power supply, I/O signal]	ock				
	part, I/O par	+	M3×5.2 screw (tightening torque i	range: 0.59 to	0.88N•m)			
	"O pai		Applicable solderless terminal: 2	or less			_	
Module mo	untings	crew	M4 screw with plain washer finish	ed round (tigl	htening torqu	e range: 0.78 to 1.08N•m)		
WOULD IIIO	ranung S	DOI C VV	Mountable with a DIN rail in 6 orie	entations			_	
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5Al (complia	ant with IEC 6	0715)		_	
			RAV1.25-3 (compliant with JIS (	,				
Applicable :	solderle	ss terminal	[Applicable wire size: 0.3 to 1.25	5mm² (22 to 1	6 AWG) stra	nded wire]		
, ipplicable :	SOIGEITE	oo tomiinai	• V2-MS3, RAP2-3SL, TGV2-3N					
			[Applicable wire size: 1.25 to 2.0	0mm <sup>2</sup> (16 to 1	4 AWG) stra	nded wire]	4	
Wire	Materia		Copper				-	
	Tempe	rature rating	75°C or more				4	
Accessory			User's manual					

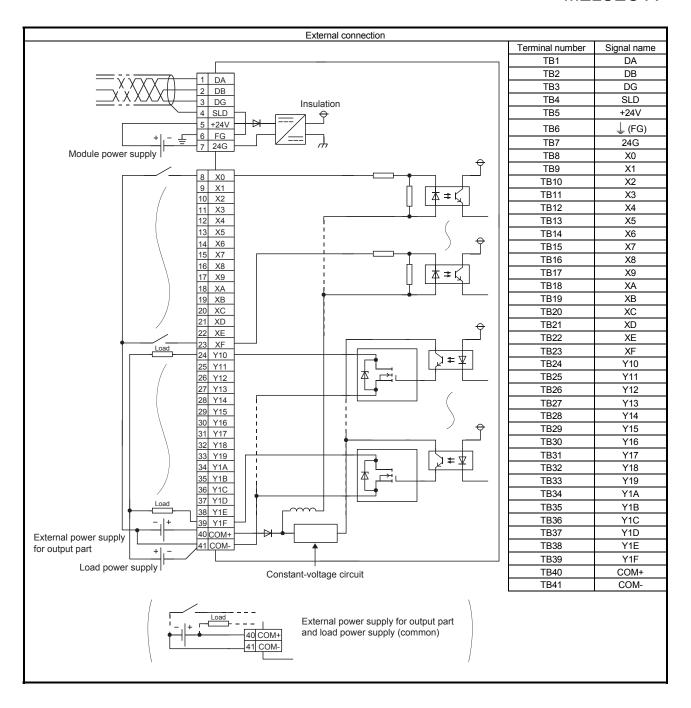
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.15 AJ65SBTB1-32DT2 combined module

	_	Туре		DC input tr	ansistor out	out combined module		
Item				AJ65SBTB1-			Appea	arance
			Input		(	Output		
Number of	input po	oints	16 points	Number of outpu	ıt points	16 points		
Isolation me	ethod		Photocoupler	Isolation method		Photocoupler	Ī	
Rated input		9	24VDC	Rated load volta		24VDC		
•				Operating load v		19.2 to 26.4VDC	1	
Rated input	t curren	t	Approx. 7mA	range	o.i.a.go	(ripple ratio: within 5%)		
Operating v	voltage	range	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load currer	nt	0.5A/point, 3.6A/common		
Max. numb input points		multaneous	100%	Max. inrush current 1.0A, 10ms or less				
ON voltage	ON cu	rrent	14VDC or higher/3.5mA or higher	Leakage current	at OFF	0.1mA or lower		
OFF voltage/OFF current		current	6VDC or lower/1.7mA or lower	Max. voltage dro	p at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
Input resist	ance		Approx. 3.3kΩ	Output type Protection function	on	Sink type None		
		OFF→ON	1.5ms or less (at 24VDC)		OFF→ON	0.5ms or less		
Response t	time	ON→OFF	1.5ms or less (at 24VDC)	Response time	ON→OFF	1.5ms or less (resistive load)	HH 200	
		011 7011	The first (at 21 v 20)			19.2 to 26.4VDC		
				External power	Voltage	(ripple ratio: within 5%)	118 710	
				supply for		30mA or lower	# HE HE	
				output part	Current	(at 24VDC and all points ON),	8 × ×	
				output part	Current	excluding external load current	7 16 ×	
				Zener diode	41 × 13 × 14			
Wiring method for common 32 points/common (1-wire, terminal block type)				412				
Number of occupied stations 32-point assignment/station (32 points used)					1011 12 31 41 5 80 7 1819 14 1810 18 18 19 18 19 18 19 18 19 18 19 18 19 18 19 18 19 18 19 18 19 19 19 19 19 19 19 19 19 19 19 19 19			
				#   B   B   B   B   B   B   B   B   B				
-	wei		20.4 to 26.4VDC (ripple ratio: within 5%)					
supply		Current	60mA or lower (at 24VDC and all p	-			4 15 E	
Noise immu	unity		Noise voltage 500Vp-p, noise width noise frequency 25 to 60Hz (DC type)	•	condition)		2 B 8 7	
Withstand v	voltage		500VAC for 1 minute between all D			nd		
Insulation r		ce	$10 \text{M}\Omega$ or higher between all DC ext		28 A B C D E F S S S S S S S S S S S S S S S S S S			
Drotostion	doaroo		tester) IP2X					
Protection (	degree							
Weight	1		0.25kg				MB	
	Comm	unication	7-point two-piece terminal block				EFR. 20	
	part, m	nodule	[Transmission circuit, module powe M3×5.2 screw (tightening torque ra		em)		BB DE BE	
External	power	supply part	Applicable solderless terminal: 2 or		·111)			8 8
connection			34-point direct-mount terminal block					
system	I/O pov	wer supply	[I/O power supply, I/O signal]	n.				
	part,		M3×5.2 screw (tightening torque ra	nae:0 50 to 0 80N	•m)			
	I/O par	t	Applicable solderless terminal: 2 or	-	111)			
					n torque rand	ne: 0.78 to 1.08N•m)	†	
Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Mountable with a DIN rail in 6 orientations								
Applicable	DIN rail							
			• RAV1.25-3 (compliant with JIS C					
A		4	[Applicable wire size: 0.3 to 1.25n	nm² (22 to 16 AW	G) stranded	wire]		
Applicable			• V2-MS3, RAP2-3SL, TGV2-3N					
			[Applicable wire size: 1.25 to 2.0n	nm² (16 to 14 AW	G) stranded	wire]	]	
Wire	Materia	al	Copper		-		_	
	Tempe	erature	75°C or more					
	rating						1	
Accessory User's manual								

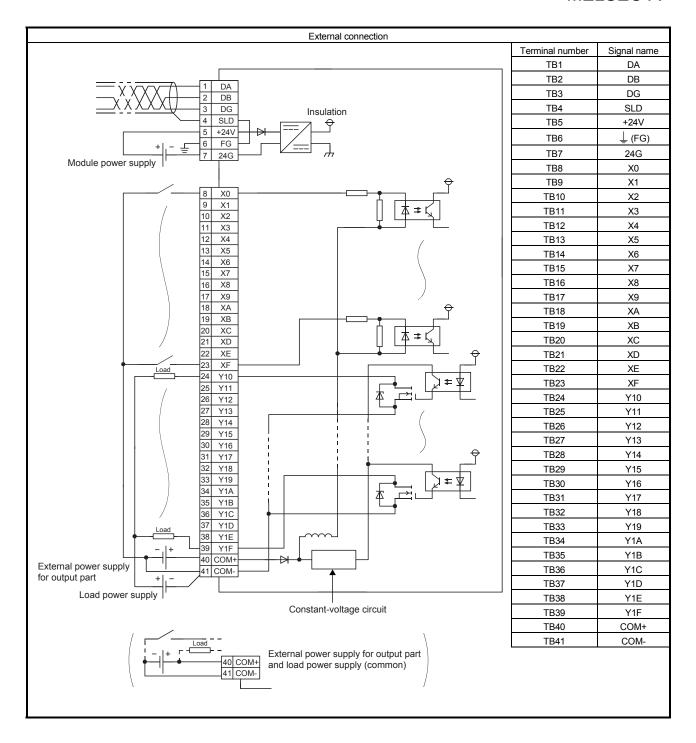
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.16 AJ65SBTB1-32KDT2 combined module

	Туре					DC input	transister of	strut combined module		
Item	Туре							tput combined module	Appea	ranco
itom		lanut				AJ65SBTB1-3		Outnot	Арреа	irance
Ni wala ay af in		Input	_			November of south		Output	_	
Number of ing		16 points				Number of outp		16 points	+	
Isolation meth		Photocoi 24VDC	upier			Isolation metho		Photocoupler 24VDC	-	
Rated input v	Oilage	24VDC				Rated load volta		20.4 to 28.8VDC		
Rated input c	urrent	Approx.	7mA			Operating load range	voltage	(ripple ratio: within 5%)		
		20.4 to 2	8 8VDC			range		(hppic ratio. within 570)		
Operating vol	tage range		itio: withir	า 5%)		Max. load curre	nt	0.5A/point, 3.6A/common		
Max. number	of simultaneous		t 26.4VD							
input points		75% (at	28.8VDC	)		Max. inrush cur	rent	1.0A, 10ms or less		
ON voltage/O	N current	14VDC d	4VDC or higher/4mA or higher Leakage current at OFF 0.1mA or lower							
OFF voltage/	FF voltage/OFF current 5.5VDC or lower/1.7mA or lower Max. voltage drop at ON 0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A									
						Output type		Sink type	-	
Input resistan	ce	Approx.	$3.0$ k $\Omega$			Protection funct	tion	None		
						. 10tcction fullci				
1	Input response	0.2ms	1.5ms	5ms	10ms	Response time	OFF→ON	0.5ms or less		
	speed	0.21110	1.01110	OITIO	101110	reopenee ume	ON→OFF	1.5ms or less (resistive load)		) 
Response	OFF→ON	0.2ms	1.5ms	5ms or	10ms		Voltage	19.2 to 28.8VDC		
time		or less	or less	less	or less	External power	Tonago	(ripple ratio: within 5%)		
		0.2ms	1.5ms	5ms or	10ms	supply for		15mA or lower	) X 19	
	ON→OFF	or less	or less	less	or less	output part	Current	(at 24VDC and all points ON), excluding external load current	714 BB BB -	
Input type Positive common (sink type) Surge suppressor Zener diode										
Wiring method for common 32 points/common (1-wire, terminal block type)										
	cupied stations			ent/statio					118191A BLC1D1E1F	
Module powe				(ripple rat						
supply	Current			24VDC						
Noise immuni	ity	Noise vo	Itage 500	Vp-p, no	ise width	1µs,			Y1011121314151617 Y	
Noise illilliuli	ity	noise fre	quency 2	25 to 60H	z (DC typ	e noise simulato	r condition)			
Withstand vol	tage					C external termin			- 10 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	
Insulation resi	istance	10M $\Omega$ or tester)	higher b	etween a	II DC ext	ernal terminals a	ind ground (	500VDC insulation resistance	3/8 9 A B C D E F B B B B B B B B B B B B B B B B B B	<u>aaaaaaaaa</u> aaaaaaaa
Protection de	gree	IP2X								
Weight		0.26kg							R X01 2 3 4 5 6 7	
	Communication	7-point to	wo-piece	terminal	block				Mills (FG)	
	part,	[Transmi	ission circ	cuit, modu	ule powe	r supply, FG]			C +24	3886 888
External	module power	M3×5.2	screw (tig	htening t	orque rar	nge: 0.59 to 0.88	N•m)			
connection	supply part			ess termi						
system	I/O power supply			ount term		(				
	part,			, I/O sign	-	nge: 0.59 to 0.88	Nam)			
	I/O part			ess termi	•	•	1111)			
							ng torque ra	nge: 0.78 to 1.08N•m)	7	
Module moun	nting screw		14 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  10untable with a DIN rail in 6 orientations							
Applicable DI	N rail		35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)							
			•	npliant wi		•				
Applicable so	Iderless terminal					nm <sup>2</sup> (22 to 16 AV	/G) strande	d wire]		
1				3SL, TG\ size: 1.2		nm² (16 to 14 AV	(C) etranda	d wirel		
Wire	Material	Copper	abic Wile	SILE. I.L	J 10 2.011	(10 to 14 AV	o) suanuel	u vvii [5]	$\dashv$	
I -	Temperature	75°C or i	more						7	
	rating									
Accessory User's manual										

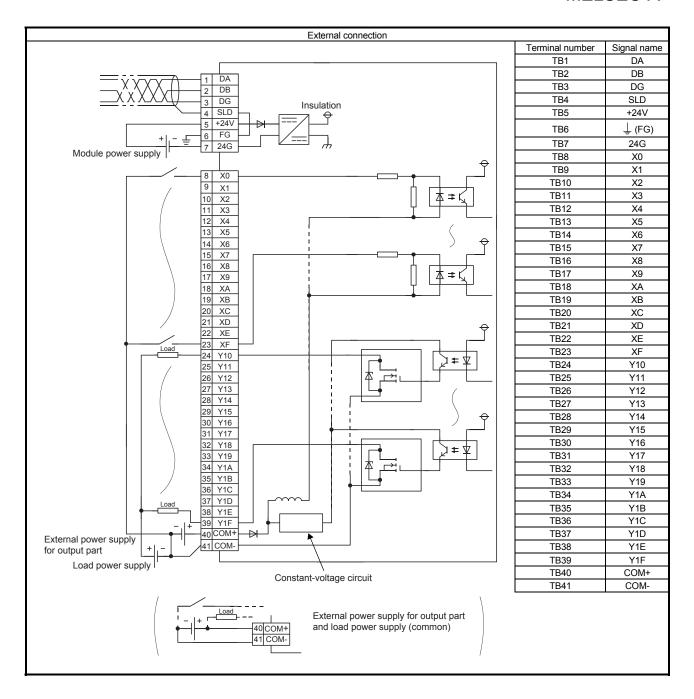
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.17 AJ65SBTB1-32DT3 combined module

		Type		DC input	transistor o	output combined module		
Item				AJ65SBTB		•	Appea	ırance
		Ing	out			Output	1.1	
Number of i	input po	oints	16 points	Number of outp	ut points	16 points	1	
Isolation me	ethod		Photocoupler	Isolation metho	d	Photocoupler		
Rated input	voltage	9	24VDC	Rated load volta	age	24VDC		
				Operating load	voltage	19.2 to 26.4VDC		
Rated input	current	I .	Approx. 5mA	range		(ripple ratio: within 5%)		
Operation	altono i		19.2 to 26.4VDC	May load aure	.nt	0.54/noint 2.64/sommon		
Operating v	ollage i	ange	(ripple ratio: within 5%)	Max. load curre	erit.	0.5A/point, 3.6A/common		
Max. numbe	er of sin	nultaneous	Max. inrush current 1.0A, 10ms or less					
input points			100% Max. Inrush current 1.0A, 10ms or less					
ON voltage/	/ON cur	rent	15VDC or higher/3mA or higher	Leakage currer	nt at OFF	0.1mA or lower		
OFF voltage	e/OFF (	current	3VDC or lower/0.5mA or lower	Max. voltage dr	on at ON	0.3VDC or lower (TYP.) 0.5A,		
Of F Voltage		Janon	OVER OF TOWARD CONTRACT TOWARD	Wax. Voltage al	op at ort	0.6VDC or lower (MAX.) 0.5A		
Input resista	ance		Approx. 4.7kΩ	Output type		Sink type		
				Protection func	tion	None		8 8
Response ti	ime	1 1	0.2ms or less (at 24VDC)	Response time	OFF→ON	0.5ms or less		
r tooponoo t		ON→OFF	0.2ms or less (at 24VDC)	recoported unite	ON→OFF	1.5ms or less (resistive load)		3 8 8
					Voltage	19.2 to 26.4VDC	14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
				External power	vollage	(ripple ratio: within 5%)		
				supply for		24.2mA or lower	44 ×	
				output part	Current	(at 24VDC and all points ON),	4 × × × × × × × × × × × × × × × × × × ×	
	excluding external load currer				13 7			
	Input type Positive common (sink type) Surge suppressor Zener diode							
Wiring meth			32 points/common (1-wire, ten				YBBBACIDTEFF	
Number of o			32-point assignment/station (32 points used)					
Module pow	ver	Voltage	20.4 to 26.4VDC (ripple ratio:					
supply		Current	60mA or lower (at 24VDC and				Y101121344151617 Y1011121344151617 Y	
Noise immu	unity		Noise voltage 500Vp-p, noise	• •				
Marilla da esta			noise frequency 25 to 60Hz (D			•	* S S	
Withstand v	oitage		500VAC for 1 minute between			*	# E # E	
Insulation re	esistano	ce	tester)	C external termin	ais and grou	und (500VDC insulation resistance	X8 A B C D E F Y  B B B B B B B B B B B B B B B B B B	
Protection of	dearee		IP2X					
Weight			0.25kg					
. J			7-point two-piece terminal bloc	ck			2.xo 1 2 3 4 5 6 7 	
		unication part,	[Transmission circuit, module		6]		ERR. X	
External		e power supply	M3×5.2 screw (tightening torque	ue range: 0.59 to	0.88N•m)		DA D	
External connection	part		Applicable solderless terminal:	2 or less				
system	1		34-point direct-mount terminal	block				
оуосын	I/O pov	ver supply part	[I/O power supply, I/O signal]					
	I/O par	t	M3×5.2 screw (tightening torque)	-	0.88N•m)			
	<u> </u>		Applicable solderless terminal:					
Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)								
			Mountable with a DIN rail in 6		~=		-	
Applicable [	JIN rail		TH35-7.5Fe, TH35-7.5Al (com		0715)		-	
			RAV1.25-3 (compliant with J	,	0.414(6): :			
Applicable s	solderle	ss terminal		o 1.25mm² (22 to 16 AWG) stranded wire]				
			V2-MS3, RAP2-3SL, TGV2-3     Applicable wire size: 1.25 to		4 A\MC\ at-a			
Wire	Materia	al		[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Copper				
44110		erature rating	75°C or more				1	
Δημορορικ	rempe	rature rating					1	
Accessory User's manual								

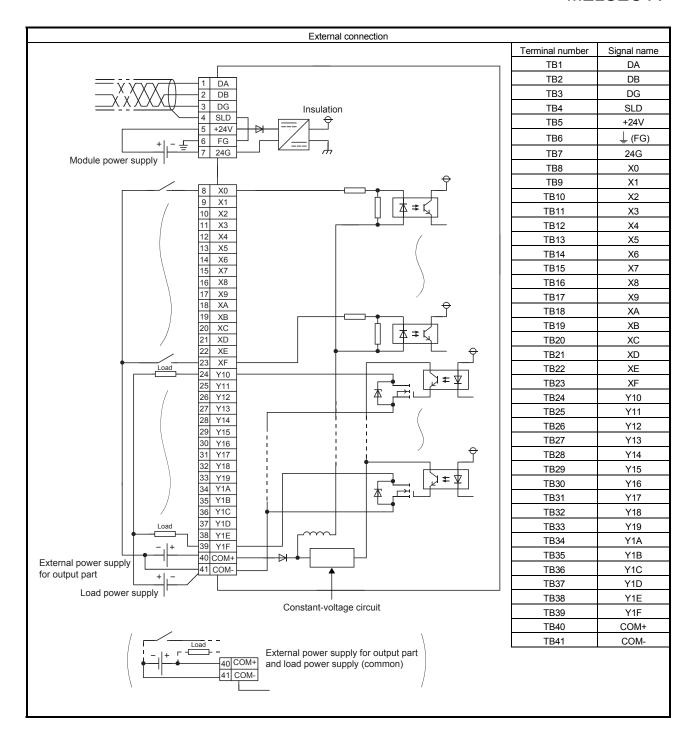
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.18 AJ65SBTB1-32KDT8 combined module

	_	Туре					DC input	t transistor o	output combined module		
Item							AJ65SBTB1			Appea	rance
		In	put						Output		
Number of	innut		16 point	te			Number of outp	ut noints	16 points	7	
Isolation me			Photoco				Isolation metho		Photocoupler	7	
Rated input			12VDC	Jupiei			Rated load volta		12VDC	+	
rtated input	t voite	age	12100				1		10.2 to 14.4VDC	+	
Rated input	t curr	ent	Approx.	11mA			Operating load voltage range		(ripple ratio: within 5%)		
Operating v	/oltag	ge range		14.4VDC atio: with			Max. load curre	ent	0.5A/point, 3.6A/common		
Max. number		simultaneous	100%				Max. inrush cur	rent	1.0A, 10ms or less		
ON voltage		current	5.6VDC	or highe	r/4mA o	r higher	Leakage curren	nt at OFF	0.1mA or lower	7	
OFF voltage/OFF current 2.4VDC or low					Max. voltage dr	op at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	1			
							Output type		Sink type	†	
Input resista	ance		Approx.	$1.0 k\Omega$			Protection funct	tion	None	+	
		Innut rooponoo					F TOLECTION TUNC	lion	None		
Response t	time	Input response speed  OFF→ON	0.2ms 0.2ms or less	1.5ms 1.5ms or less	5ms 5ms or less	10ms 10ms or less	Response time	OFF→ON	0.5ms or less	## ## ## ## ## ## ## ## ## ## ## ## ##	
		ON→OFF	0.2ms or less	1.5ms	5ms or less	10ms or less		ON→OFF	1.5ms or less (resistive load)		
									10.2 to 14.4VDC		
							External power	Voltage	(ripple ratio: within 5%)	7 14 Y15 Y	i w iait
				'   <del>                                </del>				15mA or lower	<u>√#888</u> ¥1 × €		
							output part	Current	(at 12VDC and all points ON),	=======================================	
					excluding external load current	SIBIE NIO					
Input type Positive common (sink type) Surge suppressor Zener diode					YSS94ASSCDEEF						
Wiring method for common 32 points/common (1-wire, terminal block type)											
·		pied stations			,		2 points used)			Y1011121314151617	
Module pov		Voltage					vithin 5%)			X9 X	
supply	WEI	Current						Il points ON)			
Supply		Current			•		idth 1µs,				
Noise immu	unity			•			• •			2 ×4	
\\/ithatand\	, alta a				•	•	C type noise simulator condition) all DC external terminals and ground			X8 9 A B C D E F Y	
Withstand v									und (500VDC insulation resistance	Aussere Minimum	
Ilisulation it	CSISIO	arice	tester	·)						XX01234567   Gundononono   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
Protection of	degre	ee	IP2X							01 2 W (FI	
Weight			0.26k	g							
External		nmunication part, lule power supply	Trans M3×5	5.2 screw	circuit, r (tighteni	nodule p ing torqu	ower supply, FG e range: 0.59 to			DO POP DO	
connection	-						2 or less			+	
system				int direct			block				
		power supply par		ower sup		٠.					
	I/O p	part			. •	•	e range: 0.59 to	0.88N•m)			
Applicable solderless terminal: 2 or less						_					
M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)											
Mountable with a DIN rail in 6 orientations					4						
Applicable I	DIN r	ail				,	oliant with IEC 60	0715)		4	
Applicable solderless terminal     V2-MS3, RAP2-3SL, TGV2-3			0.3 to 1 TGV2-3	.25mm² (22 to 16 AWG) stranded wire]							
Mine	14.1	a si a l			vire size:	1.25 to	2.0mm <sup>2</sup> (16 to 1	4 AWG) stra	anded wire]	+	
Wire	Mate		Copp							+	
_	Tem	perature rating		or more						4	
Accessory				s manua					ahla ahoya. Usa annlicahla wi		

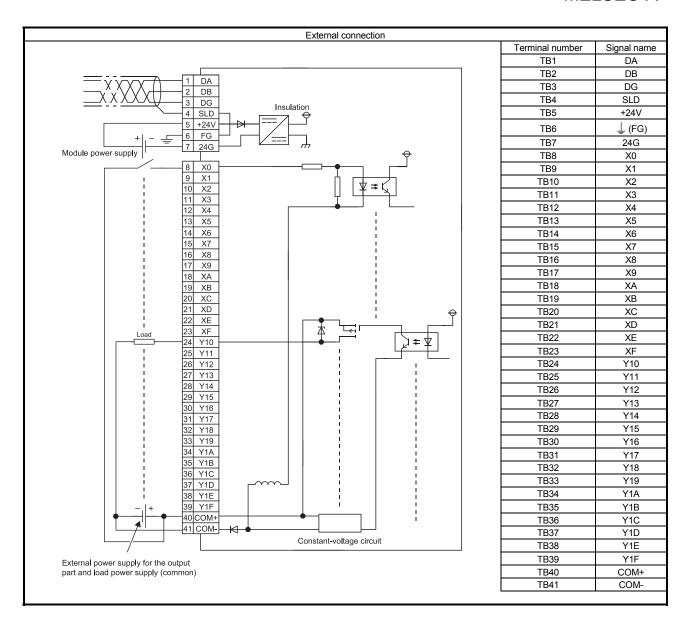
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.19 AJ65SBTB1-32DTE1 combined module

		Туре		DC input	transistor o	output combined module		
Item	_			AJ65SBTB1-			Appea	rance
		In	put			Output	111	
Number of ir	nput poi	nts	16 points	Number of outp	ut points	16 points		
Isolation me	thod		Photocoupler	Isolation method	d b	Photocoupler	1	
Rated input	voltage		24VDC	Rated load volta	age	24VDC		
				Operating load	•	19.2 to 26.4VDC	1	
Rated input	current		Approx. 7mA	range		(ripple ratio: within 5%)		
0			19.2 to 26.4VDC			0.54/		
Operating vo	oitage ra	ange	(ripple ratio: within 5%)	Max. load curre	nt	0.5A/point, 3.6A/common		
Max. numbe	er of sim	ultaneous	aneous 100% Max. inrush			1.0A, 10ms or less		
input points	nput points 100% Max. inrush currer			CIIL	T.OA, TOTAS OF IESS			
ON voltage/ON current 14VDC or higher/3.5mA or higher			Leakage curren	t at OFF	0.1mA or lower			
OFF voltage/OFF current		urrent	6VDC or lower/1.7mA or lower	Max. voltage dro	op at ON	0.5VDC or lower (TYP.) 0.5A, 0.8VDC or lower (MAX.) 0.5A		
Input resista	ince		Approx. 3.3kΩ	Output type		Source type		
ii iput resista		OFF→ON	1.5ms or less (at 24VDC)	Sarpar type	OFF→ON	0.5ms or less		<b>8</b>
Response tii	me r	ON→OFF	1.5ms or less (at 24VDC)	Response time		1.5ms or less (resistive load)	RATE 2 1	
		ON 7011	1.0110 01 1000 (at 27100)		JIN 7011	19.2 to 26.4VDC	STATIONING   BRATE	
				External power	Voltage	(ripple ratio: within 5%)	18 71	
				supply for		10mA or lower	444 A 444	
				output part	Current	(TYP. 24VDC/common),	N◆ N 121	
						excluding external load current	716 7	
			Zener diode	714				
Wiring method for common 32 points/common (1-wire, terminal bl			al block type)			142	la WP	
Number of occupied stations 32-point assignment/station (32 points used)					710 H			
Module pow	power Voltage 20.4 to 26.4VDC (ripple ratio: within 5%)							
supply	Ī	Current	50mA or lower (at 24VDC and all points ON)					
			Noise voltage 500Vp-p, noise wid					
Noise immu	nity		noise frequency 25 to 60Hz (DC ty	ype noise simula	tor condition	n)	X8	
Withstand vo	oltage		500VAC for 1 minute between all					
Inculation ro	oiotono		$10 M\Omega$ or higher between all DC external terminals and ground (500VDC insulation resistance					
Insulation re	Sistance	<del></del>	tester)					
Protection d	egree		IP2X					
Weight			0.26kg					
	Commu	nication	7-point two-piece terminal block				M. 1 2 3 4 5 6 7	
	part,		[Transmission circuit, module pow				R ⊗ 1 +24V	
External I	module		M3×5.2 screw (tightening torque r	•	88N•m)		NUM LERR	
connection	supply p	oart	Applicable solderless terminal: 2 c					
system	I/O pow	er supply	34-point direct-mount terminal blo	CK				
1	part,		[I/O power supply, I/O signal]	ango: 0 F0 to 0 f	ONIam'			
	I/O part		M3×5.2 screw (tightening torque r	•	ooin•iii)			
			Applicable solderless terminal: 2 c M4 screw with plain washer finish				╡	
Module mou	ıntina sa	crew	(tightening torque range: 0.78 to 1					
Mountable with a DIN rail in 6 orientations								
Applicable DIN rail TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)				7				
			RAV1.25-3 (compliant with JIS (		,		7	
A 12	Applicable solderless terminal		•	WG) stranc	led wire]			
Applicable s	olderles	s terminal	• V2-MS3, RAP2-3SL, TGV2-3N	•	•	-		
			[Applicable wire size: 1.25 to 2.0	mm <sup>2</sup> (16 to 14 A	WG) stranc	led wire]	_	
Wire I	Material		Copper					
	Temper	ature rating	75°C or more		_			
Accessory User's manual								

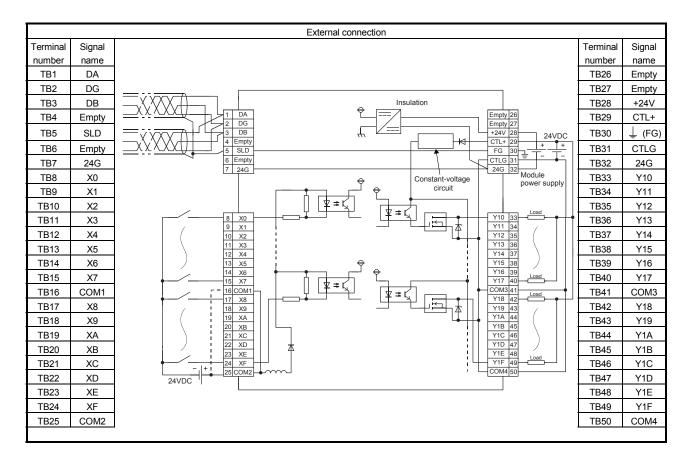
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.20 AJ65DBTB1-32DT1 combined module

Input   Output		Туре		DC inn	ut transistor o	utnut combined module	
Input points   16 points   16 points   16 points   16 points   16 points   16 points   18	Item					utput combineu module	Annearance
Number of input points         16 points         Number of output points         16 points           Isolation method         Photocoupler         Isolation method         Photocoupler           Rated input voltage         24VDC         Rated load voltage         122 to 31 zVDC           Rated input current         Approx. SmA         Operating load voltage         10,2 to 31 zVDC           (inple ratio: within 5%)         Max. load current         0.5Apoint, 4A/common           (inple ratio: within 5%)         Max. load current         (2Ateminal)           Max. number of simultaneous         100% (at 26 xVDC)         Max. inush current         1.2 to 13 zVDC           (input points)         15VDC or higher/3mA or         Leakage current at OFF         0.1mA or lower           OFF voltage/OFF current         5VDC or lower/1.5mA or lower         Max. voltage drop at ON         0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A           Input resistance         Approx. 4.7kΩ         Output type         Sink type           Protection function         None           Response         OFF→ON         10ms or less (at 24VDC)         Response         OFF→ON         0.5ms or less           Input type         Positive common (sink type)         Surge suppressor         Zener diode         (input points of type type surrent load current <td></td> <td>In</td> <td>nut .</td> <td>7,0000010</td> <td></td> <td>Outout</td> <td>пррешине</td>		In	nut .	7,0000010		Outout	пррешине
Seciation method	Number of innu			Number of outr		Ι΄.	-
Rated input voltage Rated input current Approx. 5mA Operating load voltage (ripper ratio: within 5%) Operating voltage range (ripper area) (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. number of simultaneous (ripper ratio: within 5%) Max. voltage durp at ON (ripper ratio: within 5%) OFF - ON (ripper ratio: within 5%) ON-OFF (ripper ra			· ·				-
Rated input current Approx. 5mA Operating load voltage frage  Operating voltage range  (20.4 to 31.2VDC (fipple ratio: within 5%) (fipple ratio: within 5%) (fipple ratio: within 5%) (fipple ratio: within 5%) (Ax. number of simultaneous (fipple ratio: within 5%) (Ax. number of simultaneous (Approx. 4.7kΩ Output points  OFF voltage/OFF current  ISVDC or higher/3mA or higher OFF voltage/OFF current  SVDC or lower/1.5mA or lower Protection function None  Response ON-JOFF  10ms or less (at 24VDC) External ON-JOFF  10ms or less (at 2			•			'	-
Coperating voltage range   Country   Countr						1	-
(ripple ratio: within 5%)   (2A/terminal)				range		(ripple ratio: within 5%)	
Input points   15VDC or higher/3mA or higher   15VDC or higher/3mA or higher   15VDC or higher/3mA or higher   15VDC or higher/3mA or higher   15VDC or lower/1.5mA or lower   15VDC or lower/1.5mB or less   15VDC or lower/1.5mB or l	Operating volta	ige range		Max. load curre	ent	l ' '	
ON voltage/ON current  15VDC or higher/3mA or higher  OFF voltage/OFF current  5VDC or lower/1.5mA or lower  5VDC or lower/1.5mA or lower  Max. voltage drop at ON  0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A  Input resistance  Approx. 4.7KΩ  Output type  Protection function  None  Protection function  None  ON→OFF  1.5ms or less (at 24VDC)  External power supply for output part  Wing method for common  16 points/common (2 points) (1-wire, terminal block type)  Withstand voltage  15VDC or higher/3mA or lower (at 24VDC and all points ON), excluding external load current  25mnA or lower (at 24VDC and all points ON), excluding external load current  Number of occupied stations  32-point assignment/station (32 points used)  Module power supply  Noise wortlage 500VpC, noise width 1µs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  15VDC or lower (TYP.) 0.5A, 0.6VDC (inper atio: within 5%)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  Current  55mA or lower (at 24VDC)  (inper atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  Current  55mA or lower (at 24VDC)  (inter atio: within 5%)  (inter atio: within 5%)		f simultaneous	100% (at 26.4VDC)	Max. inrush current		1.2A, 10ms or less	
OFF voltage/OFF current   SVDC or lower/1.5mA or lower   Max. voltage drop at ON   0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	ON voltage/ON current		_	Leakage current at OFF		0.1mA or lower	]
Input resistance   Approx. 4.7kΩ   Output type   Protection function   None	OFF voltage/OFF current			Max. voltage di	rop at ON		1
Protection function   None   Protection function   None	Input resistance	9	Approx. 4.7kΩ	Output type		i ' '	TO AMERICA
Response time OFF→ON 10ms or less (at 24VDC) time OFF→ON 0.5ms or less (resistive load)    Compositive common (sink type)   Surge suppressor   Compositive common (sink type)   Surge suppressor   Zener diode   Compositive common (sink type)   Surge suppressor   Zener diode   Compositive common (sink type)   Surge suppressor   Zener diode   Compositive common (sink type)   Surge suppressor   Zener diode   Compositive common   16 points/common (2 points) (1-wire, terminal block type)   Compositive common   16 points/common (2 points) (1-wire, terminal block type)   Compositive stations   Supply   Compositive common (2 points) (1-wire, terminal block type)   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Compositive stations   Supply   Supply   Compositive stations   Supply   Supply   Compositive stations   Supply   S		<u>-</u>	, .pp.1071. 1.11m2		tion	1 1	A SON LINE OF THE RIN OL
time	Response	OFF→ON	10ms or less (at 24VDC)				_
External power supply for output part   Current   30mA or lower (at 24VDC and all points ON), excluding external load current   16 points/common (sink type)   Surge suppressor   Zener diode   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   Voltage   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   Voltage	•	ì	` '	1			1 04 05 014 015 05 00 019 015
power supply for output part   Current   30mA or lower (at 24VDC and all points ON), excluding external load current   24mC and all points ON), excluding external load current   25mC and all points ON), excluding external load current   25mC and all points ON), excluding external load current   25mC and all points ON), excluding external load current   25mC and all points ON)   25mC and all points ON)   25mC and all points on   25mC and al		011 7011	101116 61 1000 (dt 21 1 2 0 )				
for output part   Current   30mA or lower (at 24/VDC and all points ON), excluding external load current   Input type   Positive common (sink type)   Surge suppressor   Zener diode					ronago		
(at 24VDC and all points ON), excluding external load current					Current		DA NC
excluding external load current					ou.rom		
Input type							
Number of occupied stations  32-point assignment/station (32 points used)  Module power Voltage 20.4 to 26.4VDC (ripple ratio: within 5%)  Supply Current 55mA or lower (at 24VDC and all points ON)  Noise immunity Noise voltage 500Vp-p, noise width 1μs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage 500VAC for 1 minute between all DC external terminals and ground  Insulation resistance 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree 1P2X  Weight 0.65kg  External connection system 50-point terminal block  [Transmission circuit, module power supply, FG, I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N·m) Applicable solderless terminal: 2 or less Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N·m)  • R1.25-3.5 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805) [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]	Input type		Positive common (sink type)	Surge suppress	sor	Zener diode	
Module power   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   Supply   Current   55mA or lower (at 24VDC and all points ON)	Wiring method	for common	16 points/common (2 points) (1-	wire, terminal blo	ock type)		
Supply Current 55mA or lower (at 24VDC and all points ON)  Noise immunity Noise voltage 500Vp-p, noise width 1μs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage 500VAC for 1 minute between all DC external terminals and ground  Insulation resistance 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree IP2X  Weight 0.65kg  External connection system 50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m) Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  • R1.25-3.5 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805) [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper	Number of occu	upied stations	32-point assignment/station (32	points used)			
Noise immunity  Noise voltage 500Vp-p, noise width 1μs, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  0.65kg  External connection system  50-point terminal block  [Transmission circuit, module power supply, FG, I/O power supply, I/O signal]  M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m)  Applicable solderless terminal: 2 or less  Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  + R1.25-3.5 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper	Module power	Voltage	20.4 to 26.4VDC (ripple ratio: wi	ithin 5%)			X3
Noise initiality Noise voltage 500VP-p, flose width Tps, noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage 500VAC for 1 minute between all DC external terminals and ground Insulation resistance 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree IP2X Weight 0.65kg  External connection system 50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m) Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  • R1.25-3.5 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] • RAV2-3.5 (compliant with JIS C 2805) [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material Copper	supply	Current	55mA or lower (at 24VDC and a	all points ON)			x6
Withstand voltage 500VAC for 1 minute between all DC external terminals and ground [500VDC insulation resistance]  Insulation resistance 10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree IP2X  Weight 0.65kg  External connection system 50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m) Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Applicable solderless terminal • R1.25-3.5 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] • RAV2-3.5 (compliant with JIS C 2805) [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper	Noise immunity	1	Noise voltage 500Vp-p, noise w	idth 1µs,			COMI
Insulation resistance  10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree  IP2X  Weight  0.65kg  External connection system  50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal]  M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m)  Applicable solderless terminal: 2 or less  Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  + R1.25-3.5 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper			noise frequency 25 to 60Hz (DC	type noise simu	ılator conditio	n)	
Protection degree IP2X Weight 0.65kg  External connection system 50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m) Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Applicable solderless terminal  • R1.25-3.5 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] • RAV2-3.5 (compliant with JIS C 2805) [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper	Withstand volta	ige	500VAC for 1 minute between a	een all DC external terminals and ground			
Protection degree IP2X  Weight 0.65kg  External connection system 50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal]  M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m)  Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  Applicable solderless terminal • R1.25-3.5 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper	Insulation resis	tance	10M $\Omega$ or higher between all DC	DC external terminals and ground (500VDC insulation resistance			
Weight 0.65kg  External connection system 50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m) Applicable solderless terminal: 2 or less  Module mounting screw M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  PR1.25-3.5 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] PRAV2-3.5 (compliant with JIS C 2805) [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper			·				
External connection system  50-point terminal block  [Transmission circuit, module power supply, FG, I/O power supply, I/O signal]  M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m)  Applicable solderless terminal: 2 or less  Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  • R1.25-3.5 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper		ee					
[Transmission circuit, module power supply, FG, I/O power supply, I/O signal]  M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m)  Applicable solderless terminal: 2 or less  Module mounting screw  M4 screw with plain washer finished round (tightening torque range: 0.78 to 1.08N•m)  • R1.25-3.5 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper			<u> </u>				-22011
Applicable solderless terminal  • R1.25-3.5 (compliant with JIS C 2805)  [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper	[Transmission circuit, module M3.5×7 screw (tightening torq			e range: 0.68 to 0		ipply, I/O signal]	
[Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire]  • RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire  Material  Copper	Module mountii	ng screw	M4 screw with plain washer finis	shed round (tight	ening torque	range: 0.78 to 1.08N•m)	
• RAV2-3.5 (compliant with JIS C 2805)  [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper	Applicable sold	erless terminal	• R1.25-3.5 (compliant with JIS	C 2805)	<u></u>		
[Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]  Wire Material Copper	[Applicable wire size: 0.3 to 1			25mm <sup>2</sup> (22 to 16	AWG) strand	ded wire]	
Wire Material Copper			, ,	,			
1770		T	[Applicable wire size: 1.25 to 2	2.0mm <sup>2</sup> (16 to 14	AWG) strand	ded wire]	_
Temperature   75°C or more	Wire						_
rating		-	/5°C or more				
Accessory User's manual	Accessory		User's manual				
Part sold separately A6DIN1C, A2CCOM-TB	Part sold separ	ately	A6DIN1C, A2CCOM-TB				

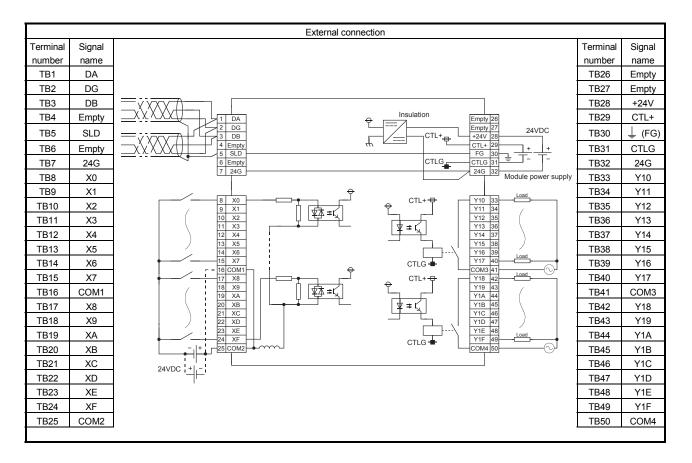
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



### 6.1.21 AJ65DBTB1-32DR combined module

	Туре			DC input	t contact out	put combined module		
Item			Appearance					
		Input			Oı	utput		
Number of i	nput points	16 points	Numb	er of output poin	its	16 points		
Isolation me	ethod	Photocoupler	Isolati	on method		Photocoupler		
Rated input	voltage	24VDC	Rated	I load voltage		2A/point, 4A/common (2A/terminal) at 24VDC (resistive load) or 240VAC (cos		
Rated input	current	Approx. 5mA	Min. s	witching load		5VDC, 1mA		
Operating v range	oltage	20.4 to 31.2VDC (ripple ratio: within 5%)	Max. switching voltage			264VAC, 125VDC		
Max. number simultaneou points		100% (at 26.4VDC)	Mechanical			20 million times or more		
	ON current	15VDC or higher/3mA or higher	Life	ife Electrical		Electrical 100 thousand times or more 200VAC 1A, 240VAC 0.5A (cos¢=0.35):		MENSE AJ6508TB1-32DR  TO DE DE DE DE DE DE DE DE DE DE DE DE DE
OFF voltage current	e/OFF	5\/DC or lower/1.5mA or				3600 times/hour	8 RATE OF CHARLES	
Input resista	ance	Approx. 4.7kΩ	Respo	onse time	OFF→ON	10ms or less	DA NC NC	
Response	OFF→ON	10ms or less (at 24VDC)			ON→OFF	12ms or less	DB +24V	
time	ON→OFF	10ms or less (at 24VDC)	supply	nal power y for output part r and CTLG	Voltage	24VDC ±10% (ripple ratio: 4Vp-p or lower) 90mA or lower	NC SLD	
			termir		Current	(at 24VDC and all points ON)	X0 Y11 Y10	
Wiring meth common	nod for	16 points/common (2 points) (1-wire, terminal block type)		g method for com	nmon	8 points/common (1-wire, terminal block type)	712 713 714 715	
Input type		Positive/negative common shared type (sink/source shared type)	Surge	suppressor		None	X5 Y16 Y17 COM3 Y18 Y18	
Number of o	occupied	32-point assignment/station (3		<u> </u>			XA	
Module	Voltage	20.4 to 26.4VDC (ripple ratio:					XD XD Y1E Y1D	
power supp	ly Current	60mA or lower (at 24VDC and		· · · · · · · · · · · · · · · · · · ·			XF COM4 Y1F	
Noise immu	ınity	Noise voltage: 1500Vp-p (AC noise frequency 25 to 60Hz (r	noise si	imulator condition	n) ์	•	A35508181	
Withstand v	roltage	1500VAC for 1 minute between 500VAC for 1 minute between	all DC	external terminates	als and grou	nd		
Insulation re						00VDC insulation resistance tester) 00VDC insulation resistance tester)		
Protection of	legree	IP1X					-	
Weight 0.65kg  External connection system 50-point terminal block [Transmission circuit, module power supply, FG, I/O power supply, I/O signal] M3.5×7 screw (tightening torque range: 0.68 to 0.92N•m) Applicable solderless terminal: 2 or less						-		
Module mou	unting screw	M4 screw with plain washer fi	]					
Applicable s terminal	R1.25-3.5 (compliant with JIS C 2805)  Applicable solderless terminal     RAV2-3.5 (compliant with JIS C 2805)     RAV2-3.5 (compliant with JIS C 2805)     [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]							
Wire	Material	Copper		,				
l	Temperature rating	75°C or more						
Accessory		User's manual					4	
Part sold se	Part sold separately A6DIN1C, A2CCOM-TB							

<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

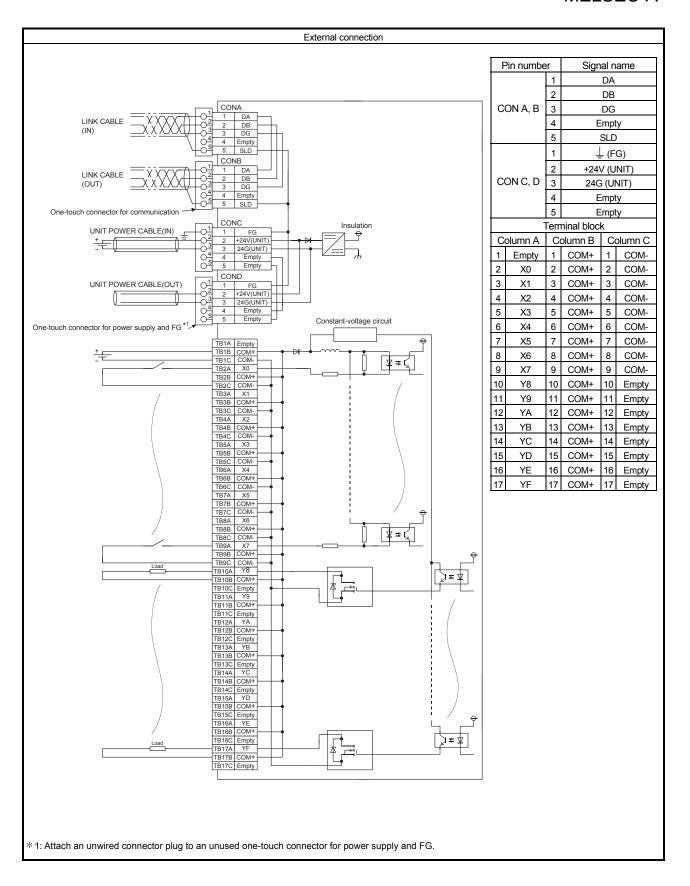


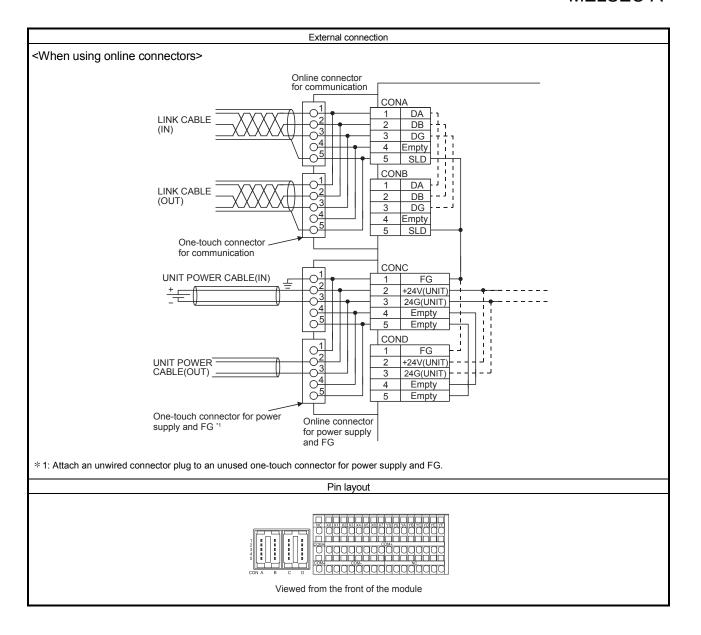
# 6.2 Spring Clamp Terminal Block Type Combined Module

# 6.2.1 AJ65VBTS32-16DT combined module

Appearance   Input   Number of roughup points   Sprints   Number of coughup points   Sprints   Number of coughup points   Sprints   Sprints   Number of surput points   Sprints	Тур		DC	input transisto	or output combined module		
Number of Imput points Seatlation method Photocoupler Seatland input points Seatland method Photocoupler Rated input voltage Rated voltage R	Item	· yp				o. os.pat oomomoa modulo	Appearance
Mack common (Sink Sype)   Mack load current   Mack load current   Mack load current		Ir				Output	
Rated input current Approx. 6 FinA Operating voltage range (p2 to 26 AVDC (ripple ratio: within 5%) Approx. 4 FixO Operating voltage range (p2 to 26 AVDC (ripple ratio: within 5%) Max. load current 1.0A, 10 ms or less input points  Max. mursbe or simultaneous input points  Max. mursbe or simultaneous on voltage ON ourrent hybPC or higher3.5 mA or higher Figure resistance OFF-ON 1.5 ms or less (et 24VDC) On voltage ON ourrent OFF voltage.0FF current OFF-ON 1.5 ms or less (et 24VDC) On-OFF 1.5 ms or less (et 24VDC) On-OFF 1.5 ms or less (et 24VDC) On overt supply current for connected device  Display current for connected device On-OFF 1.5 ms or less (et 24VDC) On voltage On ourrent On over supply current for connected device On overt Supply current for connected device Ourrent On overt Ourrent On overt Ourrent On overt Ourrent On overt Ourrent On overt Ourrent On overt Ourrent On overt Ourrent On overt Ourrent Our			•		<u> </u>		
Rated Input current Approx. SmA Operating voltage range (pperating voltage range) (pperating voltage range) (pperating voltage range) (pperating voltage)		·					
Name of notice for common (sink type)  Supply ourrent for connected device  Positive common (sink type)  Number of occupied stations  Writing method for common (mout 3-wire spring damp terminal block type)  Supply ourrent for connected device  Owner of spring samp stations and spring send send send send send send send send	Rated input v	oltage	24VDC				
Max. number of simulation	Rated input c	urrent			ad voltage		
Max. Innush current   1.0.0, 10ms or less	Operating vol	tage range		Max. load cu	ırrent	0.5A/point, 4A/common	
Lackage current of OFF volage(OFF current of OFF volage(OFF current of OFF volage(OFF current of OFF volage(OFF current of OFF volage(OFF current of OFF volage(OFF current of OFF volage (OFF volage of OFF volag	Max. number input points	of simultaneous	100%	Max. inrush	current	1.0A, 10ms or less	
Input resistance   Approx. 4.7k:0   OFF—ON   1.5ms or less (at 24VDC)   Output type   Sink type   ON—OFF   1.5ms or less (at 24VDC)   Protection function   None   Response   Imput type   Sink type   ON—OFF   1.5ms or less (at 24VDC)   Protection function   None   Response   Imput type   Sink type   Voltage   Imput type   Supply for output part   Voltage (ripple ratio: within 5%)   Imput type   Positive common (sink type)   Surge suppressor   Zener diode   Imput type   Supply common (sink type)   Surge suppressor   Zener diode   Imput type   Supply common (sink type)   Surge suppressor   Zener diode   Imput type   Supply common (sink type)   Surge suppressor   Zener diode   Imput type   Supply common (sink type)   Surge suppressor   Zener diode   Imput type   Supply common (sink type)   Surge suppressor   Zener diode   Imput type   Supply common (sink type)   Surge suppressor   Zener diode   Imput type   Supply common (sink type)   Surge suppressor   Zener diode   Imput type   Supply supply   Surge suppressor   Zener diode   Imput type   Imput type   Supply supply   Surge suppressor   Zener diode   Imput type   Imput type   Supply supply   Surge suppressor   Zener diode   Imput type    ON voltage/O	N current	_	Leakage cur	rent at OFF	0.1mA or lower		
Input resistance			6VDC or lower/1.7mA or lower		1	0.3VDC or lower (TYP.) 0.5A,	
Protection function   None   Response   Re	Input resistan	ice	Approx. 4.7kΩ	Max. voltage	e drop at ON	* * *	
CN-JOFF   15ms or less (at 24/UC)   Protection leading in the content of the co	D	OFF→ON	1.5ms or less (at 24VDC)	Output type		Sink type	
time	Response un	ON→OFF	1.5ms or less (at 24VDC)	Protection fu	ınction	None	
External power supply for output part vipe and power supply and power supply and power supply and part of power supply and part on the power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and part of power supply and power				Response	OFF→ON	1ms or less	
External power supply for current of connected device   Positive common (sink type)   Surge suppressor   Zener diode   (at 24VDC and all points ON), excluding extenal load current   24 evice of current   24 evice of current   24 evice of current   25 evice of current   26 evice of cu				time	ON→OFF	,	
Imput type				External	Voltage		
Supply for output part   Current   Contract				Vollage	(ripple ratio: within 5%)		
Output part   Current							
Input type  Positive common (sink type) Surge suppressor  Zener diode  Very and the principle of the point supply current for connected device  Wiring method for common  Number of occupied stations  Module power Voltage Supply Current  Amn or lower (at 24VDC and all points ON)  Noise immunity Noise immunity Noise insulation resistance Insulation resistance Insulation resistance External Communication System  Power supply part  Communication System  Power supply part  Connector for comnector for communication (Transmission circuit) Spin IDC plug is sold separately: A6CON-PWSP-SOD  Optional Pointine connector for power supply; A6CON-PWSP-SOD  Optional Pointine connector for power supply; No Signals)  Applicable DIN rail  Connector for communication  Connector for communication					Current		
Supply current for connected device  1.0A or lower/common  16 points/common (input: 3-wire spring clamp terminal block type) (wiring method for common) Number of occupied stations  Module power Supply  20.4 to 26.4VDC (ripple ratio: within 5%) Supply Current  40mA or lower (at 24VDC and all points Units) Noise immunity  Noise immunity  Noise of spring 500VPA, noise frequency 25 to 60Hz (DC type noise simulator condition) Nithstand voltage 500VAC for 1 minute between all DC external terminals and ground (500VDC insulation resistance tester)  Protection degree			T=			-	
device   1.0A or lower/common   1.0B points/common   16 points/common			Positive common (sink type)	Surge suppr	essor	Zener diode	
Number of occupied stations  32-point assignment/station (16 points used)  Module power   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4 vDC (ripp	Supply currer device	nt for connected	1.0A or lower/common				
Number of occupied stations  32-point assignment/station (16 points used)  Module power   Voltage   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4VDC (ripple ratio: within 5%)   20.4 to 26.4 vDC (ripp	Wiring metho	d for common					
Noise immunity  Noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  Insulation resistance  Insulation resista	(input: 3-wire spring clamp terminal block type, output: 2-wire spring clamp terminal block type)						
Noise immunity  Noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  Insulation resistance  Insulation resista							
Noise immunity  Noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  Insulation resistance  Insulation resista							
Noise immunity  Noise frequency 25 to 60Hz (DC type noise simulator condition)  Withstand voltage  500VAC for 1 minute between all DC external terminals and ground  Insulation resistance  Insulation resista	supply	Current	,				
Withstand voltage Insulation resistance Insulation Insu	Noise immuni	itv					
Insulation resistance    10MΩ or higher between all DC external terminals and ground (500VDC insulation resistance tester)			· · · · · ·			•	
Insulation resistance Itester)  Protection degree IP1XB Weight  Communication part Communication part One-touch connector for communication [Transmission circuit] Spin IDC plug is sold separately: A6CON-L5P Optionals Online connector for communication: A6CON-LJ5P One-touch connector for power supply, FG] Spin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for power supply, FG] Spin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for power supply: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for power supply and FG [Module power supply, FG] Spin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for power supply and FG [Module power supply, FG] Spin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for power supply and FG [Module power supply, FG] Spin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for power supply and FG [Module power supply, FG] Spin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P, A6CON-PW5P-SOD One-touch connector for communication: A6CON-PW5P, A6CON-	Withstand vol	Itage					
Protection degree   IP1XB   Weight	Insulation res	istance	_	external term	inals and gro		
Communication part	Drotostian do	~~~	/				~0 uo
Communication part		gree					
External connection part   5-pin IDC plug is sold separately: A6CON-L5P	vveignt			iti IT		:41	OB O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
One-touch connector for power supply and FG [Module power supply, FG]  Power supply part    Do part   S-pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD			5-pin IDC plug is sold separately	y: A6CON-L5	Р	•	0.000(8 ± ≤ 1 ± ≤ 1   1
Coptional> Online connector for power supply: A6CON-PWJ5P   I/O part   2-piece spring clamp terminal block [I/O power supply, I/O signals]	connection		<u> </u>				Representation of the second o
I/O part   2-piece spring clamp terminal block [I/O power supply, I/O signals]	system	Power supply par					
Applicable DIN rail  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  Applicable cable: FANC-110SBH, FA-CBL200PSBH, CS-110  Connector for power supply and FG  Applicable wire size  Applicable wire size  Applicable wire size:  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  Applicable Spring clamp terminal block for I/O  Applicable solderless terminal  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  Applicable solderless terminal  TH35-7.5Fe, TH35-7.5Al (compliant with IEC 60715)  Applicable solder on the spring spring with IEC 60715  Applicable wire supply and FG  Spring clamp terminal block for I/O  Applicable wire 0.08 to 1.5mm² (28 to 16 AWG) * 1  Wire strip length: 8 to 11mm  TE0.5 [Applicable wire size: 0.5mm²]  TE0.75 [Applicable wire size: 0.75mm²]  TE1.5 [Applicable wire size: 0.9 to 1.0mm²]  TE1.5 [Applicable wire size: 1.25 to 1.5mm²]  TGV TC1.25-97 [Applicable wire size: 0.3 to 1.65mm²]  TGWV TC1.25-79 [Applicable wire size: 0.3 to 1.65mm²]							
Connector for communication  Applicable FANC-110SBH, FA-CBL200PSBH, CS-110  Connector for power supply and FG  Applicable wire size  Applicable wire size  Applicable solderless terminal  Connector for power supply and FG  Applicable wire size: 0.16mm or more insulating coating material: PVC (heat-resistant)  Stranded wire 0.08 to 1.5mm² (28 to 16 AWG) * 1  Wire strip length: 8 to 11mm  TE0.5 [Applicable wire size: 0.5mm²]  TE0.75 [Applicable wire size: 0.75mm²]  TE1.5 [Applicable wire size: 0.9 to 1.0mm²]  TE1.5 [Applicable wire size: 0.3 to 1.65mm²]  TGV TC1.25-97 [Applicable wire size: 0.3 to 1.65mm²]						signals]	
communication  Connector for power supply and FG  Applicable wire size  Applicable solderless terminal  Communication  FANC-110SBH, FA-CBL200PSBH, CS-110  0.66 to 0.98mm² (18 AWG)  [\$\phi_{2.2}\$ to 3.0mm (A6CON-PW5P), \$\phi_{2.0}\$ to 2.3mm (A6CON-PW5P-SOD)]  Wire diameter: 0.16mm or more Insulating coating material: PVC (heat-resistant)  Stranded wire 0.08 to 1.5mm² (28 to 16 AWG) * 1  Wire strip length: 8 to 11mm  TE0.5 [Applicable wire size: 0.5mm²]  TE0.75 [Applicable wire size: 0.75mm²]  TE1.5 [Applicable wire size: 0.9 to 1.0mm²]  TE1.5 [Applicable wire size: 0.3 to 1.65mm²]  TGV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]				liant with IEC	60715)		
Connector for power supply and FG  Applicable wire size  Applicable solderless terminal  Connector for power supply and FG  Applicable wire 1.25 (Applicable wire size: 0.5mm²)  TE0.5 [Applicable wire size: 0.9 to 1.0mm²)  TE1.5 [Applicable wire size: 0.9 to 1.0mm²]  TE1.5 [Applicable wire size: 0.3 to 1.65mm²]  TGV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]				DI 60 :::			
Connector for power supply and FG  Applicable wire size  Applicable solderless terminal  Applicable solder 1 Test (Applicable wire size: 0.9 to 1.0mm²) Test (Applicable wire size: 0.3 to 1.65mm²)		communication		вн, CS-110			
Applicable wire size  Applicable wire size  Applicable solderless terminal  Applicable solder 1 Teurnian 1 Teu		Connector for	,	V 10 0 += 0 0	am (ACOON! "	DIMED CODY	
Applicable wire size  Applicable wire size  Applicable solderless terminal  FG				· · · ·	шп (AbCON-l	~vvoP-80D)]	
Applicable wire size  Spring clamp terminal block for I/O  Applicable solderless terminal  TE0.5 [Applicable wire size: 0.5mm²]  TE1.5 [Applicable wire size: 0.9 to 1.0mm²]  TE1.5 [Applicable wire size: 0.9 to 1.0mm²]  TE1.5 [Applicable wire size: 0.3 to 1.65mm²]  TGV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]					int)		
Applicable wire size terminal block for I/O  Applicable solderless terminal  TE1.5 [Applicable wire size: 0.5mm²]  TE1 [Applicable wire size: 0.9 to 1.0mm²]  TE1.5 [Applicable wire size: 0.9 to 1.5mm²]  TE1.5 [Applicable wire size: 0.3 to 1.65mm²]  TGV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]	Spring clamp						
Applicable solderless terminal  TE0.5 [Applicable wire size: 0.5mm²] TE1.75 [Applicable wire size: 0.75mm²] TE1 [Applicable wire size: 0.9 to 1.0mm²] TE1.5 [Applicable wire size: 1.25 to 1.5mm²] TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm²] TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]	terminal block for Wire strip length: 8 to 11mm						
Applicable solderless terminal  TE0.75 [Applicable wire size: 0.75mm²] TE1 [Applicable wire size: 0.9 to 1.0mm²] TE1.5 [Applicable wire size: 0.9 to 1.0mm²] TE1.5 [Applicable wire size: 0.10 to 1.05mm²] TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm²] TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]							
Applicable solderless terminal TE1 [Applicable wire size: 0.9 to 1.0mm²] TE1.5 [Applicable wire size: 1.25 to 1.5mm²] TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm²] TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]	TE0.75 [Applicable wire size: 0.75mm <sup>2</sup> ]						
terminal TE1.5 [Applicable wire size: 1.25 to 1.5mm²] TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm²] TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm²]	Applicable TE1 [Applicable wire size: 0.9 to 1.0mm <sup>2</sup> ]						
TGV TC1.25-9T [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ] TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ]							
TGWV TC1.25-T9 [Applicable wire size: 0.3 to 1.65mm <sup>2</sup> ]		terminal			1.65mm <sup>2</sup> ]		
Accessory User's manual, Holding fixtures for screw installation							
	Accessory		User's manual, Holding fixtures	for screw inst	allation		

st 1: Insert one wire per terminal.

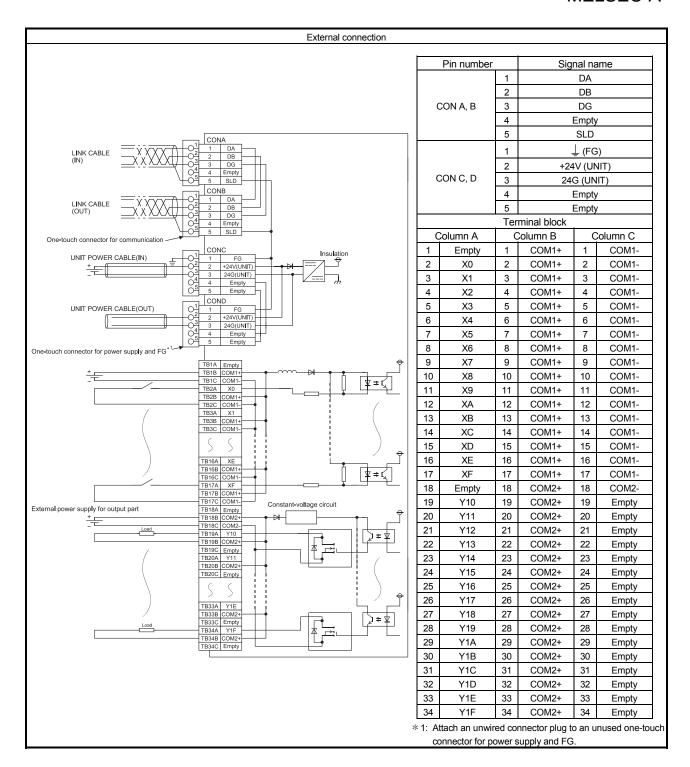


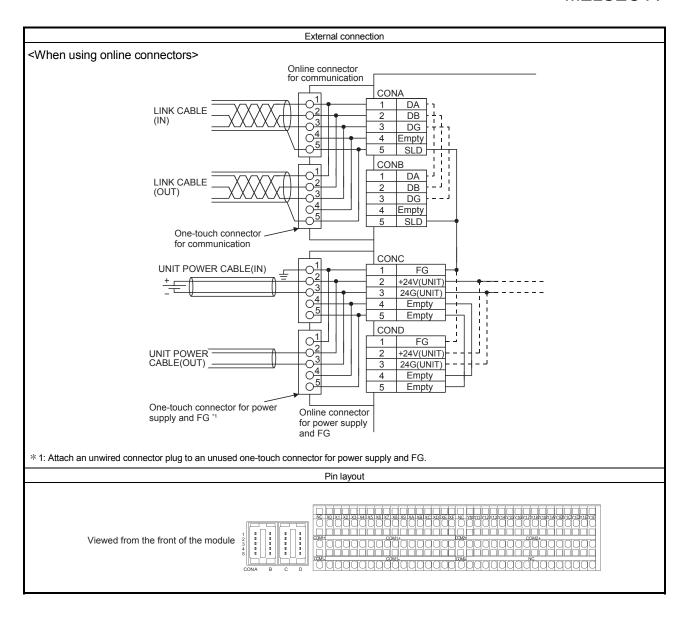


# 6.2.2 AJ65VBTS32-32DT combined module

	Туре		DC ing	out transistor	output combined module			
Item	,,,,		AJ65VBT	Appearance				
	In	put			Output			
Number of in	put points	16 points	Number of outp	ut points	16 points			
Isolation met	hod	Photocoupler	Isolation metho	d	Photocoupler			
Rated input v	/oltage	24VDC	Rated load volta	age	12/24VDC			
Rated input of	current	Approx. 5mA	Operating load range	voltage	10.2 to 26.4VDC (ripple ratio: within 5%)			
Operating vo	ltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load curre	nt	0.5A/point, 4A/common			
Max. number input points	r of simultaneous	100% or 75% (Refer to Section1.3.)	Max. inrush cur	rent	1.0A, 10ms or less			
ON voltage/0	ON current	14VDC or higher/3.5mA or higher	Leakage current at OFF 0.1mA or lower					
OFF voltage/ Input resistar		6VDC or lower/1.7mA or lower Approx. 4.7kΩ	Max. voltage dr	op at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A			
	OFF→ON	1.5ms or less (at 24VDC)	Output type		Sink type			
Response tin	ne ON→OFF	1.5ms or less (at 24VDC)	Protection funct	tion	None			
	1.	,		OFF→ON	1ms or less			
			Response time	ON→OFF	1ms or less (resistive load)			
				V ( - 11	10.2 to 26.4VDC			
			External power	Voltage	(ripple ratio: within 5%)			
			supply for		30mA or lower			
			output part	Current	(at 24VDC and all points ON),			
		T			excluding external load current			
		16 points/common		_	16 points/common			
Wiring metho	od for common	(3-wire, spring clamp terminal	Wiring method t	for common	(2-wire, spring clamp terminal block			
		block type)			type)			
Input type		Positive common (sink type)	Surge suppress	sor	Zener diode			
Supply current for connected device 1.0A or lower/common					Alesynen			
	ccupied stations	32-point assignment/station (32				<u> </u>		
Module power		20.4 to 26.4VDC (ripple ratio: wi						
supply	Current	50mA or lower (at 24VDC and a						
Noise immur	nity	Noise voltage 500Vp-p, noise wi		latar aanditic	· · · ·			
\\/ithatand.va	Itaaa	noise frequency 25 to 60Hz (DC 500VAC for 1 minute between a			•			
Withstand vo	illage				d (500VDC insulation resistance			
Insulation res	sistance	tester)	external termina	is and groun	d (300 v DC institution resistance			
Protection de	egree	IP1XB						
Weight	9	0.41kg						
		One-touch connector for commu	inication (Transm	nission circui	t1			
	Communication	5-pin IDC plug is sold separately	•		•			
External	part	<optional> Online connector for</optional>	communication:	A6CON-LJ	5P	1 181 181		
connection	Power supply	One-touch connector for power :				\ \ \cdots_0=====		
system	part	5-pin IDC plug is sold separately				00000000000000000000000000000000000000		
		<optional> Online connector for</optional>						
Applicate 5	I/O part	2-piece spring clamp terminal bl			jnaisj	NO 00 0   NO NOTICE   NO NO   NO NOTICE   NO NO   NO NOTICE   NO NO   NO NOTICE   NO NO   NO NO   NO NOTICE   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO   NO NO NO   NO NO NO NO NO NO NO NO NO NO NO NO NO		
Applicable D		TH35-7.5Fe, TH35-7.5Al (compl	iant with IEC 60	( 15)				
	Connector for communication	Applicable cable: FANC-110SBH, FA-CBL200PSI	RH CS-110			<u> </u>		
		0.66 to 0.98mm <sup>2</sup> (18 AWG)	Ji i, 00-110					
	Connector for	[\phi 2.2 to 3.0mm (A6CON-PW5P)	. φ2.0 to 2.3mm	(A6CON-PV	/5P-SOD)]			
	power supply							
	and FG	Insulating coating material: PVC						
Applicable wire size	Spring clamp terminal block for I/O	Stranded wire 0.08 to 1.5mm² (28 to 16 AWG) * 1 Wire strip length: 8 to 11mm						
		TE0.5 [Applicable wire size: 0.5r	nm²]					
	Applicable	TE0.75 [Applicable wire size: 0.7	75mm²]					
	solderless	TE1 [Applicable wire size: 0.9 to	•					
	terminal	TE1.5 [Applicable wire size: 1.25	•	- 2-				
		TGV TC1.25-9T [Applicable wire		• •				
Λοοοοσοπ <i>ι</i>		TGWV TC1.25-T9 [Applicable w User's manual, Holding fixtures in the control of th				╡		
Accessory								

st 1: Insert one wire per terminal.



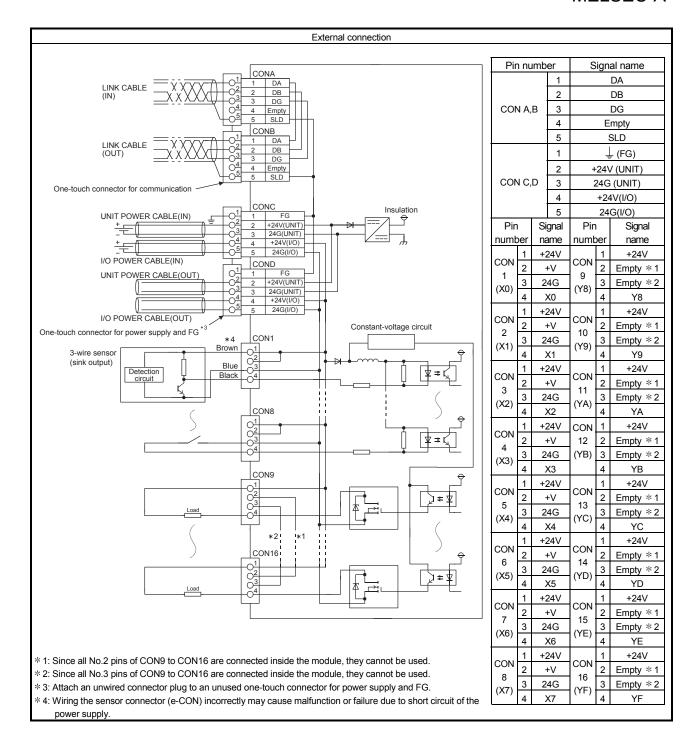


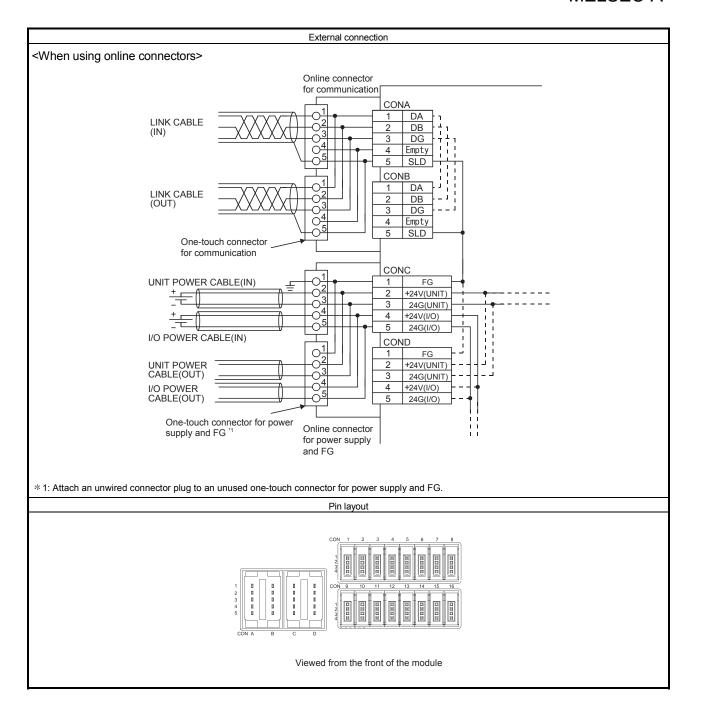
# 6.3 Sensor Connector (e-CON) Type Combined Module

# 6.3.1 AJ65VBTCE32-16DT combined module

	Τι	ne	DC	innut transist	or output combined module	
Item	1)	pe		input transisto CE32-16DT	or output combined module	Appearance
		nput			Output	
Number of in	nput points	8 points	Number of output	t points	8 points	
Isolation me	thod	Photocoupler	Isolation method		Photocoupler	
Rated input	voltage	24VDC	Rated load voltage	ge	24VDC	
Rated input	current	Approx. 5mA	Operating load v	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	
Operating vo	oltage range	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.1A/point, 0.8A/common	
Max. number input points	er of simultaneo	100%	Max. inrush curre	ent	0.7A, 10ms or less	
ON voltage/	ON voltage/ON current 14VDC or high higher		Leakage current	at OFF	0.1mA or lower	
OFF voltage	e/OFF current	6VDC or lower/1.7mA or lower	Max. voltage dro	p at ON	0.1VDC or lower (TYP.) 0.1A,	
Input resista	ince	Approx. 4.7kΩ			0.2VDC or lower (MAX.) 0.1A	
	OFF→ON	1.5ms or less (at 24VDC)	Output type		Sink type	
Response ti	me ON→OFF	1.5ms or less (at 24VDC)	Protection function	on	Overload protection, overvoltage protection, overheat protection	
	•	- 1		OFF→ON	1ms or less	
			Response time	ON→OFF	1ms or less (resistive load)	
				Voltage	19.2 to 26.4VDC	
			External power	_	(ripple ratio: within 5%)	CC.
			supply for output		5mA or lower	
			part	Current	(at 24VDC and all points ON),	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Input type		Positive common (sink type)	Surge suppresso	nr.	excluding external load current Zener diode	200000000000000000000000000000000000000
	ent for connecte	1	Ourge suppresso	Л	Zeriei diode	
device	5.11 101 00111.0010	1.0A or lower/common				- COOOO
Wiring meth	od for common	16 points/common				
		· ·		output: 2-wire	e sensor connector (e-CON) type)	
1	occupied station	<u> </u>	` ' '			~0~0
Module pow		20.4 to 26.4VDC (ripple ratio				0 40 00 00 00 00 00 00 00 00 00 00 00 00
supply	Current	40mA or lower (at 24VDC ar Noise voltage 500Vp-p, nois				1
Noise immu	nity	noise frequency 25 to 60Hz	•	nulator condit	tion)	8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Withstand vo	oltage	500VAC for 1 minute between			•	M (seconda 5.2 (b.5.1)
Insulation re	oiotonoo	10M $\Omega$ or higher between all	DC external termi	nals and grou	und (500VDC insulation resistance	
insulation re	sistance	tester)				
Protection d	egree	IP1XB				
Weight		0.11kg				
	Communication	One-touch connector for cor 5-pin IDC plug is sold separa	-		uitj	
External	part	Sold separation of the connection of the conn	,		J5P	
connection					ver supply, I/O power supply, FG]	
	Power supply p	art 5-pin IDC plug is sold separa				
		<optional> Online connecto</optional>	r for power supply	: A6CON-PW	/J5P	
	I/O part	Sensor connector (e-CON) [ TH35-7.5Fe, TH35-7.5Al (co			old separately. * 1	
Applicable D						
	Connector for	Applicable cable:	DODU 60 446			
<del> </del>	communication	FANC-110SBH, FA-CBL200	говн, CS-110			
	Connector for	0.66 to 0.98mm <sup>2</sup> (18 AWG) (\$\phi\$2.2 to 3.0mm (A6CON-PW)	/5P) #2 0 to 2 3m	W5P-SOD)I		
	power supply a	Wire diameter: 0.16mm or m	** *	(1.0001 <b>1-</b> F		
wire size	FG	Insulating coating material: F		nt)		
<b> </b>		Sensor connector (e-CON).				
1	Connector for I/	Applicable connector plugs a				
		(applicable wire size: 0.08 to User's manual, Holding fixtu			nnector plug)	
Accessory						

<sup>\* 1:</sup> Refer to Section 1.6.2 for details.

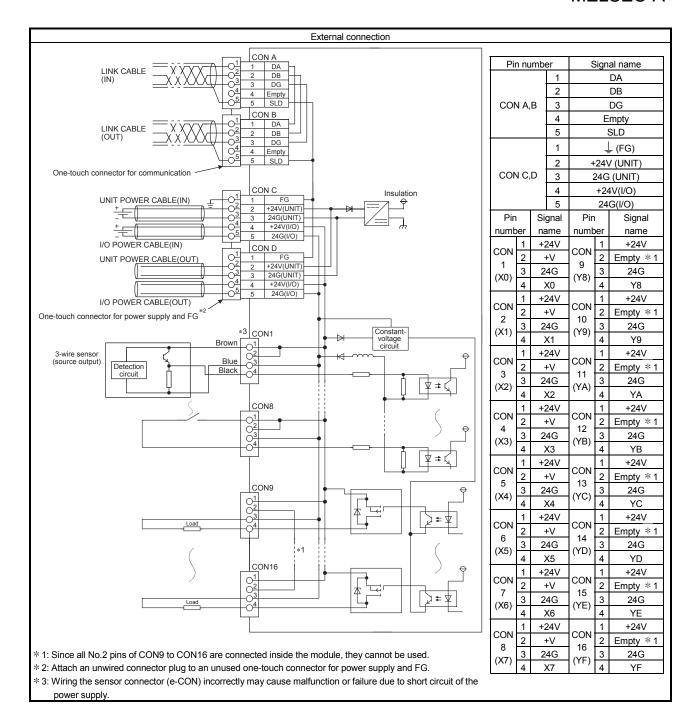


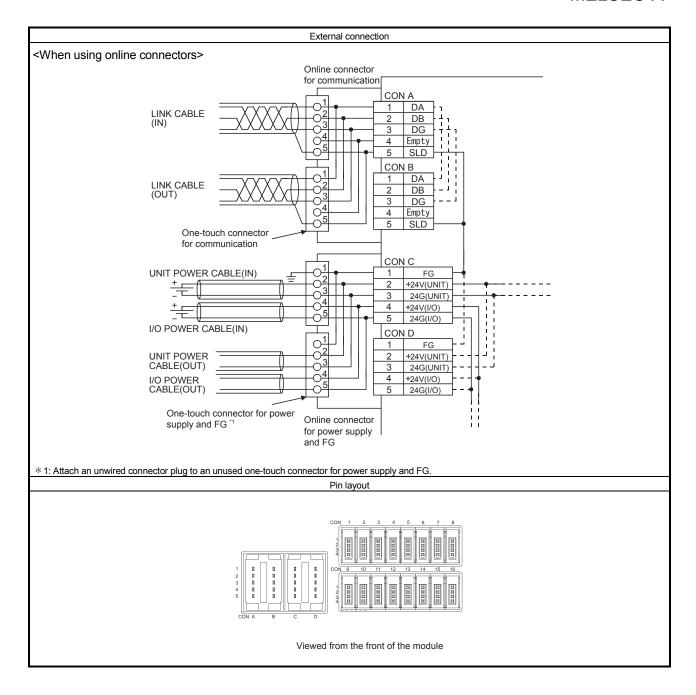


# 6.3.2 AJ65VBTCE3-16DTE combined module

		T		DC :	nnut transist	or output combined medule	
Item	_	Туре			nput transisto CE3-16DTE	or output combined module	Annearance
		Inni	ıt	A)02/RI(		Dutput	Appearance
Number of i	innut r	Inpu noints	8 points	Number of output		8 points	- I
Isolation me		JOHNS	Photocoupler	Isolation method	t points	Photocoupler	1
Rated input		ae	24VDC	Rated load voltage	ie	24VDC	
	,			_		19.2 to 26.4VDC	1
Rated input	t curre	nt	Approx. 5mA	Operating load vo	oltage range	(ripple ratio: within 5%)	
Operating v			19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.1A/point, 0.8A/common	
Max. number input points		imultaneous	100%	Max. inrush curre	ent	0.7A, 10ms or less	
ON voltage/ON current higher		_ <b>v</b>	Leakage current	at OFF	0.1mA or lower		
OFF voltage/OFF current		current	6VDC or lower/1.7mA or lower	Max. voltage dro	p at ON	0.1VDC or lower (TYP.) 0.1A,	
Input resista	ance		Approx. 4.7kΩ			0.2VDC or lower (MAX.) 0.1A	
		OFF→ON	1.5ms or less (at 24VDC)	Output type		Source type	
Response to	time	ON→OFF	1.5ms or less (at 24VDC)	Protection function	n	Overload protection, overheat protection	
					OFF→ON	1ms or less	
				Response time	ON→OFF	1ms or less (resistive load)	
				External power	Voltage	19.2 to 26.4VDC (ripple ratio: within 5%)	
				supply for output		7mA or lower	CCLimx
				part	Current	(at 24VDC and all points ON), excluding external load current	
Input type Negative common (source type) Surge suppressor Zener diode					A A MINES A MI		
Supply curre	ent fo	r connected	1.0A or lower/common				9 HHEEL - HHEEL A
Wiring meth	nod foi	r common	16 points/common	tor (e-CON) type	outout: 3-wire	e sensor connector (e-CON) type)	
Number of o	occup	ied stations	32-point assignment/station		output. o wiit	s sensor connector (c con) type)	
Module pow		Voltage	20.4 to 26.4VDC (ripple ratio				
supply		Current	40mA or lower (at 24VDC ar	•			
			Noise voltage 500Vp-p, noise				W 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Noise immu	unity		noise frequency 25 to 60Hz	DC type noise sin	nulator condit	ion)	ON NOTIFICATION OF THE STATE OF
Withstand v	/oltage	Э	500VAC for 1 minute between	en all DC external	terminals and	l ground	
Insulation re	esistar	nce	10M $\Omega$ or higher between all tester)	DC external termir	nals and grou	and (500VDC insulation resistance	
Protection of	degree	)	IP1XB				
Weight			0.11kg				
<b>.</b>	Comr part	munication	One-touch connector for con 5-pin IDC plug is sold separa	itely: A6CON-L5P		-	
External connection	<del>                                     </del>		Optional> Online connector One-touch connector for now			ver supply, I/O power supply, FG]	<del> </del>
system	Powe	er supply part	5-pin IDC plug is sold separa	tely: A6CON-PW	5P, A6CON-F	PW5P-SOD	
<optional> Online connector for power supply: A6CON-PWJ5P I/O part Sensor connector (e-CON) [I/O signals] 4-pin IDC plug is sold separately. * 1</optional>							
Applicable [			TH35-7.5Fe, TH35-7.5AI (co	100 mm /	1		
		ector for	Applicable cable:		1		
		nunication					
	Conn	ector for	0.66 to 0.98mm <sup>2</sup> (18 AWG)	WED CODY			
Applicable		er supply and	[φ2.2 to 3.0mm (A6CON-PW	vvor-50D)]			
wire size	FG		Wire diameter: 0.16mm or m Insulating coating material: F				
	<del>                                     </del>		Sensor connector (e-CON).	VO (HEAL-TESISIAIT	4		
	Conn	ector for I/O	Applicable connector plugs a	re sold separately	·. * 1		
			nector plug)				
Accessory			User's manual, Holding fixtur				

<sup>\* 1:</sup> Refer to Section 1.6.2 for details.

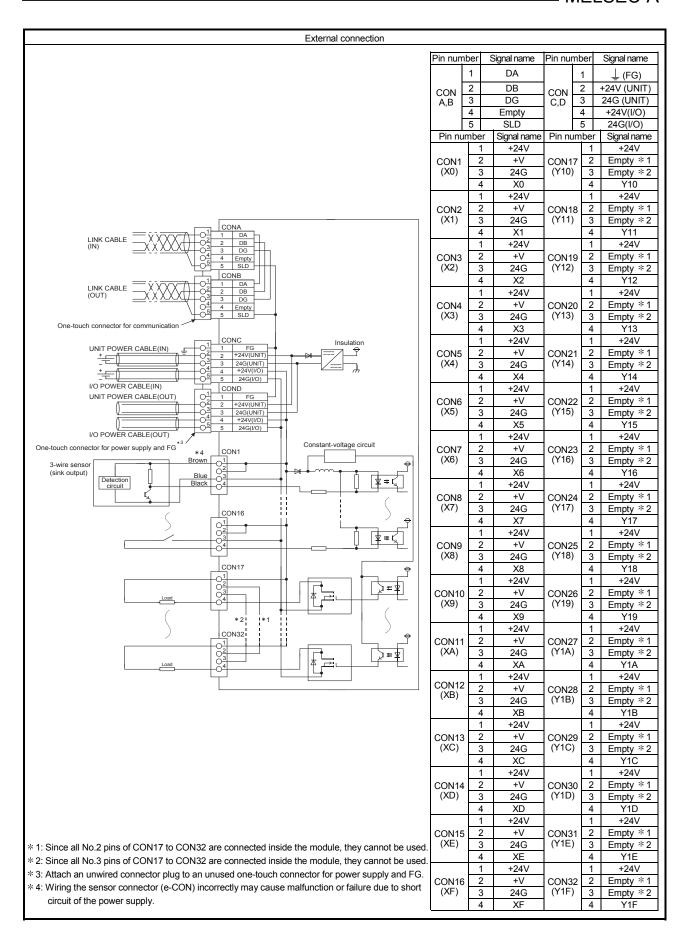


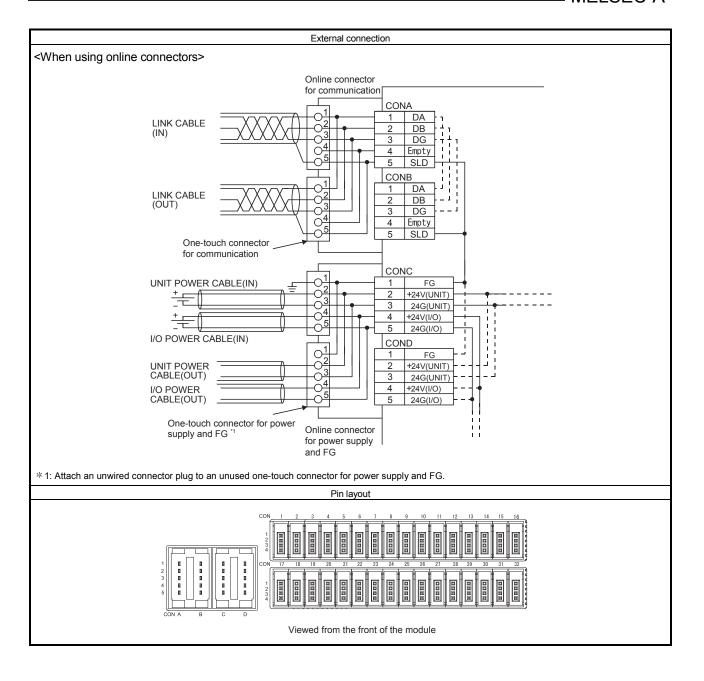


# 6.3.3 AJ65VBTCE32-32DT combined module

Туре							
Item			Appearance				
		Input			Output		
Number of input points		16 points		output points	16 points		
Isolation me		Photocoupler	Isolation method		Photocoupler		
Rated input voltage		24VDC	Rated load voltage		24VDC		
Rated input current		Approx. 5mA	Operating load voltage range		19.2 to 26.4VDC (ripple ratio: within 5%)		
Operating voltage range		19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.1A/point, 1.6A/common		
Max. number of simultaneous input points		100%	Max. inrush current		0.7A, 10ms or less		
ON voltage/ON current		14VDC or higher/3.5mA or higher	Leakage current at OFF		0.1mA or lower		
	e/OFF current	6VDC or lower/1.7mA or lower	Max. voltage drop at ON		0.1VDC or lower (TYP.) 0.1A,		
Input resista		Approx. 4.7kΩ	• .		0.2VDC or lower (MAX.) 0.1A		
Response	OFF→ON	1.5ms or less (at 24VDC)	Output type		Sink type		
time	ON→OFF	1.5ms or less (at 24VDC)	Protection function		Overload protection, overvoltage protection, overheat protection		
			Response	OFF→ON	1ms or less		
			time	ON→OFF	1ms or less (resistive load)		
			External	Voltage	19.2 to 26.4VDC		
			power		(ripple ratio: within 5%) 10mA or lower		
			supply for output part	Current	(at 24VDC and all points ON),		
Input type		Positive common (sink type)	Surge suppressor		excluding external load current Zener diode		
Input type Supply current for connected		1.0A or lower/common	ourge supp				
device			200   100				
Wiring meth	od for common	32 points/common (input: 3-wire sensor connector (e	A A BEEFE S				
Number of o	occupied stations	32-point assignment/station (32 p					
Module power Voltage		20.4 to 26.4VDC (ripple ratio: with					
supply	Current	45mA or lower (at 24VDC and all					
Noise immu	ınity	Noise voltage 500Vp-p, noise wic					
		noise frequency 25 to 60Hz (DC t					
Withstand v	oltage	500VAC for 1 minute between all					
Insulation re	esistance	10M $\Omega$ or higher between all DC ε tester)	~00				
Protection d	learee	IP1XB					
Weight	.03.00	0.16kg	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
g		One-touch connector for commur					
	Communication	5-pin IDC plug is sold separately:					
	part	<optional> Online connector for o</optional>					
External	D	One-touch connector for power s	$(\bigcirc)$				
	Power supply	[Module power supply, I/O power					
system	part	<ul><li>Optional&gt; Online connector for p</li></ul>	A6CON-PW5P, A6CON-PW5P-SOD				
ŀ	I/O nort	Sensor connector (e-CON) [I/O si		<del></del>	†		
	I/O part	4-pin IDC plug is sold separately.					
Applicable [		TH35-7.5Fe, TH35-7.5Al (complia					
	Connector for communication	Applicable cable: FANC-110SBH, FA-CBL200PSB					
	Connector for	0.66 to 0.98mm <sup>2</sup> (18 AWG)					
	power supply	[φ2.2 to 3.0mm (A6CON-PW5P),					
	and FG	Wire diameter: 0.16mm or more					
		Insulating coating material: PVC ( Sensor connector (e-CON).	+				
	Connector for	Applicable connector plugs are so					
	I/O		m <sup>2</sup> , depending on the connector plug)				
Accessory		User's manual, Holding fixtures for	†				

 $<sup>\</sup>ensuremath{\ast}$  1: Refer to Section 1.6.2 for details.

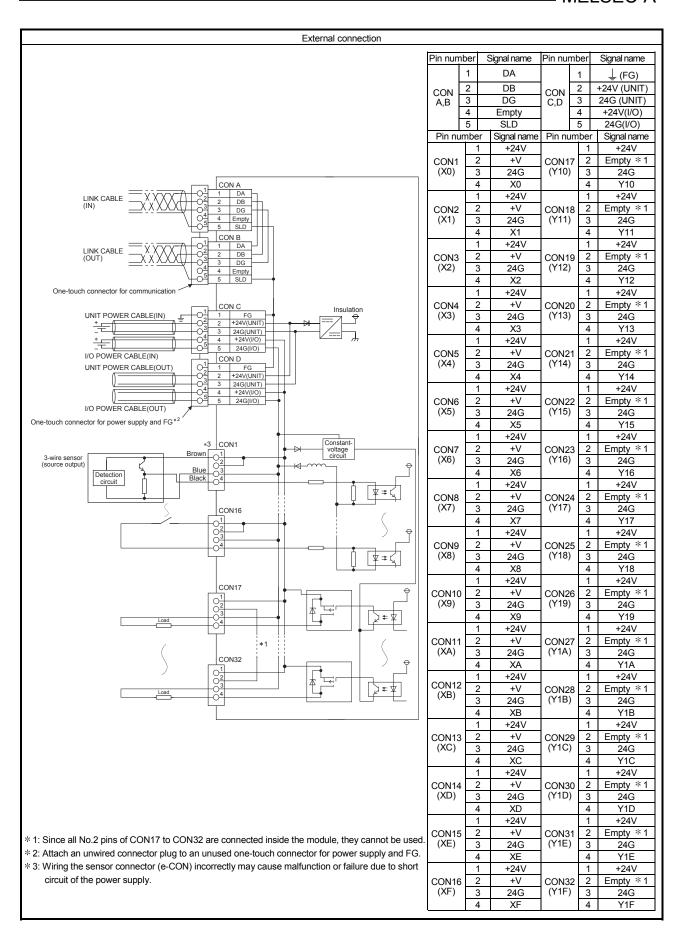


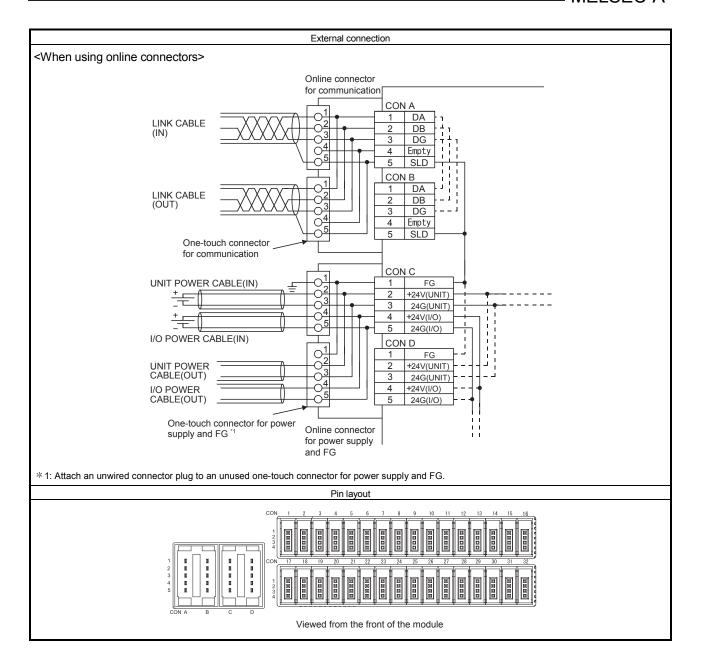


# 6.3.4 AJ65VBTCE3-32DTE combined module

	Туре		DC	input transist	or output combined module		
Item			Appearance				
		Input			Output		
Number of input points		16 points	Number of o	output points	16 points	<u>_</u>	
Isolation method		Photocoupler	Isolation method		Photocoupler	<u> </u>	
Rated input voltage		24VDC	Rated load voltage		24VDC		
Rated input current		Approx. 5mA	Operating load voltage		19.2 to 26.4VDC		
rtated input current			range		(ripple ratio: within 5%)		
Operating voltage range		19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.1A/point, 1.6A/common		
Max. number of simultaneous input points		100%	Max. inrush current		0.7A, 10ms or less		
ON voltage/ON current		14VDC or higher/3.5mA or higher	Leakage current at OFF		0.1mA or lower		
OFF voltage	e/OFF current	6VDC or lower/1.7mA or lower	Max. voltage drop at ON		0.1VDC or lower (TYP.) 0.1A,		
Input resista	ance	Approx. 4.7kΩ	ivian. Voltage urop at ON		0.2VDC or lower (MAX.) 0.1A	<b>」</b>	
Doopopoo	OFF→ON	1.5ms or less (at 24VDC)	Output type		Source type		
Response time	ON→OFF	1.5ms or less (at 24VDC)	Protection function		Overload protection, overheat protection		
			Response	OFF→ON	1ms or less		
			time	ON→OFF	1ms or less (resistive load)	Lane Control Control	
			Cutomal	Voltage	19.2 to 26.4VDC		
			External power	Voltage	(ripple ratio: within 5%)		
			supply for		11mA or lower		
			output part	Current	(at 24VDC and all points ON),		
		I	Surge supp		excluding external load current  Zener diode		
Input type		Negative common (source type)					
Supply curre device	ent for connected	2.0A or lower/common					
Wiring meth	nod for common	32 points/common (input: 3-wire sensor connector (e	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
Number of o	occupied stations						
Module pow		20.4 to 26.4VDC (ripple ratio: with					
supply	Current	45mA or lower (at 24VDC and all					
	•	Noise voltage 500Vp-p, noise wid					
Noise immu	inity	noise frequency 25 to 60Hz (DC t		nulator condit	ion)		
Withstand v	oltage	500VAC for 1 minute between all					
Insulation re	noietanea	$10M\Omega$ or higher between all DC e					
IIISulation le	esisiance	tester)					
Protection d	degree	IP1XB					
Weight	T	0.16kg					
	Communication	One-touch connector for commun	· · · · · · · · · · · · · · · · · · ·			G00001 30241 12241	
	part	5-pin IDC plug is sold separately:					
E ()		<optional> Online connector for one of the second of th</optional>			J5P	+ 5	
External	Power supply	One-touch connector for power su [Module power supply, I/O power		7			
system	part		_				
Зузісні	part		pin IDC plug is sold separately: A6CON-PW5P, A6CON-PW5P-SOD Optional> Online connector for power supply: A6CON-PWJ5P				
	I/O part	Sensor connector (e-CON) [I/O si	1				
		4-pin IDC plug is sold separately.	_				
Applicable [		TH35-7.5Fe, TH35-7.5Al (complia	4				
	Connector for communication	Applicable cable: FANC-110SBH, FA-CBL200PSB					
	Connector for	0.66 to 0.98mm <sup>2</sup> (18 AWG)					
Applicable	power supply	[φ2.2 to 3.0mm (A6CON-PW5P),					
wire size	and FG	Wire diameter: 0.16mm or more					
		Insulating coating material: PVC (	4				
	Connector for	Sensor connector (e-CON).					
	I/O	Applicable connector plugs are so					
A 000000000		(applicable wire size: 0.08 to 0.5m	+				
Accessory		User's manual, Holding fixtures for screw installation					

<sup>\* 1:</sup> Refer to Section 1.6.2 for details.





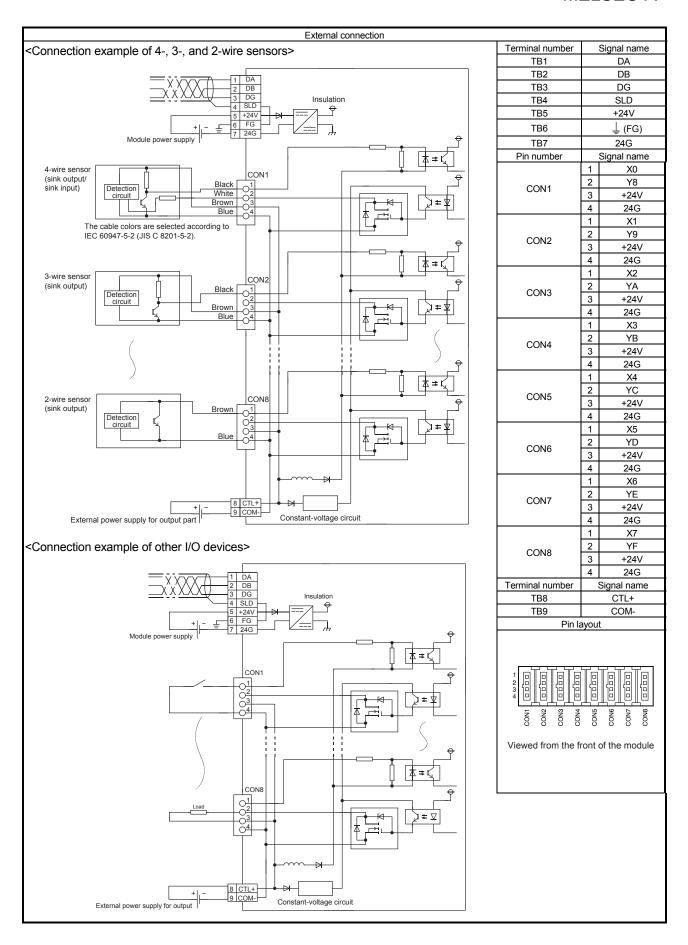
# 6.4 One Touch Connector Type Combined Module

### 6.4.1 AJ65SBTC4-16DT combined module

		Туре	DC input transistor output combined module  AJ65SBTC4-16DT Appearance					
Item				Appearance				
Input			0	Output				
Number of input points			8 points	Number of out		8 points		
Isolation method Rated input voltage			Photocoupler 24VDC			Photocoupler 24VDC		
Nateu IIIput	i voitage			Operating load voltage		19.2 to 26.4VDC		
Rated input current			Approx. 5mA	range		(ripple ratio: within 5%)		
Operating voltage range			19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.5A/point, 2.4A/common	•	
Max. number of simultaneous input points			100%	Max. inrush current		1.0A 10ms or less		
ON voltage/ON current			14VDC or higher/3.5mA or higher	Leakage current at OFF		0.25mA or lower		
OFF voltage	e/OFF current		6VDC or lower/1.7mA or lower	Max. voltage drop at ON		0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A		
Input resista	ance		Approx. 4.7kΩ	Output type		Sink type		
Response t		OFF→ON	1.5ms or less (at 24VDC)	Protection function		Overload protection, overvoltage protection, overheat protection		
г соропос с		ON→OFF	1.5ms or less (at 24VDC)					
				Response	OFF→ON	0.5ms or less		
				time	ON→OFF	1.5ms or less (resistive load)		
					Voltage	19.2 to 26.4VDC		
				External		(ripple ratio: within 5%)		
ĺ				power supply for output part	Current	13mA or lower (at 24VDC and all points ON),	NOUNCE SERVICE STATE OF THE SE	
				ioi output part	Current	excluding external load current		
Input type			Positive common (sink type)	Surge suppressor Zener diode				
	ent for connec		1.0A or lower/common					
	nod for commo		16 points/common (4-w	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
	occupied stati	ons Voltage	32-point assignment/sta 20.4 to 26.4VDC (ripple	A Joseph Company (1997)				
Module pov	ver supply	Current	40mA or lower (at 24VI	S S S S S S S S S S S S S S S S S S S				
Noise immu	1.		Noise voltage 500Vp-p					
Withstand v	-		noise frequency 25 to 6 500VAC for 1 minute b	2 3 4 5 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5				
Insulation re			10M $\Omega$ or higher between	W W 1 2 1 0 0 0 1 2 1 0 0 0 1 0 0 0 0 1 0 0 0 0				
			resistance tester)					
Protection of Weight	degree		IP2X 0.15kg				DA DG SG SG SG SG SG SG SG SG SG SG SG SG SG	
External			7-point two-piece termi					
connection system	Communicati module powe		M3×5.2 screw (tighteni Applicable solderless to					
	I/O power supply part		2-point direct-mount ter M3×5.2 screw (tighteni Applicable solderless to					
	I/O part		Dedicated one-touch co 4-pin IDC plug is sold s					
Module mounting screw			M4 screw with plain wa Mountable with a DIN r					
Applicable DIN rail			TH35-7.5Fe, TH35-7.5	†				
	Communication		RAV1.25-3 (complian					
wire size	part, module powe supply part I/O power	Applicable solderless terminal	[Applicable wire size: • V2-MS3, RAP2-3SL, [Applicable wire size:					
	supply part I/O part		\$\psi 1.0 to 1.4 (A6CON-P214), \$\psi 1.4 to 2.0 (A6CON-P220)					
	o part		[Applicable wire size: 0 \$\phi 1.0 to 1.4 (A6CON-P5] [Applicable wire size: 0					
Wire								
Λοοοσοσσ:	Temperature	rating	75°C or more					
Accessory			User's manual			he table above. I lee anniicable i	<u> </u>	

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

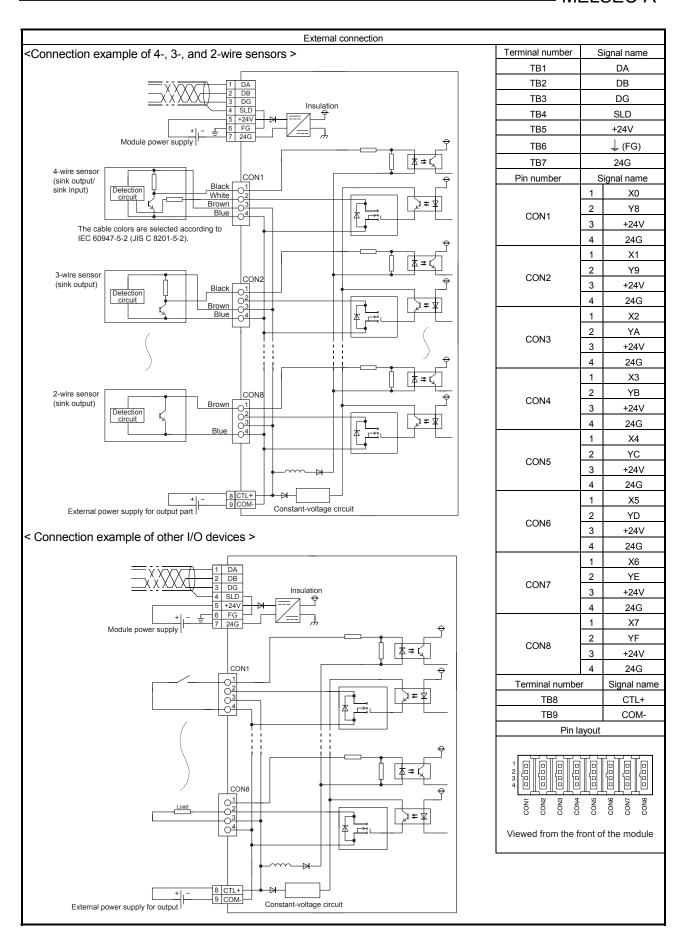
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## 6.4.2 AJ65SBTC4-16DT2 combined module

Type DC input trai					input transis	tor output combined module			
Item		.,,,,			BTC4-16DT2	<u> </u>	Appearance		
		Input				Output			
Number of	input points		8 points	Number of points	output	8 points	]		
Isolation me	ethod		Photocoupler	Isolation m	ethod	Photocoupler	]		
Rated input	t voltage		24VDC	Rated load	voltage	24VDC	]		
Rated input	t current		Approx. 5mA	Operating I range	oad voltage	19.2 to 26.4VDC (ripple ratio: within 5%)			
Operating v	voltage range	ge range 19.2 to 26.4VDC (ripple ratio: within 5%)			current	0.5A/point, 2.4A/common			
Max. numb points	er of simultaneou	us input	100%	Max. inrush	current	1.0A, 10ms or less	]		
ON voltage	e/ON current		14VDC or higher/ 3.5mA or higher	Leakage cu OFF	urrent at	0.1mA or lower			
OFF voltag	e/OFF current		6VDC or lower/ 1.7mA or lower	Max. voltag	ge drop at	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A			
Input resista	ance		Approx. 4.7kΩ	Output type	)	Sink type	]		
Response t	time	OFF→ON	1.5ms or less (at 24VDC)	Protection 1	function	None			
response (	ui i i C	ON→OFF	1.5ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less			
			<u> </u>	time	ON→OFF	1.5ms or less (resistive load)			
				External power	Voltage	19.2 to 26.4VDC (ripple ratio: within 5%)	3400		
				supply for output part	Current	13mA or lower (at 24VDC and all points ON), excluding external load current			
Input type			Positive common (sink type)	Surge supp	ressor	22.56 2.26 2.26 2.26 2.26 2.26 2.26 2.26			
Supply curr	rent for connecte	d device	1.0A or lower/common						
Wiring meth	hod for common		16 points/common (4-wire, or	ne-touch cor	nector type	)			
Number of	occupied stations	s	32-point assignment/station (	16 points us	ed)		2000		
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ratio:	within 5%)			111		
wodule pov	wei suppiy	Current	40mA or lower (at 24VDC and		ON)				
Noise immu	unity		Noise voltage 500Vp-p, noise noise frequency 25 to 60Hz (		se simulator	condition)	Wasser Co. 10 Co		
Withstand v	voltage		500VAC for 1 minute between	A Alessa					
Insulation re	esistance		10M $\Omega$ or higher between all [ resistance tester)	w = w = 100					
Protection of	degree		IP2X	NRIBINA NRIBIN NRIBINA NRIBINA NRIBINA NRIBINA NRIBINA NRIBINA NRIBINA NRIBINA					
Weight			0.15kg						
External connection system	Communication module power s	•	7-point two-piece terminal blo M3×5.2 screw (tightening toro Applicable solderless terminal 2-point direct-mount terminal	que range: 0 il: 2 or less block [I/O pe	.59 to 0.88N	l•m)			
	I/O power suppl	ly part	Applicable solderless termina	v/3×5.2 screw (tightening torque range: 0.59 to 0.88N•m) Applicable solderless terminal: 2 or less					
	I/O part		Dedicated one-touch connect 4-pin IDC plug is sold separar	tely.	•	0.701.4.001			
	ounting screw		Mountable with a DIN rail in 6	orientations	3	g torque range: 0.78 to 1.08N•m)			
Applicable		. [		TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)					
Applicable wire size	Communication part, module power supply part I/O power supply part	Applicable solderless terminal	RAV1.25-3 (compliant with JIS C 2805) [Applicable wire size: 0.3 to 1.25mm² (22 to 16 AWG) stranded wire] V2-MS3, RAP2-3SL, TGV2-3N [Applicable wire size: 1.25 to 2.0mm² (16 to 14 AWG) stranded wire]						
100	I/O part	•	φ1.0 to 1.4 (A6CON-P214), φ [Applicable wire size: 0.14 to φ1.0 to 1.4 (A6CON-P514), φ [Applicable wire size: 0.3 to 0						
Wire	Material		Copper						
	Temperature ra	ting	75°C or more						
Accessory			User's manual						

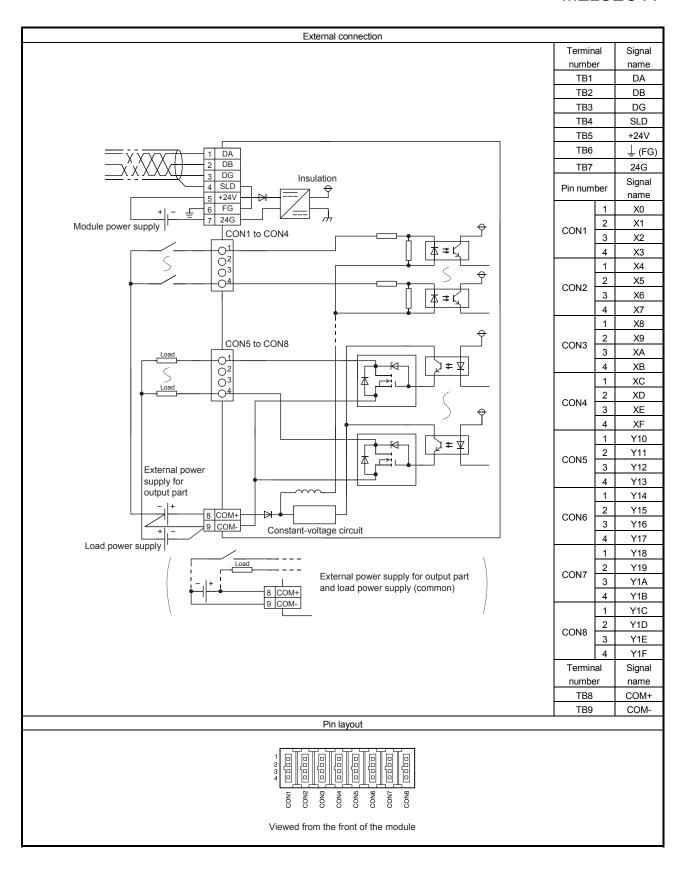
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



# 6.4.3 AJ65SBTC1-32DT combined module

		Туре		DC input transistor output combined module						
Item				AJ6	55SBTC1-32		Appearance			
		Input				Output				
Number of i	input points		16 points	Number of o	output	16 points				
Isolation me	ethod		Photocoupler	Isolation me	ethod	Photocoupler	<u>]</u>			
Rated input	t voltage		24VDC	Rated load v	voltage	24VDC	<u> </u>			
Rated input	lated input current Approx. 5mA		Operating lo range	oad voltage	19.2 to 26.4VDC (ripple ratio: within 5%)					
Operating voltage range 19.2 to 26.4VDC (ripple ratio: within 5%)			Max. load cu	urrent	0.1A/point, 1.6A/common					
Max. number	er of simultaneou	s input	100%	Max. inrush	current	1.0A, 10ms or less	]			
ON voltage	/ON current		14VDC or higher/3.5mA or higher	Leakage cur OFF	rrent at	0.25mA or lower	]			
OFF voltage	e/OFF current		6VDC or lower/ 1.7mA or lower	Max. voltage	e drop at	0.3VDC or lower (TYP.) 0.1A, 0.6VDC or lower (MAX.) 0.1A				
Input resista	ance		Approx. 4.7kΩ	Output type		Sink type	-			
Response t	time	OFF→ON	1.5ms or less (at 24VDC)	Protection fu	unction	Overload protection, overvoltage protection, overheat protection	]			
response t	лис.	ON→OFF	1.5ms or less	Response	OFF→ON	0.5ms or less				
		OIN-OI I	(at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)				
				External	Voltage	19.2 to 26.4VDC	₹ <b>-</b> ₩			
				power	_	(ripple ratio: within 5%) 17mA or lower				
				supply for	Current	(at 24VDC and all points ON),	10000			
				output part	04	excluding external load current	18 18 18 18 18 18 18 18 18 18 18 18 18 1			
Input type			Positive common (sink type)	Surge suppressor Zener diode			1			
Wiring meth	hod for common		32 points/common (1-wi	re, one-touch	connector t	ype)	***************************************			
Number of	occupied stations	;	32-point assignment/sta	tion (32 point	ts used)					
Module pov	wer sunnly	Voltage	20.4 to 26.4VDC (ripple	ratio: within 5	5%)					
wioduic pov	ver suppry	Current	50mA or lower (at 24VD				32 74 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8			
Noise immu	unity		Noise voltage 500Vp-p,				N			
			noise frequency 25 to 60							
Withstand v	/oitage		500VAC for 1 minute be $10M\Omega$ or higher between							
Insulation re	esistance		resistance tester)	2 3 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6						
Weight			0.16kg				* X X 1 2			
External connection	Communication		M3×5.2 screw (tightenin	nal block [Transmission circuit, module power supply, FG] ng torque range: 0.59 to 0.88N•m)			S S S S S S S S S S S S S S S S S S S			
system	<u> </u>		Applicable solderless ter 2-point direct-mount terr			onlyl				
	I/O power supply	v part	M3×5.2 screw (tightenin			1 72				
	5 poor ouppry		Applicable solderless ter		•	,				
	I/O part		<del>- ' '</del>			IDC plug is sold separately.				
Module mou	unting screw	<del></del>	M4 screw with plain was							
			(tightening torque range		,					
Application	DIN roll		Mountable with a DIN ra			14E)	_			
Applicable I Applicable	Communication		TH35-7.5Fe, TH35-7.5A • RAV1.25-3 (compliant			10)	-			
wire size	part,		[Applicable wire size: (		,	AWG) stranded wire1				
	module power	Applicable	<ul> <li>V2-MS3, RAP2-3SL, T</li> </ul>							
	supply part	solderless terminal	[Applicable wire size: 1							
	I/O power	Cimilal								
supply part							_			
' '			φ1.0 to 1.4 (A6CON-P21	,, i	•	,				
			l	oplicable wire size: 0.14 to 0.2mm² (26 to 24 AWG) stranded wire]						
			φ1.0 to 1.4 (A6CON-P51							
Miro	Matarial		[Applicable wire size: 0.3	_						
Wire	Material	ina	Copper 75°C or more				-			
Accesson/	Temperature rati	ıııy	75°C or more User's manual				_			
Accessory										

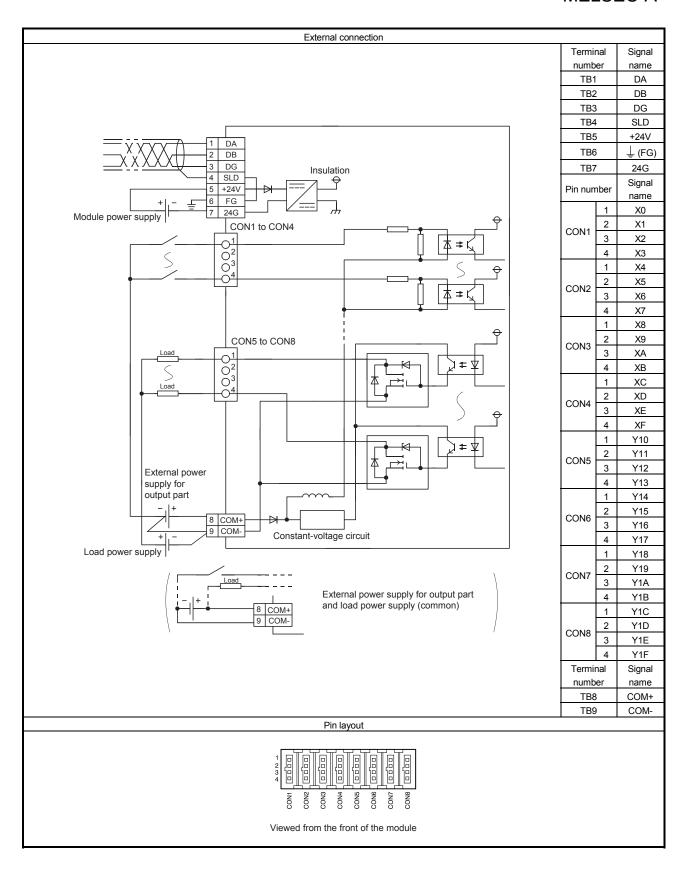
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



#### 6.4.4 AJ65SBTC1-32DT1 combined module

	Type DC input transistor output combined module						
Item		. , , po		AJ6	SSBTC1-32	<u> </u>	Appearance
		Input				Output	
Number of	input points		16 points	Number of opints	output	16 points	
Isolation me			Photocoupler	Isolation me		Photocoupler	
Rated input			·		24VDC		
			Approx. 5mA	Operating load voltage range		19.2 to 26.4VDC (ripple ratio: within 5%)	_
Operating v	voltage range		19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load c	urrent	0.1A/point, 1.6A/common	
Max. numb points	er of simultaneou	s input	100%	Max. inrush	current	1.0A, 10ms or less	
ON voltage	e/ON current		15VDC or higher/ 3mA or higher	Leakage cu OFF	rrent at	0.25mA or lower	
OFF voltag	e/OFF current		3VDC or lower/ 0.5mA or lower	Max. voltag ON	e drop at	0.3VDC or lower (TYP.) 0.1A, 0.6VDC or lower (MAX.) 0.1A	_
Input resist	ance		Approx. 4.7kΩ	Output type	!	Sink type	1
Response t	time	OFF→ON	0.2ms or less (at 24VDC)	Protection f	unction	Overload protection, overvoltage protection, overheat protection	
	-	ON→OFF	0.2ms or less (at 24VDC)	Response time	OFF→ON ON→OFF	0.5ms or less 1.5ms or less (resistive load)	
				External	Voltage	19.2 to 26.4VDC (ripple ratio: within 5%)	
				power supply for output part	Current	17mA or lower (at 24VDC and all points ON), excluding external load current	
Input type			Positive common (sink type)	Surge supp	ressor	Zener diode	
	hod for common		32 points/common (1-w			type)	XX O F
Number of	occupied stations		32-point assignment/sta				
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple				
		Current	50mA or lower (at 24VE Noise voltage 500Vp-p,				8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
Noise immu	unity		noise frequency 25 to 6			ulator condition)	### ### ##############################
Withstand v	voltage		500VAC for 1 minute be				
Insulation r	esistance		10M $\Omega$ or higher between resistance tester)	3 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6			
Protection of	degree		IP2X	7 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2			
Weight	1		0.16kg				
External connection system	Communication   module power su		7-point two-piece termin M3×5.2 screw (tightenin Applicable solderless te	ng torque rar	nge: 0.59 to (	circuit, module power supply, FG] 0.88N•m)	
	I/O power supply	part	2-point direct-mount ter M3×5.2 screw (tightenin Applicable solderless te	ng torque rar	nge: 0.59 to (		
	I/O part					in IDC plug is sold separately.	
Module mo	unting screw		M4 screw with plain wa (tightening torque range Mountable with a DIN ra	e: 0.78 to 1.0	8N•m)		
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5A			715)	-
	Communication part,	Applicable	RAV1.25-3 (compliant [Applicable wire size:	t with JIS C 2 0.3 to 1.25m	2805)	,	1
	module power supply part I/O power	solderless terminal	V2-MS3, RAP2-3SL,     [Applicable wire size:				
supply part							
	I/O part		φ1.0 to 1.4 (A6CON-P2 [Applicable wire size: 0. φ1.0 to 1.4 (A6CON-P5 [Applicable wire size: 0.				
Wire	Material		Copper	+			
	Temperature rati	ing	75°C or more				1
Accessory	1 - 1 - 1 - 1 - 1 - 1	<u> </u>	User's manual				1
Accessory			•				

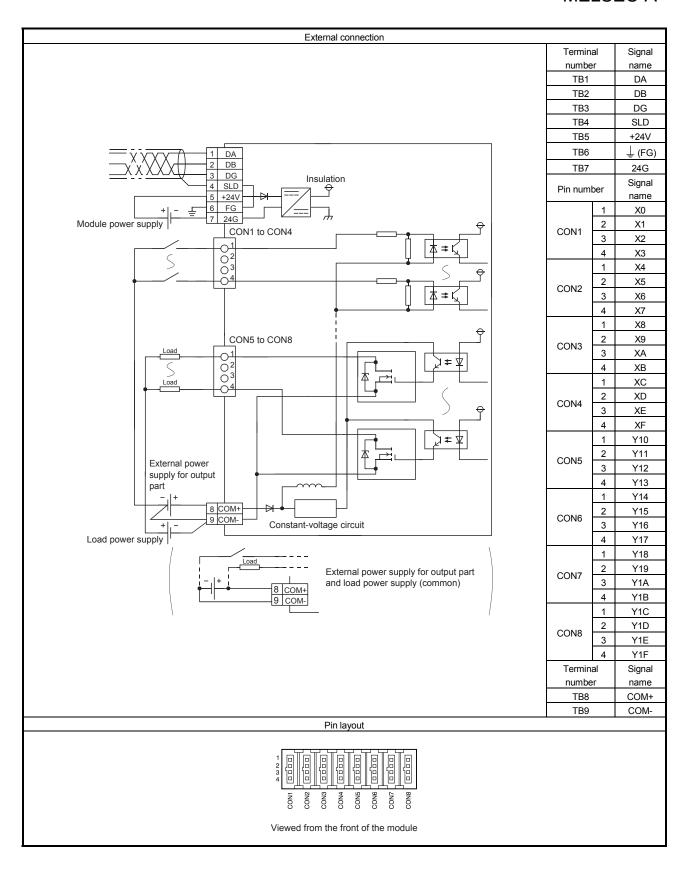
For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



## 6.4.5 AJ65SBTC1-32DT2 combined module

		Туре		sistor output combined module					
Item		r ype		Δ 165	SBTC1-32DT		Appearance		
-		Input		7,000	JOD 1 O 1-02D 1	Output	простанос		
Number of	input points		16 points	Number of	output points	16 points			
Isolation me	<u> </u>		Photocoupler	Isolation me		Photocoupler			
Rated input			24VDC	Rated load		24VDC			
			1	oad voltage	19.2 to 26.4VDC				
Rated input	t current		Approx. 5mA	range		(ripple ratio: within 5%)			
Operating voltage range  19.2 to 26.4VDC (ripple ratio: within 5%)  Max. number of simultaneous input			Max. load c	urrent	0.1A/point, 1.6A/common				
Max. numb points	er of simultaneor	us input	100%	Max. inrush	current	1.0A, 10ms or less			
ON voltage	/ON current		14VDC or higher/ 3.5mA or higher	Leakage cu	irrent at OFF	0.1mA or lower			
OFF voltag	e/OFF current		6VDC or lower/ 1.7mA or lower	Max. voltag	e drop at ON	0.3VDC or lower (TYP.) 0.1A, 0.6VDC or lower (MAX.) 0.1A			
Input resista	ance		Approx. 4.7kΩ	Output type		Sink type			
		OFF→ON	1.5ms or less	Protection f	unction	None			
Response t	time	ON→OFF	(at 24VDC) 1.5ms or less		OFF→ON				
		UN→UFF	(at 24VDC)	Response time	OFF→ON ON→OFF	0.5ms or less 1.5ms or less (resistive load)			
						19.2 to 26.4VDC			
				External	Voltage	(ripple ratio: within 5%)	8€ Q4 (3)		
				power		17mA or lower			
				supply for output part	Current	(at 24VDC and all points ON),			
						excluding external load current			
Input type Positive common (sink type) Su					ressor	Zener diode			
Wiring meth	nod for common		32 points/common (1-wi	ire, one-touch	h connector ty	pe)			
Number of	occupied station:	s	32-point assignment/sta	tion (32 poin	ts used)		X6X 0 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1		
Module pov	ver supply	Voltage	20.4 to 26.4VDC (ripple						
		Current	50mA or lower (at 24VD				\$ B1CD \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		
Noise immu	unity		Noise voltage 500Vp-p, noise frequency 25 to 60			tor condition)	A ASSESSED SECTION OF		
Withstand v	/oltage		500VAC for 1 minute be			XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			
Insulation re			10M $\Omega$ or higher between resistance tester)		2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				
Protection of	dearee		IP2X			1 2 3 4 0 1 1 2 3 4 0 1 1 2 3 4 0 1 1 2 1 3 4 0 1 1 2 1 3 1 0 1 1 2 1 3 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Weight			0.16kg				7.101 X X 101 X 10		
External			7-point two-piece termin	al block					
	Communication		[Transmission circuit, m						
system	module power s	supply part	M3×5.2 screw (tightenin	• .	-	sen•m)			
			Applicable solderless te 2-point direct-mount terr		<b>ნ</b> აბ				
			[I/O power supply]	iiiilai DIUUN					
	I/O power suppl	ıy part	M3×5.2 screw (tightenin	g torque rang	ge: 0.59 to 0.8	8N•m)			
			Applicable solderless te	rminal: 2 or le	ess				
	I/O part					IDC plug is sold separately.			
Modulo mo	unting screw		M4 screw with plain was (tightening torque range						
Would HIO	unding solew								
Applicable	DIN rail			Mountable with a DIN rail in 6 orientations TH35-7.5Fe, TH35-7.5AI (compliant with IEC 60715)					
	Communication	1	RAV1.25-3 (compliant						
wire size	part, module	Applicable	[Applicable wire size: (	WG) stranded wire]					
	power supply	solderless	V2-MS3, RAP2-3SL, Table 10 Applies blooming a size 1 of the control of the contr						
	l/O power suppl	terminal	[Applicable wire size: '						
part									
[Applicable wire size: 0.1									
φ1.0 to 1.4 (A6CON-P514), φ1.4 to 2.0 (A6CON-P520)									
[Applicable wire size: 0.3 to 0.5 mm² (22 to 20 AWG) stranded wire]						G) siranded wirej			
Wire	Material Temperature ra	itina	Copper 75°C or more						
Accessory	I remperature la	ııııy	User's manual						
, 10003301 y			Osci s mandal						

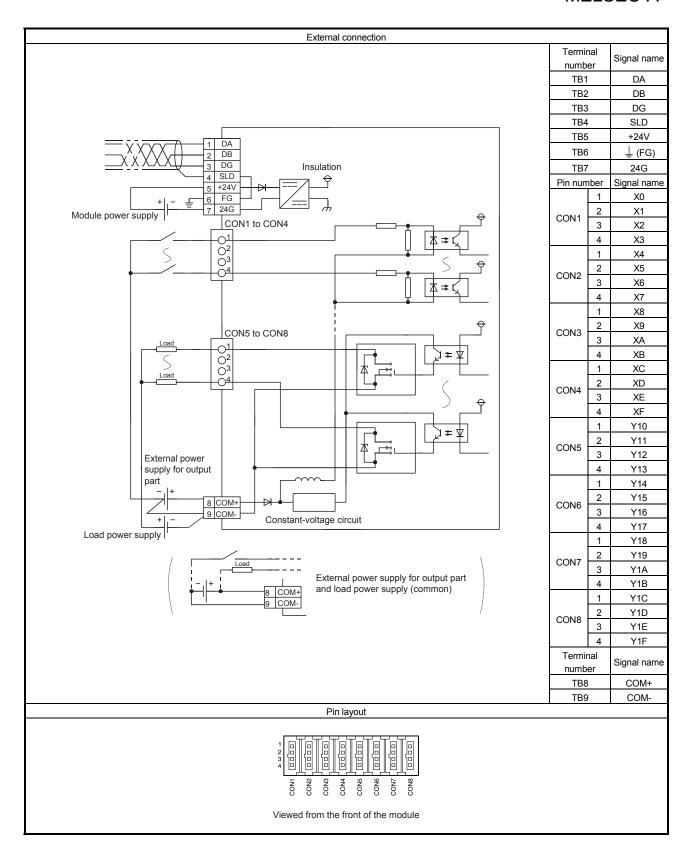
<sup>\*</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



#### 6.4.6 AJ65SBTC1-32DT3 combined module

Item		Туре		A IC		ansistor output combined module	Annogrange	
item		Input		AJo	5SBTC1-32[	Output	Appearance	
		iriput		Number of o	output		1	
Number of	input points		16 points	points	•	16 points		
Isolation m			Photocoupler	Isolation me		Photocoupler		
Rated input	t voltage		24VDC	Rated load Operating lo		24VDC 19.2 to 26.4VDC	-	
Rated input current Approx. 5mA			range	au voltage	(ripple ratio: within 5%)			
Operating voltage range 19.2 to 26.4VDC (ripple ratio: within 5%)			Max. load c	urrent	0.1A/point, 1.6A/common			
Max. numb points	er of simultaneou	s input	100%	Max. inrush	current	1.0A, 10ms or less		
ON voltage	e/ON current		15VDC or higher/ 3mA or higher	Leakage cu OFF	rrent at	0.1mA or lower		
OFF voltag	e/OFF current		3VDC or lower/ 0.5mA or lower	Max. voltag	e drop at	0.3VDC or lower (TYP.) 0.1A, 0.6VDC or lower (MAX.) 0.1A		
Input resist	ance		Approx. 4.7kΩ	Output type		Sink type	1	
		OFF→ON	0.2ms or less (at 24VDC)	Protection for	unction	None		
Response t	time	ON→OFF	0.2ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less		
			-/	time	ON→OFF	1.5ms or less (resistive load)	Ī	
				External power	Voltage	19.2 to 26.4VDC (ripple ratio: within 5%)		
			supply for output part	Current	17mA or lower (at 24VDC and all points ON), excluding external load current			
Input type Positive common (sink type) Surge suppressor					Zener diode			
	hod for common		32 points/common (1-wi			ype)		
Number of	occupied stations		32-point assignment/stat					
Module pov	wer supply	Voltage Current	20.4 to 26.4VDC (ripple 50mA or lower (at 24VD					
Niele e leeses		Odificit	Noise voltage 500Vp-p,				28 9 8 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	
Noise imm			noise frequency 25 to 60				M	
Withstand v	voltage		500VAC for 1 minute be			6 17 X8 9 X 8 9 X		
Insulation r			resistance tester)	,				
Protection of Weight	degree		IP2X 0.16kg			No.   1   2   4   5   7   7   1   1   1   1   1   1   1   1		
External	1		7-point two-piece terminate	al block				
	Communication	part,	[Transmission circuit, mo					
system	module power s	upply part	M3×5.2 screw (tightening Applicable solderless ter	•	•	.88N•m)		
			2-point direct-mount term					
	I/O power supply	/ part	[I/O power supply] M3×5.2 screw (tightening	a torque ross	10· 0 50 to 0	88Nem)		
			Applicable solderless ter			.0014 111)		
	I/O part					n IDC plug is sold separately.		
Module mo	ounting screw		M4 screw with plain was 1.08N•m)	her finished	round (tighte	ening torque range: 0.78 to		
	5.1		Mountable with a DIN ra				_	
Applicable Applicable	DIN rail Communication		TH35-7.5Fe, TH35-7.5A • RAV1.25-3 (compliant			15)	-	
wire size	part,	A	[Applicable wire size: 0	AWG) stranded wire]				
	module power	Applicable solderless	<ul> <li>V2-MS3, RAP2-3SL, T</li> </ul>					
	supply part	terminal	[Applicable wire size: 1	AWG) stranded wire]				
	I/O power supply part							
I/O part						1		
[Applicable wire size: 0.1			14 to 0.2mm <sup>2</sup>	(26 to 24 A	WG) stranded wire]			
			P520)					
Wire	Material		[Applicable wire size: 0.3 Copper	-				
VVIIC	Temperature rat	ina	75°C or more				-	
Accessory	1 - 1		User's manual				1	
Accessory User's manual							•	

For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.



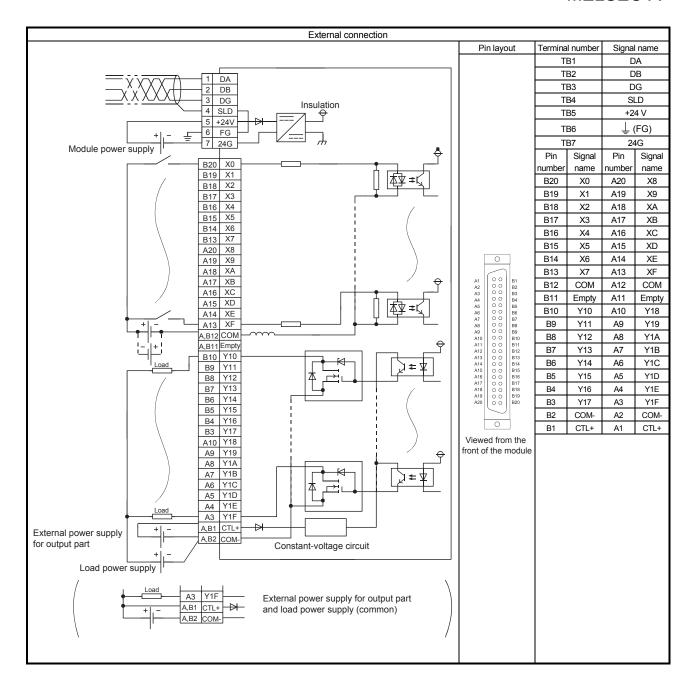
## 6.5 FCN Connector Type Combined Module

## 6.5.1 AJ65SBTCF1-32DT combined module

		Туре			OC input tran			
Item					SBTCF1-32D		Appea	rance
		Input				Output		
Number of	input points		16 points	Number of points	output	16 points		
Isolation me	ethod		Photocoupler	Isolation me	ethod	Photocoupler		
Rated input voltage 24VDC		24VDC	Rated load	voltage	12/24VDC			
Rated input current Approx. 5mA			Operating le	oad voltage	10.2 to 26.4VDC (ripple ratio: within 5%)			
Unerating voltage range			19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load o	current	0.1A/point (at all points ON: 0.1A/point), 1.6A/common		
Max. numb points	er of simultaned	ous input	100%	Max. inrush	current	1.0A, 10ms or less		
ON voltage	e/ON current		14VDC or higher/ 3.5mA or higher	Leakage cu OFF	ırrent at	0.1mA or lower		
OFF voltag	je/OFF current		6VDC or lower/ 1.7mA or lower	Max. voltag	je drop at	0.1VDC or lower (TYP.) 0.1A, 0.2VDC or lower (MAX.) 0.1A		
Input resist	ance		Approx. 4.7kΩ	Output type	)	Sink type	Ī	
,			1	Protection f		Overload protection, overvoltage protection, overheat protection		
			1.5ms or less	Response	OFF→ON	0.5ms or less	<u>4</u>	
		OFF→ON	(at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)	BRATE 2 1 OWGC.	6.0
Response t	time		1.5ms or less			10.2 to 26.4VDC	1 8 F	0 0
		ON→OFF	(at 24VDC)	External	Voltage	(ripple ratio: within 5%)	STATON NO	0 0 0 0 0 0
		•	16 points/common	points/common power		30mA or lower	STATE STATE	0 0
Wiring method for common		(1-wire, FCN connector	supply for	Current	(at 24VDC and all points ON),	40	00	
	G		type)	output part		excluding external load current	X	1881 7
			Positive/negative	Wiring meth	nod for	16 points/common		0 0
Input type			common shared type	common		(1-wire, FCN connector type)	X8 9 A B C D E F G G G G G G G G G G G G G G G G G G	1 1001 6
			(sink/source shared type)	Surge supp	ressor	Zener diode	A181C	000
Number of	occupied station		32-point assignment/station			X89 A 18191A 3TCF1-3		
Module pov	wer supply	Voltage	20.4 to 26.4VDC (ripple ra	6 7 X8 9 A B C  10 0 0 0 0 0  1617 Y18191A1B1C  AJ65SBTCF1-32D1  A3201 X830 X830 X830 X830 X830 X830 X830 X830				
	,	Current	50mA or lower (at 24VDC Noise voltage 500Vp-p, no			14 5 6 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16		
Noise immu			noise frequency 25 to 60H	lz (DC type r	noise simula	2. X01 2. 3. 4. 5. 6. 7 		
Withstand v			500VAC for 1 minute betw 10MΩ or higher between a resistance tester)				@  W	
Protection of	dearee		IP2X				PW LEU	
Weight	degree		0.15kg					
External			7-point two-piece terminal	block				
connection	Communication	n part,	[Transmission circuit, mod		upply, FG]			
system	module power	supply part	M3×5.2 screw (tightening Applicable solderless term			38N•m)		
	I/O power supp I/O part	oly part,	40-pin connector [I/O pow (A6CON1, A6CON2, A6C	ON3, A6CO	N4)			
Module mounting screw  M4 screw with plain washe (tightening torque range: 0 Mountable with a DIN rail i				0.78 to 1.08N	<b>l•</b> m)			
Applicable	DIN rail		TH35-7.5Fe, TH35-7.5AI (			15)	†	
	Communication	n Applicable		AV1.25-3 (compliant with JIS C 2805)				
wire size	part, module power	solderless terminal*1	[Applicable wire size: 0.3 • V2-MS3, RAP2-3SL, TG					
supply part [Applicable wire size: 1.2						<b>.</b>		
I/O power supply part, I/O part • 0.08 to 0.3mm² (28 to 22 • 0.08 to 0.2mm² (28 to 24				AWG) strar	nded wire (A	6CON2)		
\A/:	NA-4- 2-1		` '	nded wire, $\phi$	0.25mm (30	AWG) single wire (A6CON3)		
Wire	Material	ating	Copper 75°C or more				-	
Διτρεερην	Temperature ra	aung	75°C or more User's manual					
Accessory			OGGI S MANUAL				<u> </u>	

<sup>\*1</sup> For applicable solderless terminals connected to the terminal block, refer to the table above. Use applicable wires for the solderless terminals and fix them with an appropriate tightening torque. Use UL listed solderless terminals and, for crimping, use a tool recommended by their manufacturer.

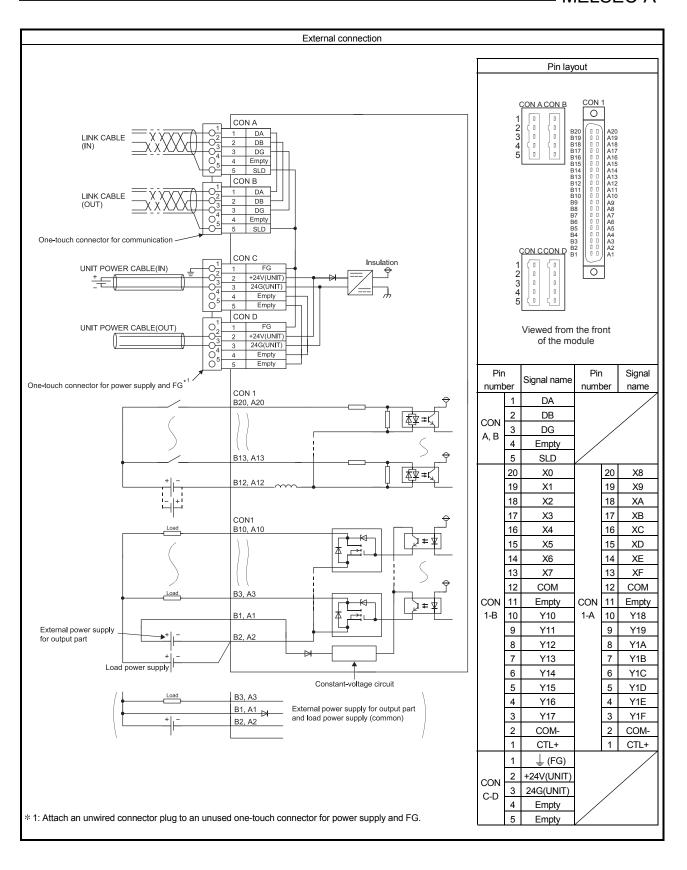
<sup>\*2</sup> Use cables with outside diameter of 1.3mm or shorter to connect 40 cables to the connector. In addition, consider the amount of current to be used and select appropriate cables.

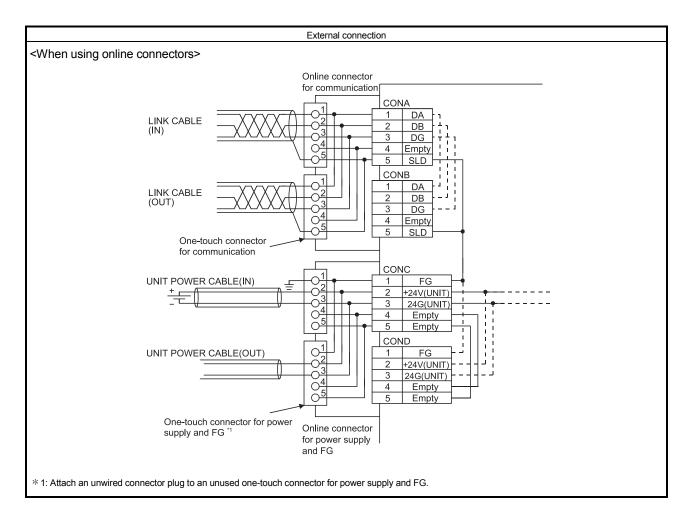


## 6.5.2 AJ65VBTCF1-32DT1 combined module

Item		Туре			CF1-32DT1	r output combined module	Appearance			
		In	put			Output	FF			
Number of	input poi	nts	16 points	Number of o	utput points	16 points	†			
Isolation me	ethod		Photocoupler	Isolation me		Photocoupler	7			
Rated input	t voltage		24VDC	Rated load v	oltage	12/24VDC	7			
Rated input	Rated input current Approx. 5mA		Operating lo	ad voltage	10.2 to 26.4VDC (ripple ratio: within 5%)					
Operating v	voltage ra	ange	19.2 to 26.4VDC (ripple ratio: within 5%)	Max. load cu	ırrent	0.1A/point, 1.6A/common	1			
Max. numb		ultaneous	100% or 60% (Refer to Section 1.3.)	Max. inrush	current	0.7A, 10ms or less	1			
ON voltage		ent	15VDC or higher/3mA or higher	Leakage cur	rent at OFF	0.1mA or lower	†			
OFF voltag			3VDC or lower/0.5mA or lower	Ŭ		0.1VDC or lower (TYP.) 0.1A,	†			
Input resista			Approx. 4.7kΩ	Max. voltage	drop at ON	0.2VDC or lower (MAX.) 0.1A				
Response t	ime	OFF→ON	0.2ms or less (at 24VDC)	Output type		Sink type				
	<u> </u>	ON→OFF	0.2ms or less (at 24VDC)	Protection fu	inction	Overload protection, overvoltage protection, overheat protection				
	I	011 7011	0.2116 61 1666 (dt 2 1 v 2 c)		OFF→ON	1ms or less	†			
Wiring meth	hod for co	ommon	16 points/common (1-wire, FCN connector type)	Response time	ON→OFF	1ms or less	Transition .			
				External	Voltage	(rated load, resistive load)  10.2 to 26.4VDC	MELSEG AJ65VBTCF1-32DT1			
				power		(ripple ratio: within 5%)	LINK X0 Y10 CON. A CON. B XF Y1F			
				supply for output part	Current	10mA or lower (at 24VDC and all points ON), excluding external load current	PW			
Positive/negative common Input type shared type			Wiring method for common		16 points/common (1-wire, FCN connector type)					
			(sink/source shared type)	Surge suppr	essor	Zener diode	0 0 0 2			
Number of	occupied	l stations	32-point assignment/station (32 p	oints used)			0 0 0 0 0 5			
Module pov	T	Voltage	20.4 to 26.4VDC (ripple ratio: with							
supply		Current	50mA or lower (at 24VDC and all							
Noise immu	unity		Noise voltage 500Vp-p, noise wid noise frequency 25 to 60Hz (DC t	·			PW/AUX.			
Withstand v	voltage		500VAC for 1 minute between all	DC external terminals and ground			CON.C CON.D			
Insulation re	esistance	)	$10M\Omega$ or higher between all DC etester)	0 e o f						
Protection of	degree		IP1XB				]			
Weight			0.16kg				<u> </u>			
External connection	Commu	nication part	One-touch connector for commur 5-pin IDC plug is sold separately.	nication [Trans	smission circ	uit]	CLink			
system			<optional> Online connector for communicat</optional>							
Power supply part  Power supply part  One-touch connector for power supply in IDC plug is sold separately:  Optional> Online connector for power supply			A6CON-PW5	5P, A6CON-I						
	I/O part		Connector for I/O (40 pins, M3 sc	•			†			
Applicable			TH35-7.5Fe, TH35-7.5Al (complia		<u> </u>					
Applicable wire size	Connec		Applicable cable: FANC-110SBH, FA-CBL200PSB	]						
2 3.20		tor for power	0.66 to 0.98mm² (18 AWG) [\$2.2 to 3.0mm (A6CON-PW5P), Wire diameter: 0.16mm or more Insulating coating material: PVC (							
	Connec	tor for I/O	<ul> <li>0.08 to 0.2mm² (28 to 24 AWG)</li> <li>0.08mm² (28 AWG) stranded wi</li> </ul>	.08 to 0.3mm² (28 to 22 AWG) stranded wire (A6CON1 and A6CON4) *1 .08 to 0.2mm² (28 to 24 AWG) stranded wire (A6CON2) .08mm² (28 AWG) stranded wire, \( \phi 0.25mm \) (30 AWG) single wire (A6CON3)						
Applicable	connecto	or for I/O	A6CON1 (soldering type), A6CONA (soldering type)	N2 (crimping t	ype), A6COI	N3 (IDC type),				
Accessory			User's manual							

<sup>\*1</sup> Use cables with outside diameter of 1.3mm or shorter to connect 40 cables to the connector. In addition, consider the amount of current to be used and select appropriate cables.

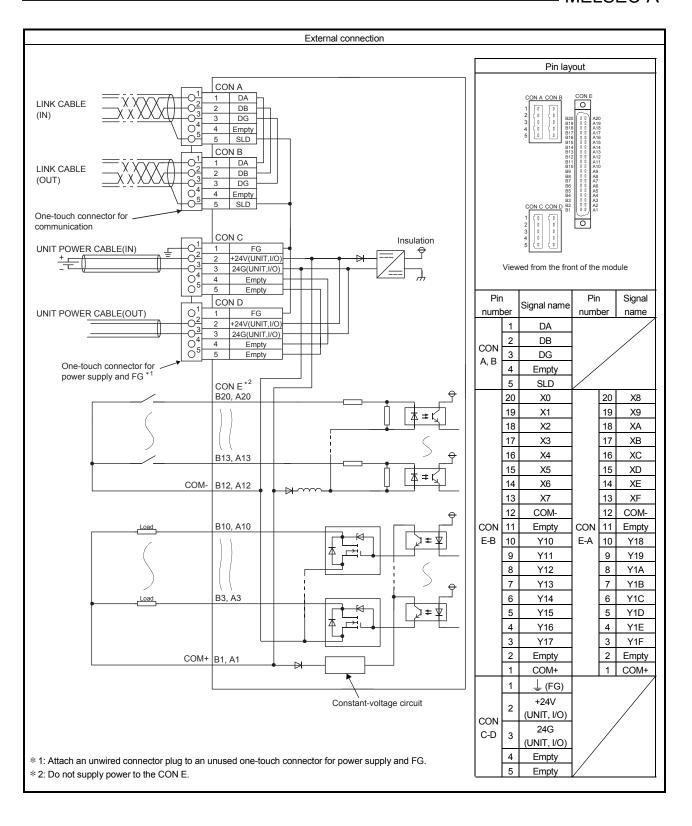


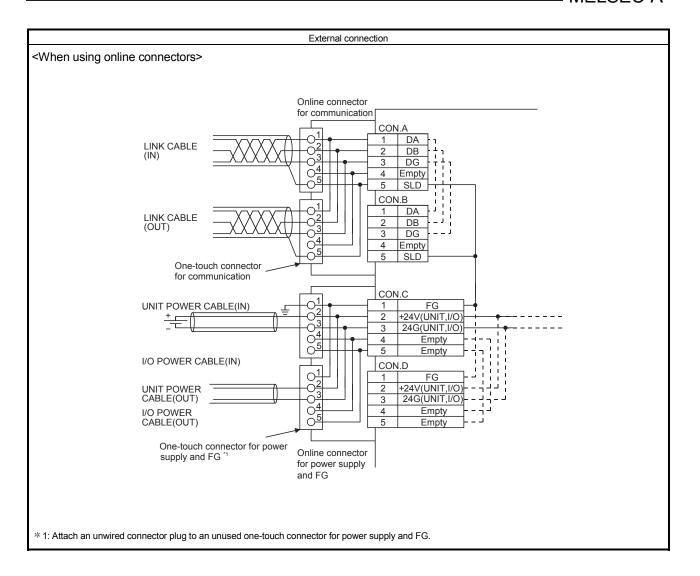


## 6.5.3 AJ65VBTCFJ1-32DT1 combined module

	Type DC input transistor output combined module								
Item					CFJ1-32DT1	· · · · · · · · · · · · · · · · · · ·	Appearance		
		In	put	7,0007101	OI OI OZDII	Output	пррешине		
Number of i	innut noir		16 points	Number of o	output points	· ·			
Isolation me		110	Photocoupler	Isolation me		Photocoupler			
Rated input			24VDC	Rated load v		24VDC			
rtated input	voilage		2+100	Operating lo		Same as that for the module power			
Rated input	current		Approx. 5mA	range		supply			
Operating v	oltage ra	inge	Same as that for the module power supply	Max. load cu	urrent				
Max. numbe	er of sim	ultaneous	100% or 40%	May insuch	arant	0.74 10me er lees			
input points	i		(Refer to Section 1.3.)	Max. inrush	current	0.7A, 10ms or less			
ON voltage/	ON curre	ent	15VDC or higher/3mA or higher	Leakage cur	rent at OFF	0.1mA or lower			
OFF voltage	e/OFF cu	urrent	3VDC or lower/0.5mA or lower		ON	0.1VDC or lower (TYP.) 0.1A,			
Input resista	ance		Approx. 4.7kΩ	Max. voltage	e drop at ON	0.2VDC or lower (MAX.) 0.1A			
Response ti	ime	055 011		Output type		Sink type	]		
	(	OFF→ON	0.2ms or less (at 24VDC)	5		Overload protection, overvoltage	1		
	1	ON→OFF	0.2ms or less (at 24VDC)	Protection fu	ınction	protection, overheat protection			
			. ,		OFF→ON	1ms or less			
Input type			Positive common (sink type)	Response time	ON→OFF	1ms or less (rated load, resistive load)			
				External pov	ver sunnly	Same as that for the module power	MELSEC AJ65VBTCFJ1-32DT1		
				for output pa		supply	LINK 0~F 10~1F		
				Surge suppr		Zener diode	CON A CON B X (D) Y		
Wiring meth	and for a	ommor	32 points/common (1-wire, FCN c			Zener diode	Opu		
Number of o			32-points/common (1-wire, PCN c		<u>-,                                      </u>				
	•		*						
Module pow	- 1	Voltage	20.4 to 28.8VDC (ripple ratio: with		valudina out	ornal land augrant	·		
supply		Current	50mA or lower (at 24VDC and all		excluding ext	erriai load current			
Noise immu	unity		Noise voltage 500Vp-p, noise wid noise frequency 25 to 60Hz (DC t		aulator condi	tion)	CAUTION 474		
Withstand v	roltage.		500VAC for 1 minute between all				Do not supply the external		
vviuistariu v	roitage					und (500VDC insulation resistance	the external power supply to CON.E 909		
Insulation re	esistance	)	tester)	xterrial terriii	iais and grot	und (300VDC insulation resistance	PW/AUX. Bob COC		
Protection d	degree		IP1XB						
Weight			0.16kg				Oxy		
			One-touch connector for commun	ication [Trans	smission circ	uit]	CON.E		
	Commu	nication part	5-pin IDC plug is sold separately:	A6CON-L5P			CC-Link		
	Sommu	moduon part	<optional></optional>						
External			Online connector for communicati				'		
connection			One-touch connector for power su	,		11.27			
system	Power s	supply part	5-pin IDC plug is sold separately:	A6CON-PW5	5P, A6CON-I	PW5P-SOD			
	1		<optional></optional>	4000115	4/ JED				
	1/0		Online connector for power supply		VJ5P		+		
A !	I/O part		Connector for I/O (40 pins, M3 sc		10745)		+		
Applicable [			TH35-7.5Fe, TH35-7.5Al (complia	ant with IEC 6	0/15)		+		
	Connect		Applicable cable: FANC-110SBH, FA-CBL200PSBI						
			0.66 to 0.98mm <sup>2</sup> (18 AWG)						
	Connect	tor for power	[\phi2.2 to 3.0mm (A6CON-PW5P), \phi2.0 to 2.3mm (A6CON-PW5P-SOD)]						
Applicable supply and FG Wire diameter: 0.16mm or more									
wire size	vire size Insulating coating material: PVC (heat-resistant)								
			• 0.08 to 0.3mm <sup>2</sup> (28 to 22 AWG)			and A6CON4)*1	Ī		
Connector for I/O			• 0.08 to 0.2mm <sup>2</sup> (28 to 24 AWG)			,			
• 0.08mm² (28 AWG) stranded wire, \( \phi 0.25mm (30 AWG) \) single wire (A6CON3)									
Applicable connector for I/O  ACON1 (soldering type), A6CON2 (crimping type), A6CON						1			
	willecto	ı 101 1/U	A6CON4 (soldering type)						
Accessory User's manual									

<sup>\*1</sup> Use cables with outside diameter of 1.3mm or shorter to connect 40 cables to the connector. In addition, consider the amount of current to be used and select appropriate cables.

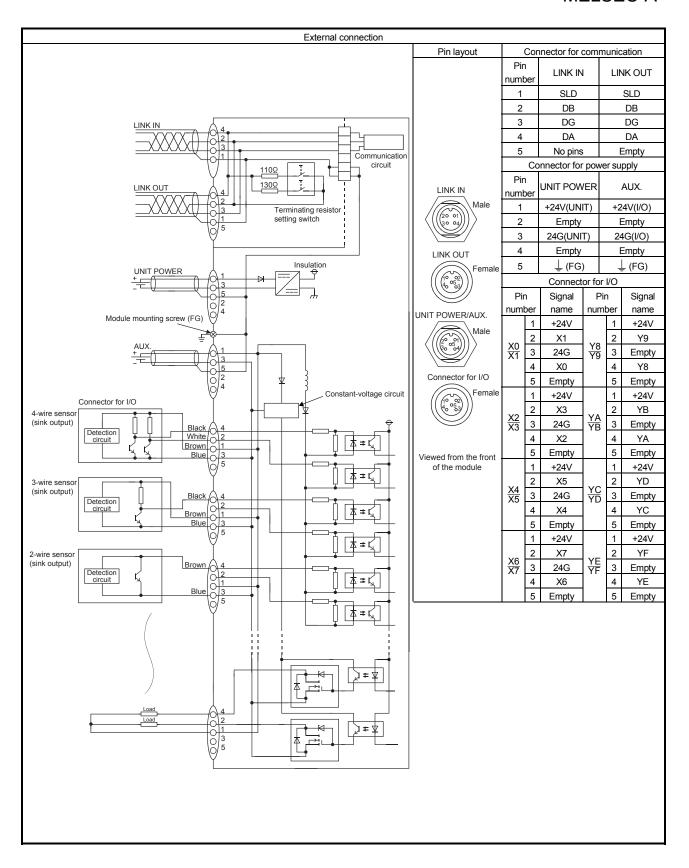




# 6.6 Waterproof Type Combined Module

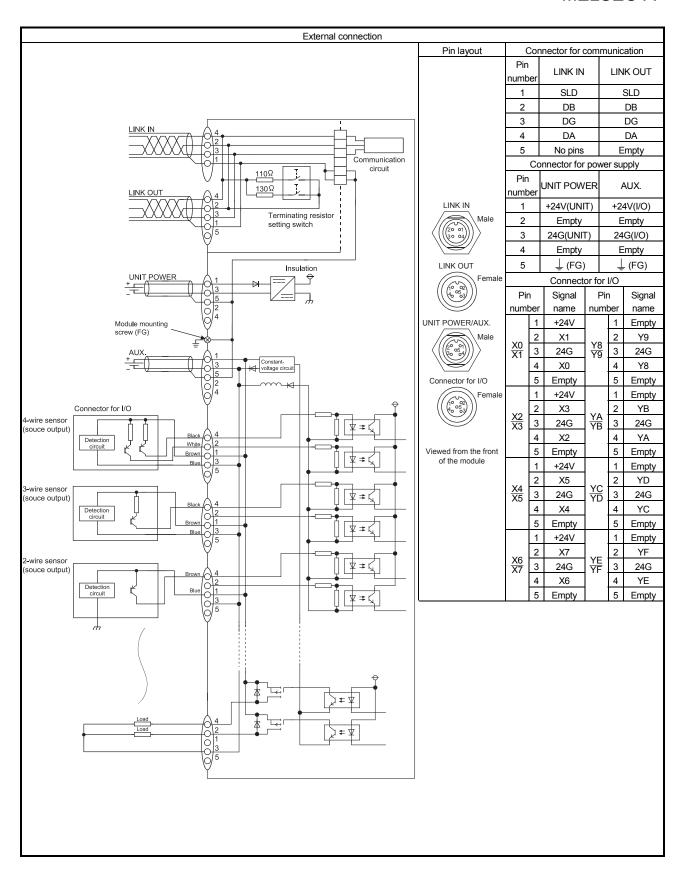
# 6.6.1 AJ65FBTA42-16DT combined module

	Type		DC in	put transisto	r output combined module	
Item	.,,,,,			TA42-16DT		Appearance
	ln	put			Output	
Number of input po	ints	8 points	Number of o	utput points	8 points	
Isolation method		Photocoupler	Isolation me	thod	Photocoupler	
Rated input voltage	ated input voltage 24VDC Ra		Rated load v	oltage	24VDC	<u> </u>
Rated input current		Approx. 7mA	Operating lo range	ad voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
Operating voltage r	ange	20.4 to 26.4VDC (ripple ratio: within 5%)	Max. load cu	ırrent	0.5A/point, 2.4A/common	
Max. number of siminput points	nultaneous	100%	Max. inrush	current	1.0A, 10ms or less	
ON voltage/ON cur	rent	14VDC or higher/ 3.5mA or higher	Leakage cur	rent at OFF	0.25mA or lower	
OFF voltage/OFF c	urrent	6VDC or lower/1.7mA or lower	Max. voltage	drop at ON	0.15VDC or lower (TYP.) 0.5A, 0.25VDC or lower (MAX.) 0.5A	MEL SEC AJ65FBTA42-160T
Input resistance		Approx. 3.3kΩ	Output type		Sink type	CC-Link STATION NO. POVER OL RUN
Response time	OFF→ON ON→OFF	1.5ms or less (at 24VDC) 1.5ms or less (at 24VDC)	Protection fu	ınction	Overload protection, overheat protection	STATION NO.
			Response	OFF→ON	0.5ms or less	UNIT POWER AUX. X
			time	ON→OFF	1.5ms or less (resistive load)	
			External	Voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
			power supply for output part	Current	10mA or lower (at 24VDC and all points ON), excluding external load current	X0 YB YF
Input type		Positive common (sink type)	Surge suppr	essor	Zener diode	X2 X3 X3 YA YE
Supply current for of device	onnected	1.0A or lower/common				YE YE
Wiring method for o	ommon	16 points/common (2- to 4-wire,	waterproof cor	nnector type)		
Number of occupie	d stations	32-point assignment/station (16 p	points used)			
Module power	Voltage	20.4 to 26.4VDC (ripple ratio: wit	hin 5%)			
supply	Current	50mA or lower (at 24VDC and al	points ON)			
Noise immunity		Noise voltage 500Vp-p, noise wid noise frequency 25 to 60Hz (DC		nulator condi	tion)	
Withstand voltage 500VAC for 1 minute between all [						╡
Insulation resistance $10M\Omega$ or higher between all DC extern tester)					•	
Protection degree IP67						
Weight 0.40kg						
Accessory User's manual						
Optional item Waterproof cap: A6CAP-WP2 (20 pieces)						
Other connecting d	evices	Refer to Section 1.6.1.				



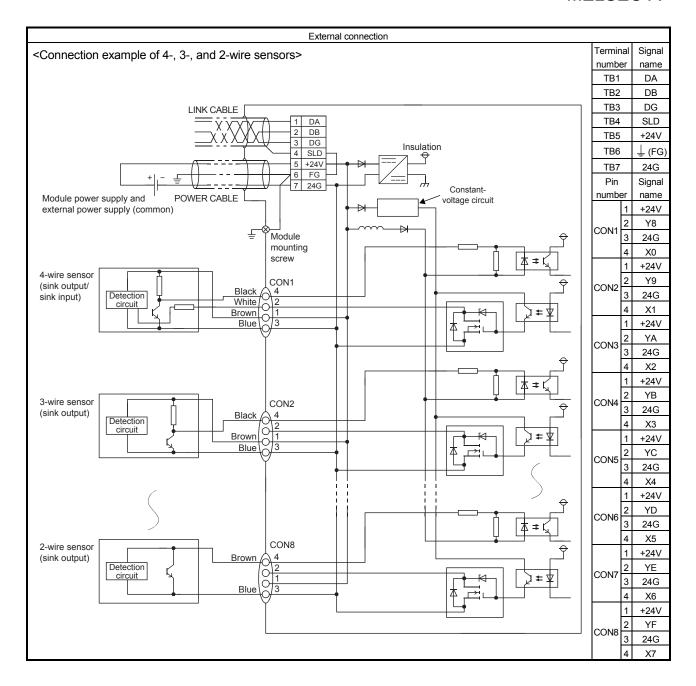
# 6.6.2 AJ65FBTA42-16DTE combined module

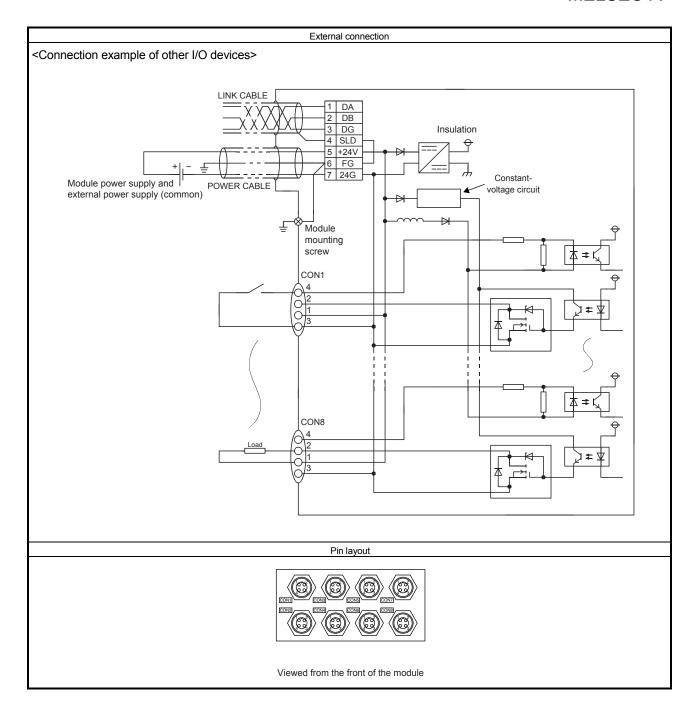
	Type		r output combined module			
Item			AJ65FE	TA42-16DTE	<u> </u>	Appearance
	In	put			Output	
Number of input poi	nts	8 points	Number of o	output points	8 points	
Isolation method		Photocoupler	Isolation me	ethod	Photocoupler	
Rated input voltage		24VDC	Rated load	voltage	24VDC	
Data Cara La const		A	Operating load voltage		20.4 to 26.4VDC	
Rated input current		Approx. 7mA	range		(ripple ratio: within 5%)	
Operating voltage ra	ange	20.4 to 26.4VDC (ripple ratio: within 5%)	Max. load c	urrent	1.0A/point, 4A/common	
Max. number of sim input points	ultaneous	100%	Max. inrush	current	2.0A, 10ms or less	
ON voltage/ON curr	ent	14VDC or higher/ 3.5mA or higher	Leakage cu	rrent at OFF	0.3mA or lower	
OFF voltage/OFF cu	urrent	6VDC or lower/1.7mA or lower	May valtas	e drop at ON	0.15VDC or lower (TYP.) 1.0A,	
Input resistance		Approx. 3.3kΩ	iviax. voitag	e urop at ON	0.2VDC or lower (MAX.) 1.0A	
Response time	OFF→ON	1.5ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less	MFL SFC A JOSEPHAA2-16DTE
Response time	ON→OFF	1.5ms or less (at 24VDC)	time	ON→OFF	1.5ms or less (resistive load)	CC-Link
			Output type		Source type	STATION NO. POYER & & L. RAN POTECT & & L. ERR XII & & Q. ERR
			Protection function		Overload protection, overheat protection (The LED turns on when any	UNIT POWER AUX.
					protection is activated.)	
			External Voltage		20.4 to 26.4VDC (ripple ratio: within 5%)	
			power supply for		15mA or lower	
			output part	Current	(at 24VDC and all points ON), excluding external load current	
Input type		Negative common (source type)	Surge supp	ressor	Zener diode	
Supply current for codevice	onnected	1.0A or lower/common				
Wiring method for co	ommon	16 points/common (input: 2- to 4-wire waterproof con	nector type,	output: 2-wire	e waterproof connector type)	XX W TI
Number of occupied	l stations	32-point assignment/station (16 p	oints used)			
Module power	Voltage	20.4 to 26.4VDC (ripple ratio: with	in 5%)			
supply	Current	45mA or lower (at 24VDC and all	points ON)			
Noise immunitu		Noise voltage 500Vp-p, noise wid	th 1µs,			
Noise immunity noise frequency 25 to 60Hz (DC			ype noise sir	nulator condit	tion)	
Withstand voltage 500VAC for 1 minute between all			DC external	terminals and	d ground	
Insulation resistance			xternal termi	nals and grou	and (500VDC insulation resistance	
Protection degree IP67						
Weight 0.40kg						
Accessory User's manual						
Optional item Waterproof cap: A6CAP-WP2 (20 pieces)						
Other connecting de	evices	Refer to Section 1.6.1.				
					•	



# 6.6.3 AJ65SBTW4-16DT combined module

	_	Туре		DC	innut transis	tor output combined module	
Item		.,,,,,			SBTW4-16D	•	Appearance
		Input				Output	
Number of i	nput points	•	8 points	Number of o	utput points	8 points	7
Isolation me	ethod		Photocoupler	Isolation me	thod	Photocoupler	7
Rated input	voltage		24VDC	Rated load v	oltage	24VDC	
Rated input	current		Approx. 5mA	Operating lo	ad voltage	20.4 to 26.4VDC (ripple ratio: within 5%)	
Operating v	oltage range		20.4 to 26.4VDC (ripple ratio: within 5%)	Max. load current		0.5A/point, 2.4A/common	
Max. number of simultaneous input points		100%	Max. inrush	current	1.0A, 10ms or less		
ON voltage/	ON current		14VDC or higher/ 3.5mA or higher	Leakage cur	rent at OFF	0.25mA or lower	
OFF voltage	e/OFF current		6VDC or lower/ 1mA or lower	Max. voltage	e drop at ON	0.3VDC or lower (TYP.) 0.5A, 0.6VDC or lower (MAX.) 0.5A	
Input resista	nce		Approx. 4.7kΩ	Output type		Sink type	
Response ti	me		1.5ms or less (at 24VDC)  1.5ms or less (at 24VDC)	Protection fu	ınction	Overload protection, overvoltage protection, overheat protection	
		ON-OIT	1.5ms or less (at 24VDC)	Response	OFF→ON	0.5ms or less	†r
				time	ON→OFF	1.5ms or less (resistive load)	RUN RUN (SERR. NO. 1)
						20.4 to 26.4VDC	DAMSSETWAL
				External	Voltage	(ripple ratio: within 5%)	\$ \$\frac{2}{2} \text{8.2} \text{8.2} \text{8.2} \text{9.2} \text{9.2}
				power		13mA or lower	
				supply for output part	Current	(at 24VDC and all points ON), excluding external load current	
Input type			Positive common (sink type)	ositive common (sink type) Surge suppressor Zener diode			
Wiring meth	od for common	1	16 points/common (4-wire, w	•			
			Same as that for the module				- I Source Supplier S
Number of o	occupied station		32-point assignment/station		ed)		
Module pow	er supply	Voltage	20.4 to 26.4VDC (ripple ratio		•••		
		Current	50mA or lower (at 24VDC ar		IN)		
Noise immu	nity		Noise voltage 500Vp-p, nois noise frequency 25 to 60Hz		o cimulator o	condition)	
Withstand v	oltago		500VAC for 1 minute between				<del> </del>    (6)   (6)
vviti istariu v	ollage		10MΩ or higher between all	- INDICATE OF THE PROPERTY OF			
Insulation re	esistance		resistance tester)				
Protection d	earee		IP67				
Weight			0.70kg	- bowers			
_			7-point two-piece terminal bl	ock [Transmis	sion circuit,	module power supply, FG]	
			M3×5.2 screw (tightening tor	que range: 0.	59 to 0.88N•	m),	T New Transport
External cor	anaction avetor		Waterproof connector				
External col	nnection system	ı	[compliant with IEC 60947-5	-2, M12, male	, 4 pins, IP6	7] (connector for I/O part)	
			<optional></optional>				
			Dustproof cap: A6CAP-DC1	• • •	vaterproof ca	ap: A6CAP-WP1 (20 pieces)	<del>- </del>
			Applicable cable size: \$5.0 to				
Annliaghla	Transmission of	circuit,	RAV1.25-3 (compliant with      Applicable wire size: 0.3 to	,			
Applicable	module power	supply part	<ul><li>[Applicable wire size: 0.3 to</li><li>V2-MS3, RAP2-3SL, TGV2</li></ul>	-			
wire size			[Applicable wire size: 1.25		S to 1/1 AVV/G	) stranded wirel	
Connector for I/O			10 2.011111 (10	_	) Stranded Wilej	┥	
	Module top-cov						7
mounting screw (M3) 0.54 to 0.64N•m							
	Module front-c	over					7
Tightening	mounting screv		0.54 to 0.64N•m				
Module mounting screw						7	
range	(M4 with plain	_	1.27 to 1.47N•m				
	finished round)						
	Nut for pipe		0.99 to 1.48N•m				7
Through pip	e specifications	3	Applicable cable size: \$5.0 to	o 8.0 mm			7
Accessory			User's manual, Waterproof p		)		7
			, , , , , ,	<u> </u>			





#### 7

#### 7 HANDLING OF COMPACT REMOTE I/O MODULES

#### 7.1 Handling and Installation Precautions

This section lists the precautions for handling and installing the compact remote I/O module for the CC-Link system.

**MARNING** 

• Do not touch any terminal or connector while power is on. Doing so will cause electric shock.



- Prevent foreign matter such as dust or wire chips from entering the module. Such foreign matter can cause a fire, failure, or malfunction.
- Do not disassemble or modify the module.
   Doing so may cause failure, malfunction, injury, or a fire.
- Do not directly touch any conductive part of the module. Doing so can cause malfunction or failure of the module.
- Do not drop or apply any strong shock to the module. Doing so may damage the module.
- 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.
- terminal screw comes loose, resulting in failure.

   Tighten the terminal screw within the specified torque range.

  Undertightening can cause fire or malfunction.
  - Overtightening can damage the screw, resulting in short circuit or malfunction.
- When disposing of this product, treat it as industrial waste.
- Use the module in an environment that meets the general specifications in this manual.
  - Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.
- Securely fix the module with a DIN rail or mounting screws. Tighten the screws within the specified torque range.
  - Undertightening can cause drop of the screw, short circuit or malfunction.

    Overtightening can damage the screw resulting in drop or short circuit
- Overtightening can damage the screw, resulting in drop or short circuit.
- Shut off the external power supply (all phases) used in the system before mounting or removing a module to/from a control panel.
  - Failure to do so may cause the module to fail or malfunction.
- (1) Tighten the module mounting screw or terminal block screw within the following torque range. Overtightening can damage the module case.
  - (a) Terminal block type, one-touch connector type, or FCN connector type

Screw	Tightening torque range		
Module mounting screw (M4 screw with plain washer finished round)	0.78 to 1.08N·m		
Terminal block screw (M3)	0.59 to 0.88N·m		
Terminal block installation screw (M3.5)	0.68 to 0.98N·m		

#### (b) Waterproof type (AJ65SBTW□-16□)

Screw	Tightening torque range
Module top cover mounting screw (M3)	0.54 to 0.64N·m
Module front cover mounting screw (M3)	0.54 to 0.64N·m
Nut for pipe	0.99 to 1.48N·m
Module mounting screw (M4 screw with plain washer finished round)	1.27 to 1.47N·m
Terminal block screw (M3)	0.59 to 0.88N·m
Terminal block installation screw (M3.5)	0.68 to 0.98N·m

#### 1

(c) Low profile waterproof type (AJ65FBTA□-16□)

Screw	Tightening torque range
Communication adapter mounting screw (M4)	0.42 to 0.58N·m
Module mounting screw (M4)	0.78 to 1.18N·m
Waterproof cap (A6CAP-WP2)	0.29 to 0.34N·m

(d) Spring clamp terminal block type or sensor connector (e-CON) type

Screw	Tightening torque range
Mounting bracket (M4)	0.82 to 1.11N·m

#### **POINT**

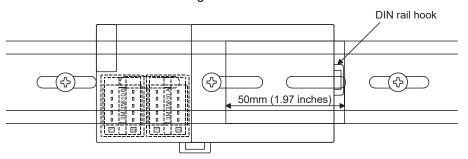
- For a terminal and a screw, avoid adhering to oil.
   Doing so may damage the screw.
- When using two solderless terminals, place them with their backs faced. If not, a screw cannot be full inserted, resulting in damage to the screw.
- Tighten the terminal screw with an applicable driver. Failure to do so may damage the screw.
- (2) A scratch-resistant film is attached on the surface of the module during transportation.

Remove the film before operation.

- (3) Observe the following points when installing a module to a control panel using a DIN rail.
  - (a) Applicable DIN rail (compliant with IEC 60715) TH35-7.5Fe TH35-7.5Al
  - (b) Mounting pitch When installing a DIN rail to a control panel, keep mounting pitches 200mm (7.87 inches) or less.
  - (c) Area where screws cannot used for Din rail installation
    When installing the AJ65VBTCE□-16□ and AJ65VBTCE□-32□ to the DIN
    rail horizontally as shown below, tighten a screw so that a certain distance will
    be ensured between the screw and the DIN rail hook on the right side of
    module.

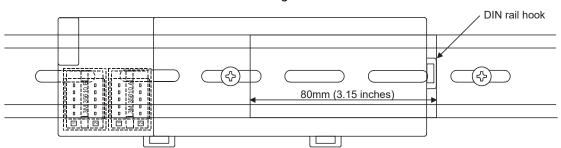
Failure to do so may cause the screw to interfere with the DIN rail hook.

 For AJ65VBTCE□-16□
 Tighten a screw keeping a distance of 50mm (1.97 inches) or more from the DIN rail hook on the right side of module.



#### 2) For AJ65VBTCE□-32□

Tighten a screw keeping a distance of 80mm (3.15 inches) or more from the DIN rail hook on the right side of module.



(4) When mounting the compact remote I/O module to a DIN rail, push in the DIN rail hook located at the bottom of the module until it clicks.

For AJ65SBTB1-8 □, AJ65SBTB1-16 □, AJ65SBTC4-16 □, AJ65SBTC1-32 □,

AJ65SBTC1-32 □, AJ65SBTB2-8 □,

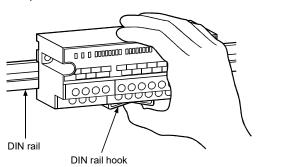
AJ65SBTB2N-8 □, AJ65SBTB32-8 □,

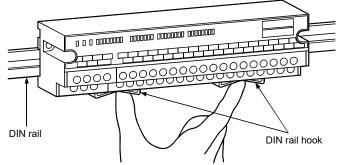
AJ65VBTS □ -16□, AJ65VBTCE □ -8 □,

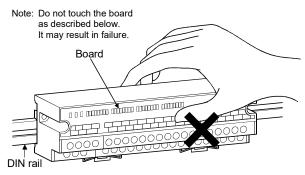
AJ65VBTCE □ -16 □

compact remote I/O modules

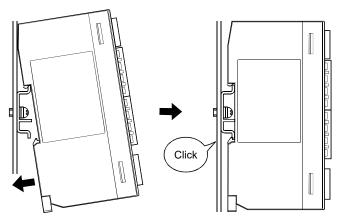
For AJ65SBTB1B-16 □, AJ65SBTB1-32 □, AJ65SBTB2-16 □, AJ65SBTB2N-16□, AJ65SBTB32-16□, AJ65SBTB32-16□, AJ65VBTS□-32□, AJ65VBTCE□-32□ compact remote I/O modules





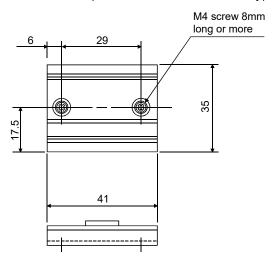


(5) When mounting the compact remote I/O module on the DIN rail, put its upper hook onto the fixing bracket and push the module until it clicks.

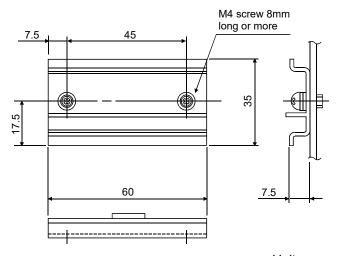


#### [Mounting dimensions]

(a) A6PLT-J65V1 (For module width 41mm only)



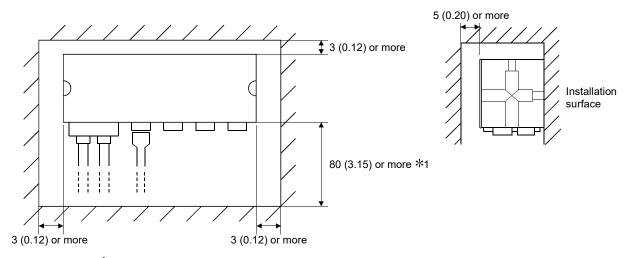
(b) A6PLT-J65V2 (For module width 60mm only)



Unit: mm

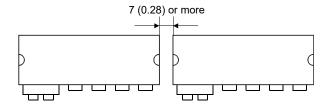
- (6) Do not install the compact remote I/O module to the place where:
  - (a) an ambient temperature is outside the range of 0 to 55°C (0 to 45°C for the waterproof remote I/O module),
  - (b) ambient humidity is outside the range of 10 to 99%RH,
  - (c) condensation occurs due to a sudden temperature change,
  - (d) corrosive gas or combustible gas is present,
  - (e) conductive powder (such as dust and iron powder), oil mist, salinity, or organic solvent is filled,
  - (f) the module is exposed to direct sunlight,
  - (g) a strong electric field or strong magnetic field is generated, and
  - (h) the module is subject to vibration or shock.

- (7) When installing the compact remote I/O module into a panel, etc., provide 60mm (2.36 inches) or more of space between the top and bottom of the module and other structures or parts so that good ventilation and ease of operation when exchanging modules can be secured.
- (8) Install the compact remote I/O module on a level surface.
  If the surface is uneven, unnecessary force is applied to the printed circuit board, causing malfunction.
- (9) When installing the waterproof-type remote I/O module, provide the space shown in the figure below between the top and bottom of the module and other structures or parts so that good ventilation can be secured and that interference and application of load on the waterproof connector can be prevented. When connecting two modules in parallel, secure 5mm (0.2 inches) of space between them.



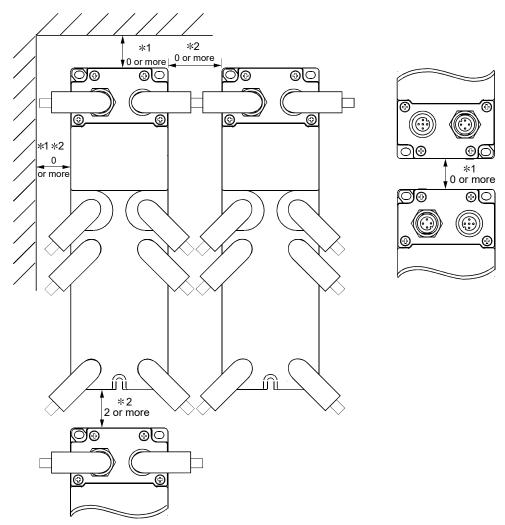
\*1 Provide a space so that no load is applied to the cable (the space differs depending on the waterproof connector used).

<When two modules are installed in parallel>



Unit: mm (inch)

(10) If a waterproof cap is being installed on the low profile waterproof type remote I/O module, in order to improve ventilation and also to prevent interference, as well as to prevent a load from bearing on the waterproof connector, all the distances shown in the following figures between the module's side surfaces and the structure or parts.



- \*1 If you disconnect and connect the communications adapter, set the operating distance using a screwdriver, etc.
- \*2 If you are using a right angle type waterproof plug or Y branch connector, set a distance where no load will be brought to bear on the cable.

(11) When installing the sensor connector (e-CON) type modules in parallel, take intervals between the modules as shown below.

(The interval is required for the size of a DIN rail hook or mounting brackets.)

Installation method of the module	Installation orientation of the module	Interval*3	
	Basic, Upside down	Emm	
Using a DIN rail <sup>*1</sup>	(vertical installation) 5mm		
	Basic, Upside down		
	(horizontal installation)	5mm	
Using screws*2	Basic, Upside down	5mm	
	(vertical installation)		
	Basic, Upside down	45	
	(horizontal installation)	15mm	

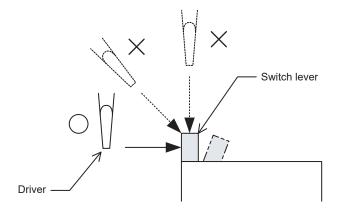
- \* 1 This is the case when a DIN rail is installed horizontally. Do not apply this interval to the AJ65VBTCE□-8□.
- \* 2 This is the case when mounting brackets are attached on the top and bottom sides of the module. If the brackets are attached on the right and left sides of the module, apply the intervals reversely. (The interval for the vertical installation is 15mm and the interval for the horizontal installation is 5mm.)
- \* 3 The interval indicates the distance from the modules that are installed on the either side.
- (12) When handling the DIP switch, observe the following:
  - (a) Use a compact driver.

Do not handle the DIP switch with a mechanical pencil or a sharp, such as a pair of tweezers and a needle.

If the lead or lead powder of a mechanical pencil enters into the switch, a failure may result. Or if it drops into a circuit board, an electrical problem may result.

Using a sharp may damage the switch, resulting in failure.

(b) Slide the switch lever one by one horizontally to the intended direction. If the driver pushes the switch lever at an angle or from the right above, the switch may be damaged or transformed due to the pressing load.



## 7.2 Wiring Procedures for One-touch Connector Plugs

## 7.2.1 List of one-touch connector plugs

The following table lists one-touch connector plugs applicable to the CC-Link system compact remote I/O module.

			Specifications				
Product name	Mitsubishi model name	Part model name (manufacturer)	Applicable cable	size (core)	Applicable cable size (diameter)	Maximum rated current	Color of the cover
One-touch connector plug	A6CON-P214	33104-6000FL *5	0.14 to 0.2mm <sup>2</sup> (26 to 24 AWG) 0.3 to 0.5mm <sup>2</sup> (22 to 20 AWG)		φ1.0 to 1.4mm	- 2A*7	Transparent
*1, *4	A6CON-P220	33104-6100FL *5			φ1.4 to 2.0mm		Yellow
	A6CON-P514	33104-6200FL *5			φ1.0 to 1.4mm	3A*7	Red
	A6CON-P520	33104-6300FL *5			φ1.4 to 2.0mm		Blue
One-touch connector plug for communication *2, *4	A6CON-L5P	35505-6000- B0M GF*5	Communica 0.5mm² (20 Shielded 0 0.5mm² (20	AWG)	φ2.2 to 3.0mm		Red
One-touch connector plug for power supply and FG *2, *4, *6	A6CON-PW5P	35505-6080-A00 GF*5	0.75mm² (0.66 to 0.98mm²) (18 AWG) Wire diameter: 0.16mm or more Insulating coating material: PVC (heat-resistant)		φ2.2 to 3.0mm	- 7A*7	Gray
	A6CON-PW5P- SOD	35505-6180-A00 GF*5			φ2.0 to 2.3mm		Blue
Online connector for communication *3	A6CON-LJ5P	35720-L200-B00 AK*5	-	_	_	_	-
Online connector for power supply and FG *3	A6CON-PWJ5P	35720-L200-A00 AK*5	-	_	_	_	_

<sup>\*1</sup> The A6CON-P□□□ (manufactured by Mitsubishi) is available in packs of 20 pieces.

<sup>\*2</sup> The A6CON-□5P (manufactured by Mitsubishi) is available in packs of 10 pieces.

<sup>\*3</sup> The A6CON-□J5P (manufactured by Mitsubishi) is available in packs of 5 pieces.

<sup>\*4</sup> One-touch connector plugs can no longer be used once crimped.

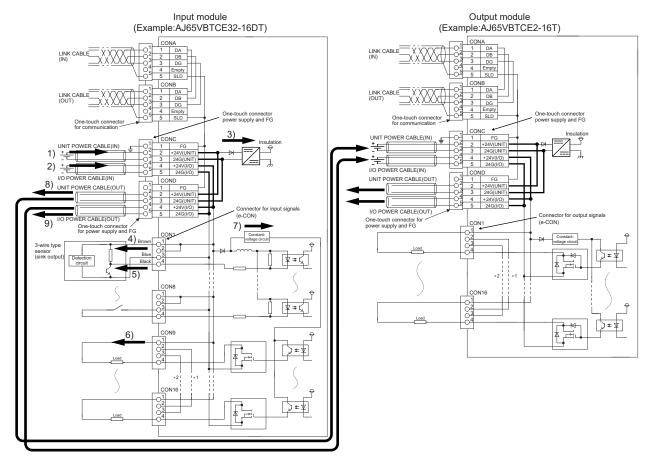
<sup>\*5</sup> The manufacturer is 3M Japan Limited.

st6 Check the outside diameter of an applicable cable and select a connector.

<sup>\*7</sup> Keep the current within the allowable range of the connected cable.

#### 7.2.2 Precautions for transition wiring of one-touch connector for power supply and FG

Current flows in the modules when they are transition wired through one-touch connectors for power supply and FG. Design the system so that the current flows in each module equals to or lower than the maximum rated current shown below.



No.	Power port	Connector	Maximum rated current
1)	Module power supply (IN)	One-touch connector for power supply and FG (No.2 and 3 pins of CONC)	7A*1
2)	I/O power supply (IN)	One-touch connector for power supply and FG (No.4 and 5 pins of CONC)	7A*1

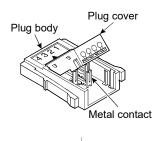
No.	Power supply	Power port (source)	Description	Maximum current consumption	
3)	Module power supply	Module power supply (IN)	Power supply for CC-Link modules	Module power supply	
4)	Power supply for input device		Power supply for input devices connected, such as sensors	Supply current for connected device	
5)	Input current		Input signals from input devices	Rated input current	
6)	External load power supply	I/O power supply (IN)	Power supply that is consumed by the load	Maximum load current	
7)	External power supply for output part		Power supply for output circuits	External power supply for output part current	
8)	Module power supply (OUT)	Module power supply (IN)	Power supply for the modules and external devices connected by transition wiring	Depends on the modules and external devices connected	
9)	I/O power supply (OUT)	I/O power supply (IN)	Power supply for the modules and external devices connected by transition wiring		

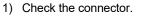
<sup>\*1</sup> The value of 1) equals to the sum of 3) and 8). The value of 2) equals to the sum of 4), 5), 6), 7), and 9). Design the system so that each value of 1) and 2) equals to or lower than the maximum rated current (7A).

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#### 7.2.3 Wiring procedures for the one-touch connector

This section describes the wiring procedures for the one-touch connector of the one-touch connector type or connector type compact remote I/O module.

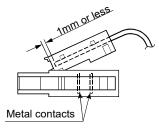




Check that a plug cover is attached to the plug.

Note: Do not press the plug cover firmly into the plug before a cable is inserted.

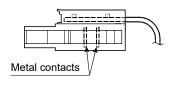
Once crimped, the plug can no longer be used.



#### 2) Insert a cable. (\*1)

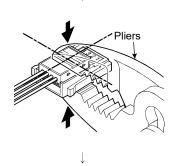
Lift the end of the plug cover and insert a cable until it reaches the other end of the cover (within 1mm from the other end). Failure to do so may cause an improper crimping.

Note: When inserting the cable, prevent the cable from sticking out from the plug cover end.



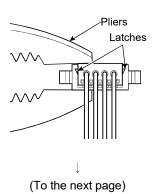
#### 3) Set the plug cover.

After the cable is inserted, put down the plug cover and set it to the position where the metal contacts fit into the cover.



4) Crimp the plug cover into the plug.

Hold the center of the plug cover with pliers and press it vertically into the plug.

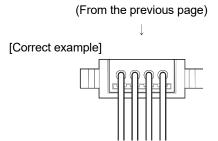


5) Press the latches into the plug.

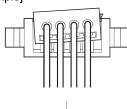
After crimping, press the latches located at both ends of the plug cover into the plug.

Check that the cover is fixed to the plug with the latches.

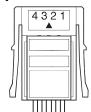
7 - 11 7 - 11



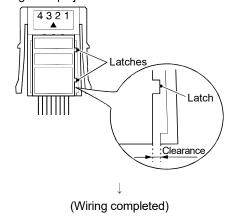
[Wrong example]



[Correct example]



[Wrong example]



Check that the plug cover is horizontally-embedded to the plug.
 Check also that the cover is not floating.

Note: As shown in the wrong example on the left, if the cover is not horizontally-embedded or the cover is floating, it may result in improper crimping.

Press the plug cover firmly into the plug with pliers. (Refer to the correct example.)

7) Check the crimped state from the top.

Check that there is no clearance between the plug and the cover.

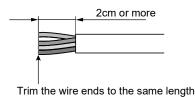
Note: As shown in the wrong example on the left, if the latch is not securely engaged, clearance occurs between the plug and the cover.

Press the plug cover firmly into the plug with pliers. (Refer to the correct example.)

\*1 When a cabtyre cable is used:

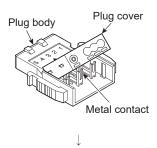
Strip the cable jacket 2cm or more.

If the wire lengths are not even, trim their ends with nippers to the same length.



## 7.2.4 Wiring procedures for the one-touch connector for communication

This section describes the wiring procedures for the one-touch connector for communication used for the connector type compact I/O module.



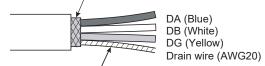
1) Check the connector.

Check that a plug cover is attached to the plug.

Note: Do not press the plug cover firmly into the plug before a cable is inserted.

Once crimped, the plug can no longer be used.

Cut the shield wire, aluminum tape and braid.

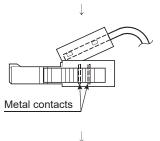


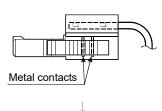
Stretch the drain wire and twist it from the base. (3cm in length, 7 times or more)

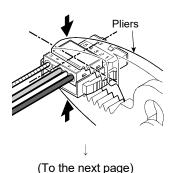
2) Prepare a communication cable for connection.

Strip the cable jacket 3cm or more and perform the processing described on the left.

If the wire lengths are not even, trim their ends with nippers to the same length.







3) Insert a cable.

Lift the end of the plug cover and insert a cable until it reaches the other end of the cover (within 1mm from the other end). Failure to do so may cause an improper crimping.

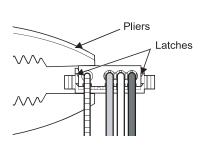
4) Set the plug cover.

After the cable is inserted, put down the plug cover and set it to the position where the metal contacts fit into the cover.

 Crimp the plug cover into the plug.
 Hold the center of the plug cover with pliers and press it vertically into the plug.

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#### (From the previous page)

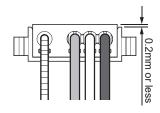


6) Press the latches into the plug.

After crimping, press the latches located at both ends of the plug cover into the plug.

Check that the cover is fixed to the plug with the latches.

#### [Correct example]



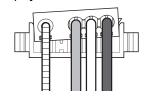
7) Check the crimped state from the side.

Check that the plug cover is horizontally-embedded to the plug. Check also that the floating part of the cover is within 0.2mm.

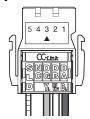
Note: As shown in the wrong example on the left, if the cover is not horizontally-embedded or the floating part is 0.2mm or more, it may result in improper crimping.

Press the plug cover firmly into the plug with pliers. (Refer to the correct example.)

#### [Wrong example]



[Correct example]



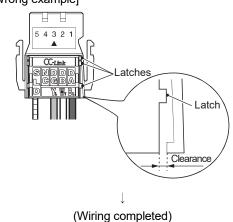
8) Check the crimped state from the top.

Check that there is no clearance between the plug and the cover

Note: As shown in the wrong example on the left, if the latch is not securely engaged, clearance occurs between the plug and the cover.

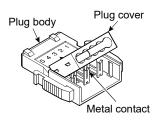
Press the plug cover firmly into the plug with pliers. (Refer to the correct example.)

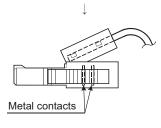
#### [Wrong example]

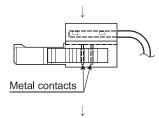


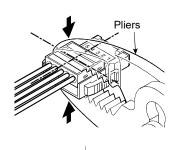
## 7.2.5 Wiring procedures for the one-touch connector for power supply and FG

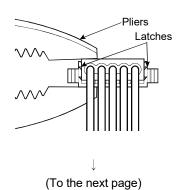
This section describes the wiring procedures for the one-touch connector used for power supply and FG of the connector type compact I/O module.











1) Check the connector.

Check that a plug cover is attached to the plug.

Note: Do not press the plug cover firmly into the plug before a cable is inserted.

Once crimped, the plug can no longer be used.

2) Insert a cable. (\*1)

Lift the end of the plug cover and insert a cable until it reaches the other end of the cover (within 1mm from the other end). Failure to do so may cause an improper crimping.

Note: Use cables applicable to the module.

3) Set the plug cover.

After the cable is inserted, put down the plug cover and set it to the position where the metal contacts fit into the cover.

4) Crimp the plug cover into the plug.

Hold the center of the plug cover with

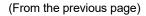
Hold the center of the plug cover with pliers and press it vertically into the plug.

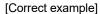
5) Press the latches into the plug.

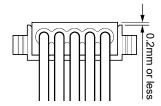
After crimping, press the latches located at both ends of the plug cover into the plug.

Check that the cover is fixed to the plug with the latches.

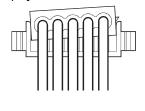
7 - 15 7 - 15







#### [Wrong example]



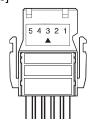
6) Check the crimped state from the side.

Check that the plug cover is horizontally-embedded to the plug. Check also that the floating part of the cover is within 0.2mm.

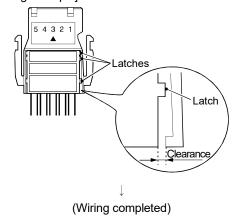
Note: As shown in the wrong example on the left, if the cover is not horizontally-embedded or the floating part is 0.2mm or more, it may result in improper crimping.

Press the plug cover firmly into the plug with pliers. (Refer to the correct example.)

#### [Correct example]



#### [Wrong example]



7) Check the crimped state from the top.

Check that there is no clearance between the plug and the cover.

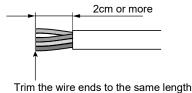
Note: As shown in the wrong example on the left, if the latch is not securely engaged, clearance occurs between the plug and the cover.

Press the plug cover firmly into the plug with pliers. (Refer to the correct example.)

\*1 When a cabtyre cable is used:

Strip the cable jacket 2cm or more.

If the wire lengths are not even, trim their ends with nippers to the same length.



## 7.3 Handling of the Waterproof-type Remote I/O Module

## 7.3.1 List of dustproof and waterproof caps

The following table lists the model names of dustproof cap and waterproof cap applicable to the CC-Link system waterproof-type remote I/O module.

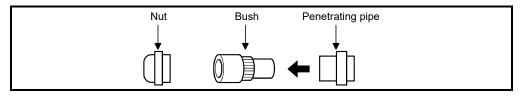
	Mitsubishi model name	Specifications
Dustproof cap *1	A6CAP-DC1	
Waterproof cap *1	A6CAP-WP1	Protection of degree IP67

<sup>\*1</sup> A pack of A6CAP- □□1 (manufactured by Mitsubishi) includes 20 pieces.

### 7.3.2 Waterproof plug attachment procedure

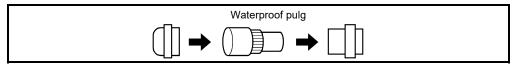
The attachment procedure for the waterproof plug supplied with the AJ65SBTW4-16□ is shown below. In order to prevent water leakage, attach a waterproof plug to the penetrating pipe for the transmission and module power-supply lines in the following way.

1) Remove the nut and bushing from the penetrating pipe attached to the module.



2) Insert the waterproof plug into the penetrating pipe and secure it by tightening the nut.

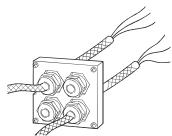
Tightening torque: 0.99 to 1.48N·m



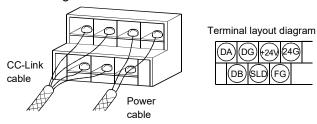
## 7.3.3 Wiring procedure for the terminal block

This section describes the wiring procedure of a terminal block to the waterproof-type remote I/O module.

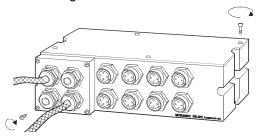
1) Remove the module front cover, and pass the cables through the through pipe for the transmission and module power-supply lines.



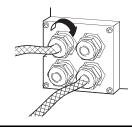
2) Open the module top cover and remove the terminal block, then perform wiring to the terminal block.



3) Secure the terminal block using screws, then fasten the module front and top covers using screws.



4) Tighten the nut\* on the through pipe for the transmission and module power-supply lines.



### **POINT**

- Always install a waterproof plug to the unused through pipe for the transmission and module power-supply lines. (Refer to Section 7.3.2.)
- When wiring the transmission and module power-supply lines, please take care not to apply force in excess of 0.39N·m excessive force to the wiring at the inlet.
- In the event of the ambient temperature exceeding 56 °C after wiring the unit, make sure to re-tighten the nuts.

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## 7.4 Handling of the Low Profile Waterproof Type Remote I/O Module

## 7.4.1 List of waterproof caps

The model name of the waterproof cap applicable to the CC-Link system low profile waterproof type remote I/O module (AJ65FBTA $\Box$ -16 $\Box$ ) is shown below. The following table lists the model names of waterproof cap applicable to the CC-Link system low profile waterproof type remote I/O module (AJ65FBTA $\Box$ -16 $\Box$ ).

	Mitsubishi Product Model Name	Use
Waterproof cap (20 pieces, Sold separately)	A6CAP-WP2	For LINK OUT connector and I/O connector

POINT	
The waterpro	oof cap (A6CAP-WP1) cannot be used.

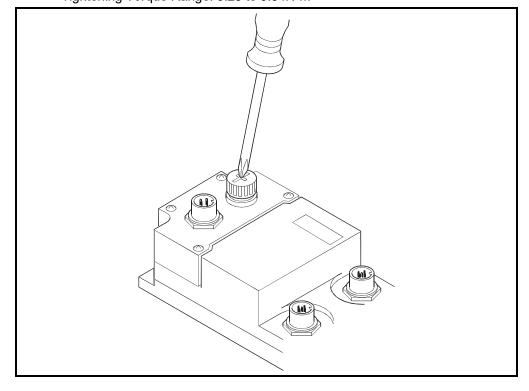
## 7.4.2 Waterproof cap installation method

The installation method for the waterproof caps packed with the product is shown below.

In order to prevent water penetration, install the waterproof caps on the unused Link Out side connectors and I/O connectors using the following method.

1) Insert the waterproof cap in the empty connector on the main module, then tighten it.

Tightening Torque Range: 0.29 to 0.34N·m



7 - 19 7 - 19

## 7.5 Connectors and Tools Used for Connecting the FCN Connector Cables

WARNING

• When connecting the connector cables by crimp-contact, pressure-displacement or soldering, make sure to use the tools listed in the table below. Attach the connectors securely to the module.

Three types of 40-pin connectors are available for the AJ65□BTCF1-32□ and the AJ65□BTCF1J-32□; they are soldering type, pressure-displacement type and crimp-contact type.

Please purchase the required 40-pin connector, and either pressure-displacement or crimp-contact type tool according to the listing below.

## (1) Connector types

Туре	Model name
Soldering type connector (Straight-out type)	A6CON1
Crimp-contact type connector (Straight-out type)	A6CON2
Pressure-displacement type connector (Flat cable type)	A6CON3
Soldering type connector (Straight-out/diagonal-out type)	A6CON4

#### (2) Crimp-contact and pressure-displacement type tools

Туре	Model name	Cable size	Manufacturer
Crimp-contact tool	FCN-363T-T005/H	28 to 24 AWG	
	FCN-367T-T012/H		
	(locator plate)	28 AWG	FUJITSU COMPONENT LIMITED
Pressure-	FCN-707T-T001/H	(strand cable) 30 AWG	
displacement tool	(cable cutter)		
	FCN-707T-T101/H	(single cable)	
	(hand press)		

## 7.6 Attaching and Removing the Protective Cover for the Compact Remote I/O Module

Covering the front of CC-Link system compact remote I/O module with a protective cover can prevent the following accidents:

- Improper contact to the terminal block or connector.
- · Module malfunction resulted from connector drop.

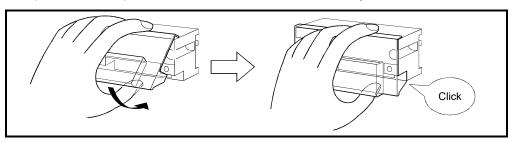
For the model name of the protective cover for the compact remote I/O module, see Section 1.5.

Follow the procedure illustrated below to mount the protective cover on the module.

## (1) In the case of A6CVR-8/16/32

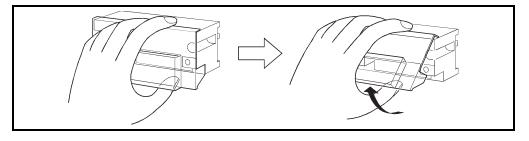
#### <How to mount>

Hook the top of the protective cover onto the top of the remote I/O module, then push the lower part of the cover toward the module until you hear a click sound.



#### <How to remove>

Place your thumb under the protective cover and pull it upwards.

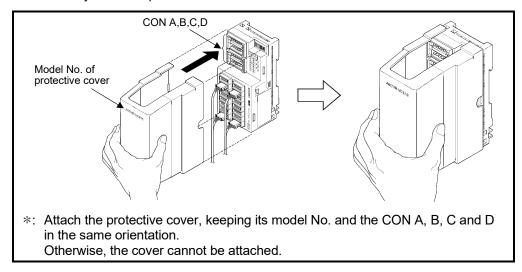


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## (2) In the case of A6CVR-VCE8/16

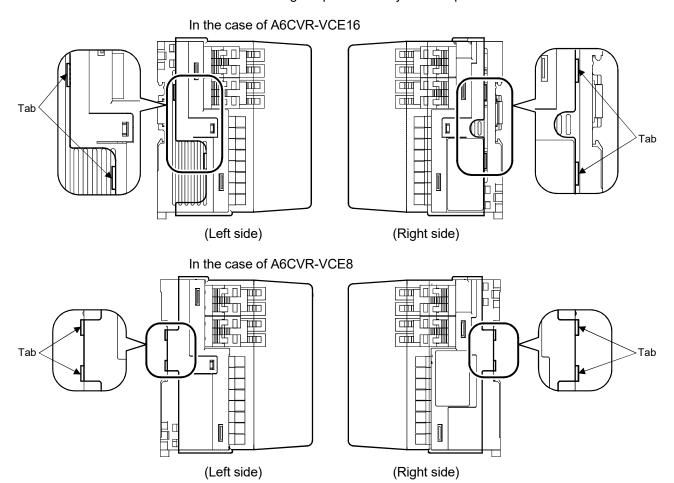
#### <How to mount>

Confirm the orientation of the protective cover as shown in the diagram below. Then, attach the cover straight to the module as shown by the arrow and push in securely until it stops.



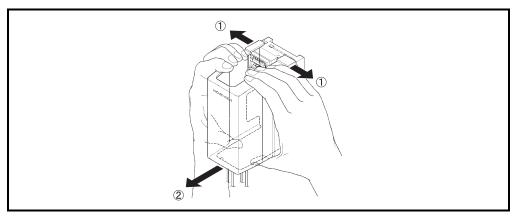
Securely fix tabs of the protective cover to the groove of the module as shown below.

Note that the fixing tab positions vary with the protective cover used.



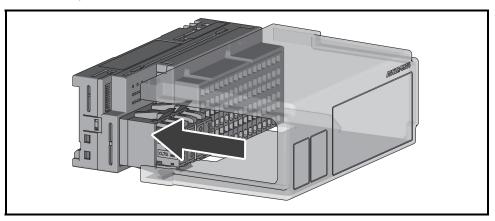
## <How to remove>

Extend the width of protective cover slightly as shown by the arrow 1). Then, pull it out vertically from the module as shown by the arrow 2).



# (3) In the case of A6CVR-VS16 <How to mount>

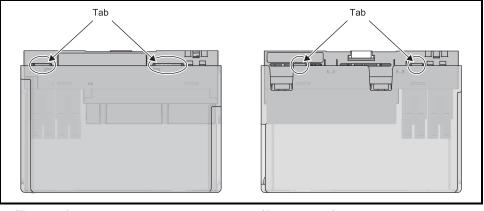
Attach the protective cover as shown below.



Attach the protective cover so that the online connector for communication on the module is opposite to the model name of the protective cover. Do not attach the cover in the direction other than that shown above.

Securely engage tabs of the protective cover with the grooves on the module as shown below.

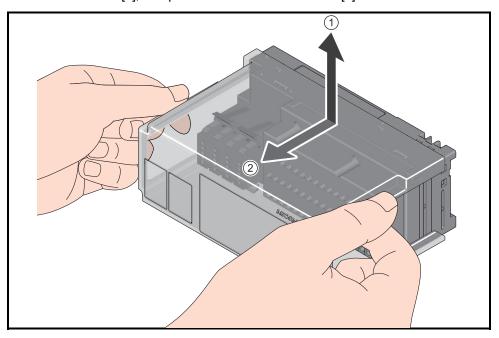
Note that the locations of tabs vary depending on the protective cover used.

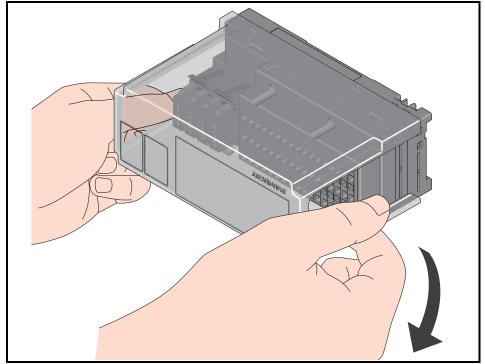


(Top part) (Bottom part)

#### <How to remove>

Hold the both ends of the protective cover (top part) as shown below. To disengage the tabs from the module, lift up the protective cover in the direction of arrow [1], and pull it in the direction of arrow [2].

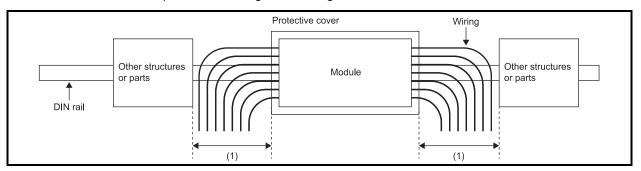




Hold the both ends of the protective cover (bottom part), slightly push it down, and pull it in the direction of arrow [2] as you did for the top part of the cover.

## <Pre><Pre>cautions for installing the module>

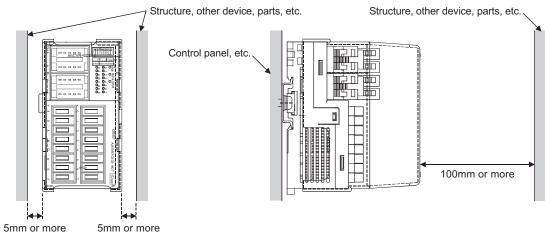
Using the module with the A6CVR-VS16 (protective cover) attached requires a configuration where cables come out from both sides of the module. Therefore, in such a case, have enough spaces between the module and other structures or parts considering the bending radius of the cables used.



(1) Distance determined considering the bending radius of the cables

#### POINT

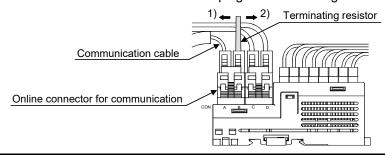
(1) When attaching the protective cover, ensure the space of 50mm or more between the target module and the modules on the right and left sides. Also, ensure the space of 100mm or more over the upper part of the module, so that the cover can be pulled upward.



- (2) Fix the wiring with a clamp or similar parts. Failure to do so may apply force to the protective cover, resulting in it falling from the module. In addition, the wiring cable may be damaged.
- (3) When attaching a one-touch connector plug with terminating resistor (A6CON-TR11(N)) together with an online connector for communication (A6CON-LJ5P), follow the procedure provided below.

Failure to do so may cause the terminating resistor, protective cover and communication cable to interfere with each other.

- Tilt the terminating resistor toward 1) or 2) as shown in the diagram below, and then attach the protective cover.
- Connect the one-touch connector plug with terminating resistor to CON B.



7 - 27 7 - 27

#### 7.7 Connection Method of CC-Link Dedicated Cable

This section describes how to connect the compact remote I/O module to the master module using CC-Link dedicated cables.

- Shut off the external power supply (all phases) used in the system before 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.

• Shut off the external power supply (all phases) used in the system before cleaning the module or retightening the terminal block screw. Failure to do so may cause the module to fail or malfunction.

## **∕**I\CAUTION

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

Keep a distance of 100mm (3.9 inches) or more between them.

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

• Individually ground the FG terminal of the programmable controller with a ground resistance of  $100\Omega$  or less.

Failure to do so may result in electric shock or malfunction.

• Tighten any unused terminal screws within the specified torque range (0.42 to 0.50N·m).

Failure to do so may cause a short circuit due to contact with a solderless terminal.

- Use applicable solderless terminals and tighten them within the specified torque range. If any solderless spade terminal is used, it may be disconnected when the terminal screw comes loose, resulting in failure.
- Check the rated voltage and terminal layout before wiring to the module, and connect the cables correctly.

Connecting a power supply with a different voltage rating or incorrect wiring may cause a fire or failure.

• Securely connect the cable connectors.

Poor contact may cause malfunction.

• 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.

• 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.

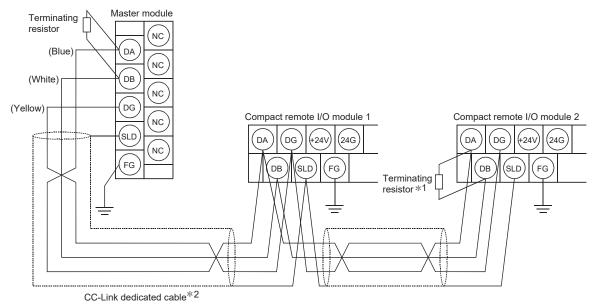
 When disconnecting the cable from the module, do not pull the cable by the cable part.

For the cable with connector, hold the connector part of the cable.

For the cable without connector, loosen the screw first and remove it.

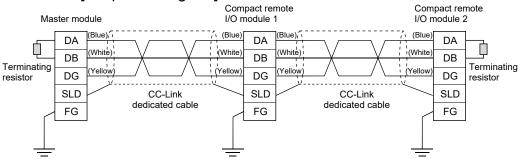
Pulling the cable connected to the module may result in malfunction or damage to the module or cable.

7 - 28 7 - 28

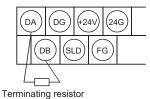


(1) The following figure shows how to connect compact remote I/O modules to a master module.

## [Simplified diagram]



\*1 Connect a terminating resistor to the compact type remote I/O module used as a terminal station as shown below. (Terminating resistors are provided with a master module.)



\*2 Use CC-Link dedicated cables in the CC-Link system.

Performance of the CC-Link system cannot be guaranteed if any cables other than the CC-Link dedicated cables are used.

For the specifications and any inquiries on the CC-Link dedicated cables, refer to the following:

CC-Link Partner Association Website: www.cc-link.org

#### POINT

Compact remote I/O modules with an input response of 0.2ms are more susceptible to noise interference than other modules. Keep the wiring of the I/O module away from power cables as much as possible.

(2) The following figure shows how to connect connector type remote I/O modules to a master module.

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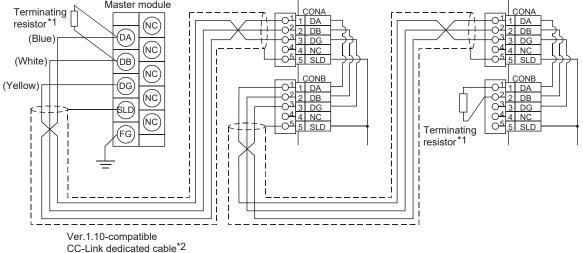
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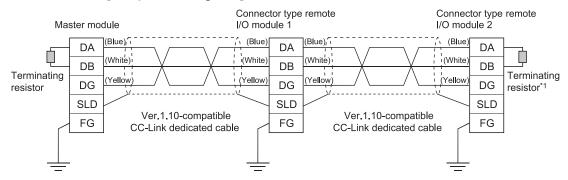
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## [Simplified diagram]



- \*1 When a connector type remote I/O module is used as a terminal station, connect a one-touch connector plug with terminating resistor (A6CON-TR11(N)).
- \*2 Use CC-Link dedicated cables in the CC-Link system.

Performance of the CC-Link system cannot be guaranteed if any cables other than the CC-Link dedicated cables are used.

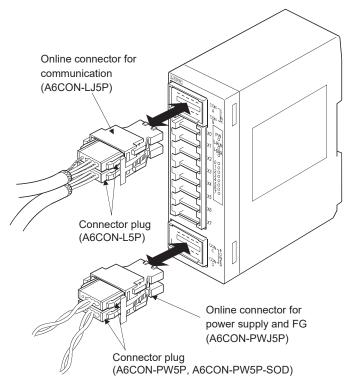
For the specifications and any inquiries on the CC-Link dedicated cables, refer to the following:

CC-Link Partner Association Website: www.cc-link.org

#### **POINT**

Compact remote I/O modules with an input response of 0.2ms are more susceptible to noise interference than other modules. Keep the wiring of the I/O module away from power cables as much as possible.

(3) The following figure shows how to connect a one-touch connector and online connector to the remote I/O module.



#### **POINT**

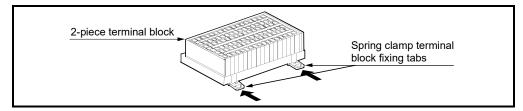
- For a one-touch connector for communication, use Ver.1.10-compatible CC-Link dedicated cables (FANC-110SBH, FA-CBL200PSBH, or CS-110).
   Ver.1.10-compatible CC-Link dedicated cables other than those above, CC-Link dedicated cables, and CC-Link dedicated high-performance cables are not
- To connect or remove a one-touch connector to/from an online connector, refer to the manual included with the online connector.

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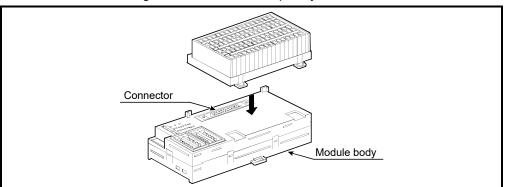
## 7.8 Handling of Spring Clamp Terminal Block Type Remote I/O Module

### 7.8.1 Installation and removal of the spring clamp terminal block

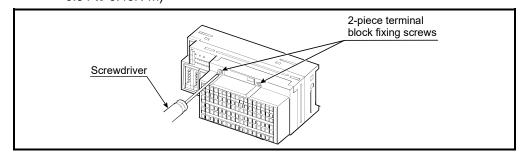
- (1) Installing the spring clamp terminal block How to install a 2-piece spring clamp terminal block is shown below. Secure the terminal block part using the following method. Incomplete installation may cause fall, short circuit or malfunction.
  - 1) Push the spring clamp terminal block fixing tabs of the 2-piece terminal block in the arrow direction until a click can be heard.



2) Connect the connector (female) of the 2-piece terminal block to the connector (male) of the module body and press it until a click can be heard. Check that both of two fixing tabs are inserted completely.



3) Tighten the 2-piece terminal block fixing screws. (Tightening torque range: 0.34 to 0.46N·m)



(2) Removing the spring clamp terminal block

Remove the spring clamp terminal block in reverse order of the above installation procedure.

- 1) Loosen the 2-piece terminal block fixing screws.
- 2) Pull out the spring clamp terminal block fixing tabs.
- 3) Lift the 2-piece terminal block to remove it from the main body.

## 7.8.2 Procedure for wiring the spring clamp terminal block

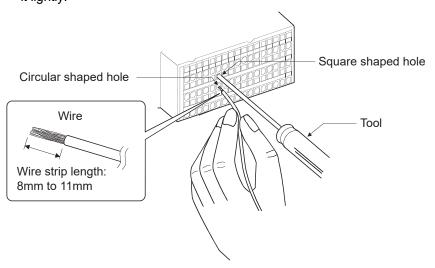
This section describes the procedure for connecting a cable to the spring clamp terminal block remote I/O module.

## (1) Precaution for connecting or disconnecting cables

- (a) When inserting two wires into the circular shaped hole of the spring clamp terminal block, use the TGWV TC1.25-T9 (manufactured by NICHIFU Co., Ltd.). Inserting two or more wires without using the TGWV TC1.25-T9 may result in a poor contact to the spring clamp terminal part.
- (b) Strip the wire according to the specification. If the wire strip length is too long, the exposed conductive part may cause electric shock or short circuit. If the wire strip length is too short, it may result in a poor contact to the spring clamp terminal part.
- (c) When using a spring clamp terminal block tool, follow the instruction below. Failure to do so may cause damage of the spring clamp terminal part or the terminal block resin part.
  - Use a dedicated tool for a spring clamp terminal block.
  - Do not insert the wire or the bar solderless terminal before inserting the tool into the square shaped hole.
  - Insert the tool vertically into the hole.

## (2) Connecting a cable

- (a) Insert the tool vertically all the way inside the square shaped hole of the remote I/O module.
- (b) Insert the wire or the bar solderless terminal into the circular shaped hole, and remove the tool from the hole.
- (c) Check that the wire or the bar solderless terminal is firmly clamped by pulling it lightly.



#### (3) Disconnecting a cable

- (a) Insert the tool vertically all the way inside the square shaped hole of the remote I/O module.
- (b) Pull the wire or the bar solderless terminal out of the hole.

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## (4) Recommended product list

Product name	Model name	Applicable wire size	Contact	
Tool (dedicated to spring clamp terminal block)	KD-5339	_	Mitsubishi Electric System Service Co., Ltd.	
Bar solderless terminal *1	TGV TC1.25-9T TGWV TC1.25-T9*2	0.3 to 1.65mm <sup>2</sup>		
Dedicated bar solderless terminal tool	NH65A	_	NICHIFU Co., Ltd.	
	TE 0.5	0.5mm <sup>2</sup>		
D	TE 0.75	0.75mm <sup>2</sup>		
Bar solderless terminal *1	TE 1	0.9 to 1.0mm <sup>2</sup>	NICHIELL Co. 14d	
	TE 1.5	1.25 to 1.5mm <sup>2</sup>	NICHIFU Co., Ltd.	
Dedicated bar solderless terminal tool	NH79	_		

<sup>\*1</sup> Use this product when doing the terminal treatment of the wire and inserting it into the spring clamp terminal block.

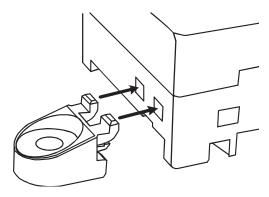
<sup>\*2</sup> Use this product when inserting two wires to one terminal.

## 7.9 Attaching Mounting Brackets to the Module

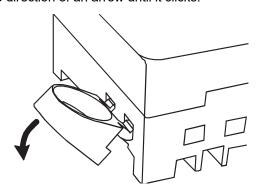
## 7.9.1 Attachment of mounting brackets

This section describes the procedures for directly installing the AJ65VBTS□-□□□ or AJ65VBTCE□-□□□ to a control panel using mounting brackets and screws. If the module is not fixed securely, it can cause drop of the module, short circuit, or malfunction.

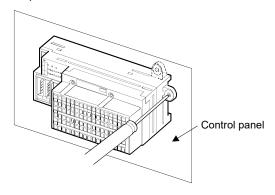
(1) Align the projections of a mounting bracket with the corresponding slots of the module



(2) Obliquely insert the projections to the slots, and press down the mounting bracket in the direction of an arrow until it clicks.



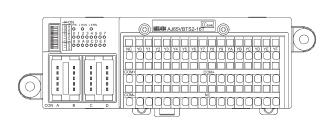
(3) Screw the mounting bracket to a control panel. (Tightening torque range: 0.82 to 1.11N·m)

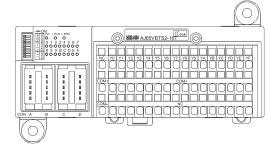


## 7.9.2 Precautions for attaching mounting brackets

The mounting brackets can be attached differently depending on the modules. Attach them to two positions.

(1) AJ65VBTS $\Box$ -16 $\Box$  The mounting brackets can be attached as shown below (two different ways).

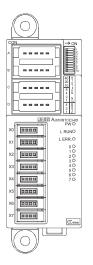


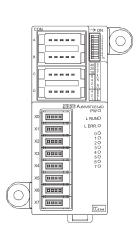


(2) AJ65VBTS $\square$ -32 $\square$  The mounting brackets can be attached as shown below (only one way).



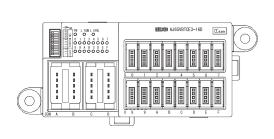
(3) AJ65VBTCE□-8□ The mounting brackets can be attached as shown below (two different ways).

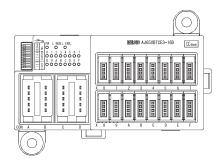




## (4) AJ65VBTCE $\square$ -16 $\square$ , AJ65VBTCE $\square$ -32 $\square$

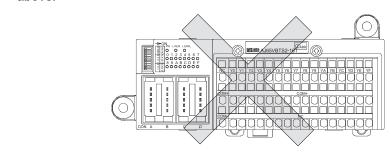
The mounting brackets can be attached as shown below (two different ways).





## **POINT**

• Do not attach the mounting brackets in any ways other than those described above.



## 7.10 Mounting the DIN Rail Adapter

## 7.10.1 Specifications

The following table shows the specifications of the DIN rail adapter.

Model	A6DIN1C
Mountable module	AJ65DBTB1-32D, AJ65DBTB1-32T1, AJ65DBTB1-32R, AJ65DBTB1-32DT1, AJ65DBTB1-32DR
External dimensions	174mm (6.85 inches) × 68mm (2.68 inches) × 10mm (0.39 inches)
Weight	0.05kg
Applicable DIN rail type (conforms to IEC 60715)	TH35-7.5Fe, TH35-7.5Al, TH35-15Fe

## 7.10.2 Handling precautions

(1) The DIN rail adapter is made from resin. Do not drop or apply strong shock to the adapter.

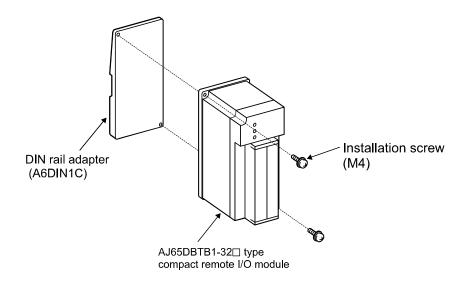
### (2) Mounting pitch

When installing a DIN rail to a control panel, keep mounting pitches 200mm (7.87 inches) or less.

## 7.10.3 Attaching the DIN rail adapter to the module

Use two M4 screws (length: 10mm (0.39 inches)) to attach the DIN rail adapter to the AJ65DBTB1-32  $\square$  type compact remote I/O module.

The tightening torque range is 0.78 to 1.18N•m.



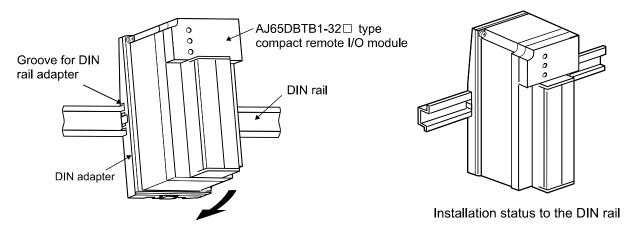
## 7.10.4 Mounting the module to a DIN rail

This section describes how to mount/remove the module to/from a DIN rail.

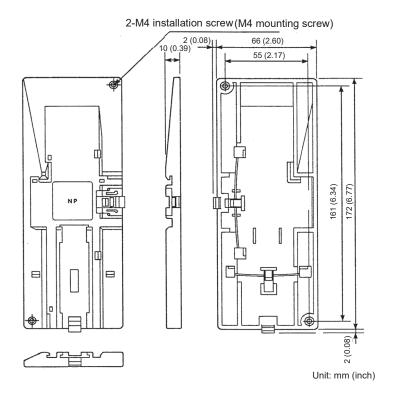
(1) Mounting to a DIN rail

Mount the module with the DIN rail adapter attached to a DIN rail as follows.

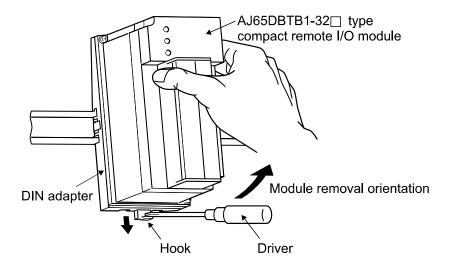
- (a) Insert the groove for DIN rail adapter into the topside of the DIN rail.
- (b) Fix the module by pressing it against the DIN rail.



(c) When multiple DIN rail adapters are installed on the DIN rail, even though the gaps among DIN rail adapters are filled, the spaces of 4mm (0.16 inches) are left among the modules.



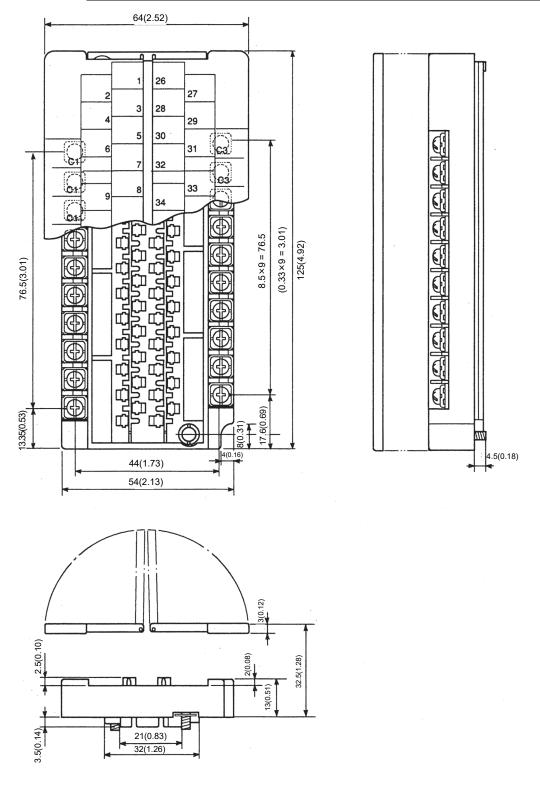
- (2) Removing the module from a DIN rail
  - Remove the module from a DIN rail as follows.
  - (a) Pull the hook at the bottom of the DIN adapter downward with flathead screwdriver (6  $\times$  100).
  - (b) With the hook pulled out, pull the module forward and remove the module from the DIN rail.



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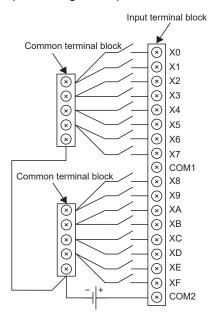
## 7.11 Common Terminal Block

Model Item	A2CCOM-TB
Mountable module	AJ65DBTB1-32D, AJ65DBTB1-32T1, AJ65DBTB1-32R, AJ65DBTB1-32DT1, AJ65DBTB1-32DR
External dimensions	125mm (4.92 inches) × 64mm (2.52 inches) × 13mm (0.51 inches)
Weight	0.12kg

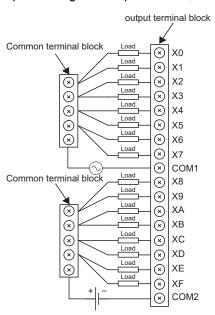


7 - 41 7 - 41

- (1) Usage example of common terminal block
  - (a) Example of usage for input module, AJ65DBTB1-32D



(b) Example of usage for output module, AJ65DBTB1-32R

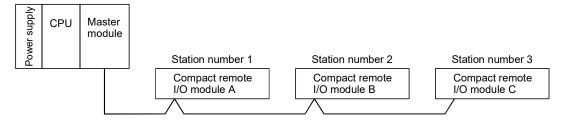


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## 8 TROUBLESHOOTING

## 8.1 Verifying Errors from LED Status

The following table lists causes and corrective actions for errors indicated by LEDs on the compact remote I/O module when the SW, M/S and PRM LEDs are all off (i.e. the master module is set properly) in the system configuration example shown below.



	LED status								
Master	Remote I/O module			Cause	Corrective action				
module	Α		В		С				
	PW	•	PW		PW				
	L RUN	•	L RUN		L RUN		Normal	_	
	L ERR.	0	L ERR.	0	L ERR.	0			
			PW		PW		Since the LEDs on the compact remote	Check the voltage of the 24V power supply, and	
	L RUN	0	L RUN		L RUN		I/O module A are all off, the 24V power	supply the proper power to the compact remote	
	L ERR.	0	L ERR.	0	L ERR.	0	is not supplied or voltage is low.	I/O module.	
	PW	*	PW		PW		The compact remote I/O module A is	Exchange the compact remote I/O module.	
	L RUN		L RUN		L RUN		malfunctioning and the LEDs are		
	L ERR.	*	L ERR.	0	L ERR.	0	unstable (all lights are off, in many		
		_				_	cases).		
TIME O	PW		PW	•	PW	•	The L RUN lights on the compact	Identify the disconnected point by referring to	
LINE O	L RUN		L RUN		L RUN		remote I/O module B and beyond are	the LED status, and correct it.	
or	or LERR. OLLERR. OLLERR. O		0	off, indicating the transmission cable					
TIME •				between the compact remote I/O					
LINE •							module A and B has been disconnected		
					5144		or removed from the terminal block.		
	PW		PW		PW		The transmission cable is shorted.	Find the shorted cable among the three	
	L RUN		L RUN		L RUN			transmission cables and repair it.	
	L ERR.		L ERR.		L ERR.		The Annual color color is setting to	North and the American Inc.	
	PW L RUN		PW L RUN		PW L RUN	_	The transmission cable is wired	Verify wiring in the terminal box of the compact remote I/O module and correct.	
	L ERR.		L RUN L ERR.		L ERR.		incorrectly.	remote 70 module and correct.	
	PW		PW	-A	PW	<u></u>	The L RUN lights on the compact	Restart the power supply after the overlapped	
	L RUN		L RUN		L RUN		remote I/O modules A and C are off,	station numbers for the compact remote I/O	
	L ERR.		L ERR.		L ERR.		· ·	modules are corrected.	
	L LIXIX.	$\overline{}$	L LINK.		L LINK.		C are overlapping.	iniodules ale conecied.	
	<u> </u>						o are evenapping.		

 $\bullet$  : lit,  $\bigcirc$  : unlit,  $\bigcirc$  : flashing, \* : lit, flashing or unlit

	LED:	status			
Master	Remote I/O module		dule	Cause	Corrective action
module	A B C		С		
	L ERR. O	PW LRUN OLERR. O	PW • L RUN • L ERR. ○	The L RUN light on the compact remote I/O module B is off, indicating the transmission speed setting for module B is invalid within the setting range (0 to 4).	Restart the power supply after the transmission speed is set correctly.
TIME O LINE O or TIME •		PW • L RUN • L ERR. ○	PW ● L RUN ● L ERR. ◎	The L ERR. of the compact remote I/O module C is flashing at fixed intervals, indicating the setting switch for module C has been changed during normal operation.	Return the setting switch of the compact remote I/O module to the original position.
LINE O		PW • L RUN • L ERR. ○	PW • L RUN • L ERR. ○	The L RUN of the compact remote I/O module A is off and L ERR. of the same module is lit, indicating the setting switch for module A is set out of range (transmission speed: 5 to 9, station number: 65 or greater).	Correct the setting switch of the compact remote I/O module, and restart the power supply.
TIME •	PW ● L RUN ● L ERR. ○	PW • L RUN • L ERR. •	PW ● L RUN ● L ERR. ○	The L ERR. of the compact remote I/O module B is lit, indicating that module B is being affected by noise. (L RUN may be off.)	Correctly perform grounding of the FGs for the master module and all compact remote I/O modules.
LINE Or TIME OLINE	PW • L RUN •	PW • L ERR. • PW • L RUN • L ERR. •	PW • L RUN • L ERR. • PW • L RUN • L ERR. •	The L ERR. lights on the compact remote I/O module B and beyond are lit, indicating the transmission cable is affected by noise in the area between modules A and B. (L RUN may be off.)  A terminal resistor is not attached. (L RUN may be off.)	Verify the grounding of the SLD of the transmission cable. Separate the wire from the power cable as much as possible (100mm (3.94 inches) or more).  Check if a terminal resistor is attached.

 $\bullet :$  lit,  $\bigcirc :$  unlit,  $\circledcirc :$  flashing, \* : lit, flashing or unlit

## POINT

The L RUN may be flashing irregularly due to noise or a wiring failure. Check for noise effects or wiring failures.

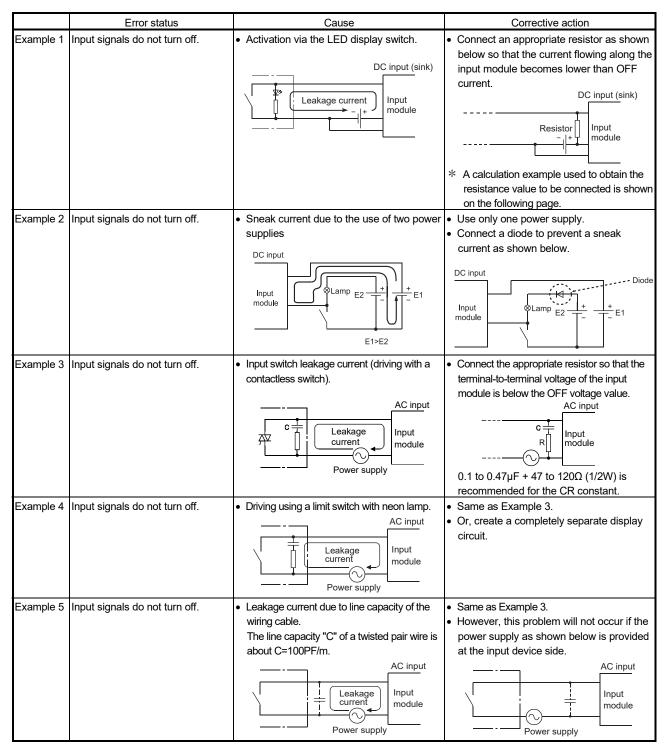
8

## 8.2 Examples of Errors for Compact Remote I/O Modules

This section explains examples of errors that occur in the input circuit, and the appropriate corrective actions.

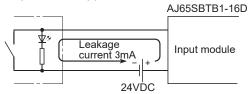
#### 8.2.1 Errors occurring in the input circuit and corrective actions

Examples of errors that occur in the input circuit and corrective actions are explained below:

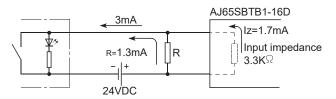


<Sample calculation for Example 1>

When a switch with LED indicator, giving leakage current of 3mA at maximum when 24VDC power is supplied to the AJ65SBTB1-16D



(1) 1.7mA or less OFF current of the AJ65SBTB1-16D is not satisfied. Hence, connect a resistor as shown below.



(2) Calculate the resistance value R as shown below.

To satisfy 1.7mA or less OFF current of the AJ65SBTB1-16D, connect a resistor which flows 1.3mA or more.

IR: Iz=Z (Input impedance): R

R
$$\leq \frac{Iz}{I_R} \times Z$$
 (Input impedance) =  $\frac{1.7}{1.3} \times 3.3 = 4.31 [k \Omega]$ 

Supposing that the resistance R is  $3.9k\Omega$ , the power capacity W of resistor R is: W = (Input voltage)  $2 \div R = 26.42 \div 3900 = 0.179$  (W)

- (3) Connect a resistor of 3.9 ( $k\Omega$ ) and 1 to 2 (W) to a terminal which may cause an error, since the power capacity of a resistor is selected so that it will be 3 to 5 times greater than the actual power consumption.
- (4) Also, OFF voltage when resistor R is connected will be as follows.

$$\frac{1}{\frac{1}{3.9[k\Omega]} + \frac{1}{3.3[k\Omega]}} \times 3[mA] = 5.36[V]$$

This satisfies 6V or less OFF voltage of AJ65SBTB1-16D.

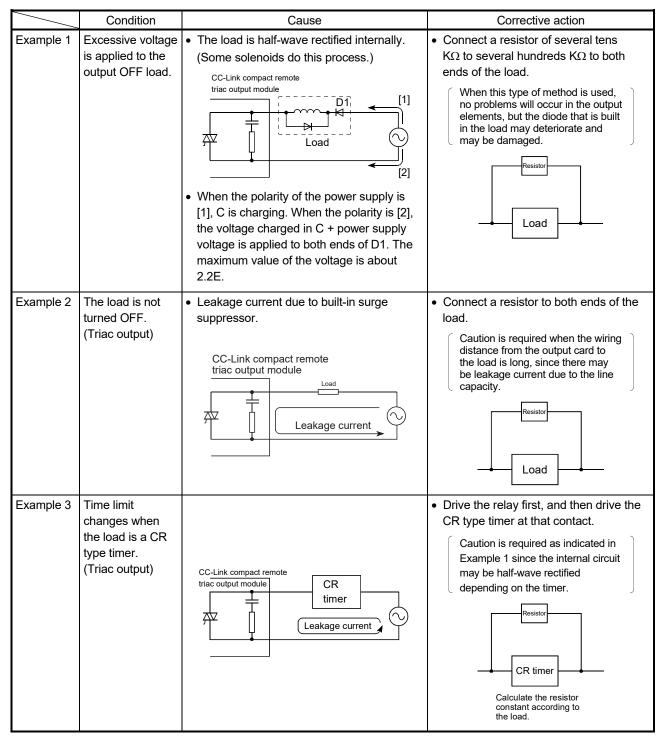
## 8.2.2 Errors occurring in the output circuit and corrective action

Examples of errors that may occur in the output circuit and the respective corrective action are described below.

## (1) When AJ65SBTB1-16T or AJ65SBTB1-32T is used

	Condition	Cause	Corrective action
Example 1	When an LED is connected as a load, sometimes the LED dimly lights up even when the output module is turned off.  (Example) LED push button manufactured by IDEC CORPORATION:     ALFN22211DNR  CC-Link compact-type remote output module  CC-Link compact-type remote output module  When a segment LED display device is connected as a load, the display contents sometimes become incorrect.  (Example) M7E digital display unit (height of character 14mm) by Omron, Co.: M7E-01DBN2  CC-Link compact-type remote output module  CC-Link compact-type remote output module  CC-Link compact-type remote output module  CC-Link compact-type remote output module	For the output modules listed below, the output module specification and the leak current specification value during OFF are 24VDC 0.5A and 0.25mA, respectively (the leak current during OFF is specified as above since an MOS with a built-in protection function and PET transistor output are used.) <applicable modules=""> AJ65SBTB1-16T, AJ65SBTB1-32T</applicable>	Connect a resistor with 5 to $50 k\Omega$ in parallel to the load LED.  Connect a pull-up resistor with 5 to $50 k\Omega$ and $0.5 (W)$ between the $24 VDC$ power supply and the output module output.

#### (2) When AJ65SBTB2(N)-8S or AJ65SBTB2(N)-16S is used

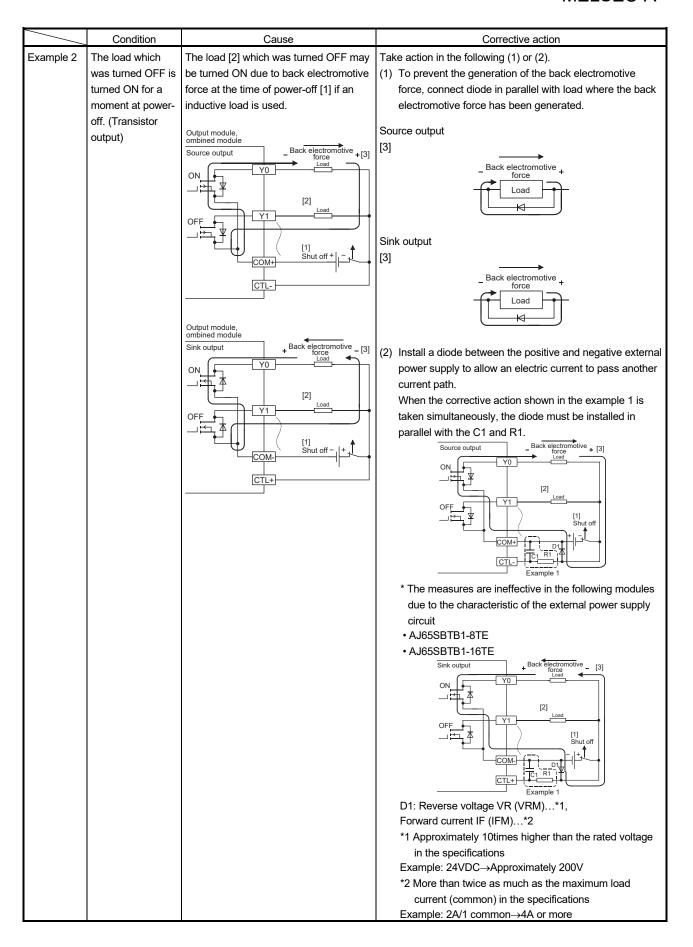


	Condition	Cause	Corrective action
Example 4	The load is not turned OFF. (Triac output)	If the load current is insufficient (lower than 25mA), the triac does not operate, causing the load current to flow into a phototriac as shown below.  If an inductive load is connected in this condition, the load may not turn off because surge at the time of off is applied to the phototriac.  CC-Link compact remote triac output module  Phototriac  Triac	Connect a resistor to both ends of a load so that the load current is higher than the minimum load current.  Resistor  Load

(3) When AJ65AJ65SBTB1-8T, AJ65SBTB2-8T, AJ65SBTB1-16T, AJ65SBTB1-32T, AJ65SBTC1-32T, AJ65SBTB32-8DT, AJ65SBTB1-16DT, AJ65SBTB1-16DT1, AJ65SBTB32-16DT, AJ65SBTB1-32DT, AJ65SBTB1-32DT1, AJ65SBTC4-16DT, AJ65SBTC1-32DT, AJ65SBTC1-32DT1, or AJ65SBTW4-16DT is used

### (4) When output module, combined module is used

	Condition	Cause	Corrective action
Example 1	Condition  When the external power supply turns on, the load turns on for a moment.	Cause  Erroneous output due to the stray capacitance (C) between collector and emitter of photocoupler.  There is no erroneous output may occur at high sensitivity load (such as solid state relay)  Output module, Combined module  Photocoupler  Photocoupler  flows due to the stray capacitance (C) between collector and emitter of photocoupler.  (2) Ic current flows to the next stage of transister Tr1 gate and Y0 output turns on by 100µs  SW: External power supply at 10ms or less	<ul> <li>(1) When the external power turns ON/OFF, check that the external power supply rising edge must be 10ms or more, and switch the SW1 to the primary side of external power supply.</li></ul>



	Condition	Cause	Corrective action
Example 3	The load operates due to powering on the external power supply. (transistor output)	The polarity of the external power supply is connected in reverse.  Transistor output module  Load Incorrect Correct  External power supply  Output element protection diode.	Connect the polarity correctly.
Example 4	When an output is turned on, a load connected to the other output is also turned on. (transistor output (source type))	If the wire connecting 0V of an external power supply and a common of a load is cut off or disconnected, the load connected to Y1 is also turned on due to a parasitic circuit of the output element that is off.  Transistor output source output  OFF Output  OUTPUT  OU	Connect the external power supply and loads correctly.  To prevent the condition described on the left, connect a diode to each output terminal as shown below.  Source output  Y0  Load  Y1  Load  COM +  24V  0V
		If a current keeps flowing under the	
		above condition, a failure may occur.	

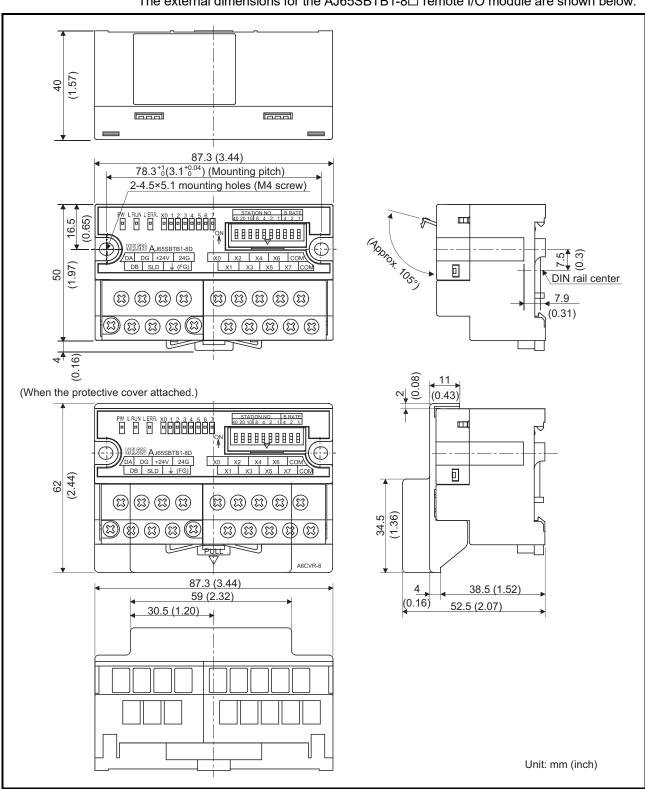
#### A

### **APPENDICES**

# Appendix 1 External Dimensions

# Appendix 1.1 AJ65SBTB1-8□ remote I/O module

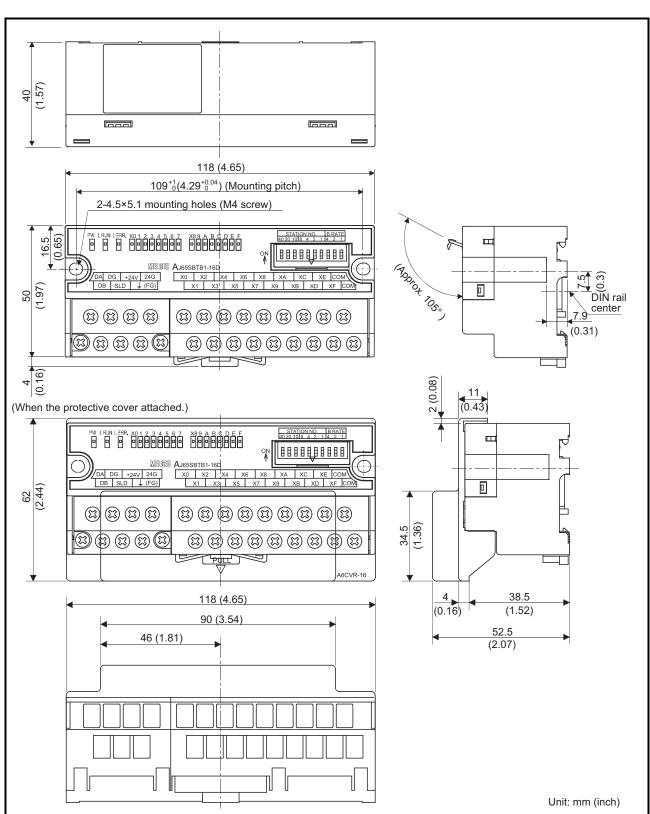
The external dimensions for the AJ65SBTB1-8□ remote I/O module are shown below.



App - 1 App - 1

### Appendix 1.2 AJ65SBTB1-16□ remote I/O module

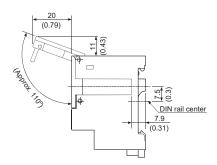
The external dimensions for the AJ65SBTB1-16  $\square$  remote I/O module are shown below.



Α

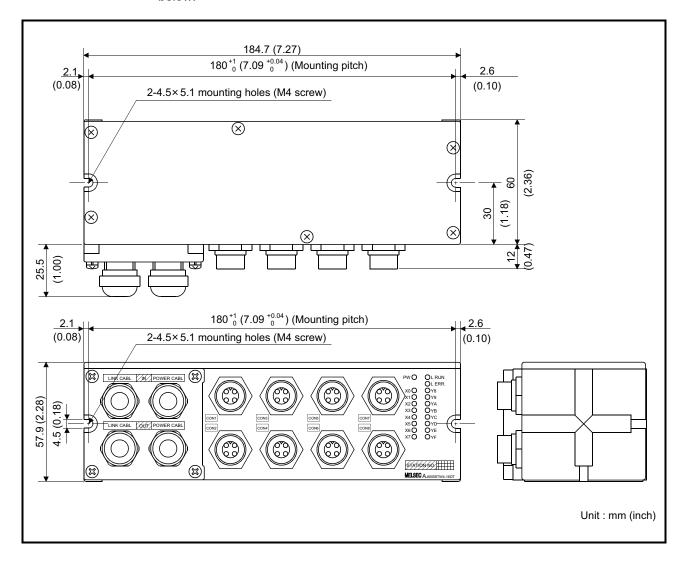
# Remark

For AJ65SBTB1-16D, AJ65SBTB1-16T Remote I/O Module of hardware version D or before, side face diagram of the module is as follows.



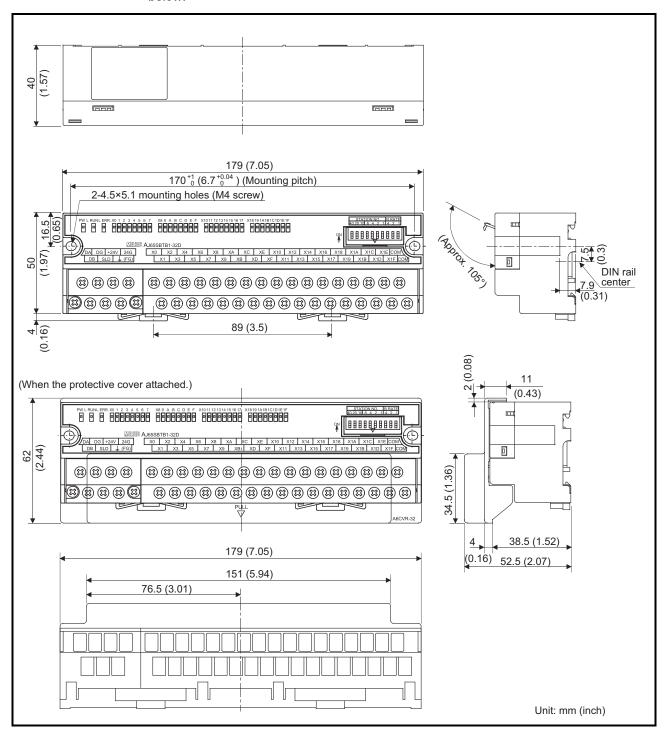
# Appendix 1.3 AJ65SBTW4-16□ remote I/O module

The external dimensions for the AJ65SBTW4-16  $\square$  remote I/O module are shown below.



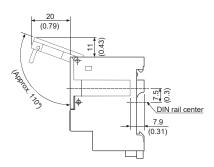
## Appendix 1.4 AJ65SBTB1-32□ remote I/O module

The external dimensions for the AJ65SBTB1-32  $\square$  remote I/O module are shown below.



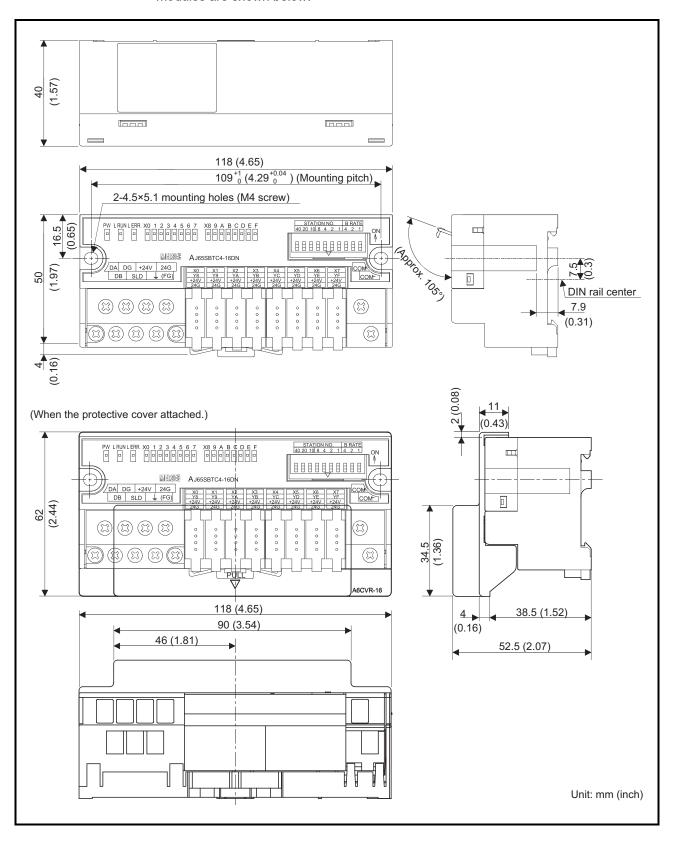
# Remark

For AJ65SBTB1-32D, AJ65SBTB1-32T Remote I/O Module of hardware version D or before, side face diagram of the module is as follows.



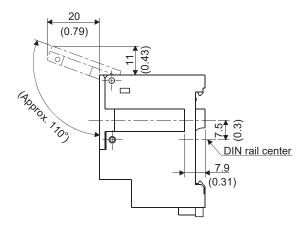
### Appendix 1.5 AJ65SBTC1-32□, and AJ65SBTC4-16□ remote I/O module

The external dimensions for the AJ65SBTC1-32 $\square$ , and AJ65SBTC4-16 $\square$  remote I/O modules are shown below.



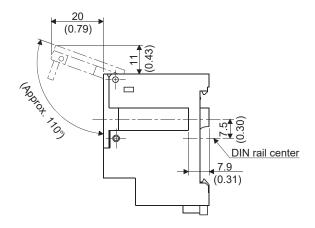
# Remark

(1) For the AJ65SBTC4-16D remote I/O module, the side view of the module is shown below.



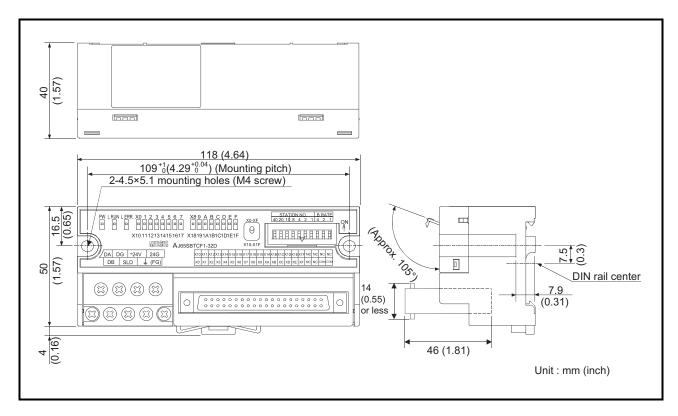
(2) For the modules given in the following table, the side view is shown below.

Model	Hardware Version	
AJ65SBTC1-32D	N or before	
AJ65SBTC1-32D1	N or before	
AJ65SBTC1-32T	Q or before	
AJ65SBTC1-32T1	E or before	
AJ65SBTC1-32DT	Q or before	
AJ65SBTC1-32DT1	Q or before	
AJ65SBTC1-32DT2	D or before	
AJ65SBTC1-32DT3	D or before	
AJ65SBTC4-16DT	J or before	
AJ65SBTC4-16DT2	C or before	



### Appendix 1.6 AJ65SBTCF1-32□ remote I/O module

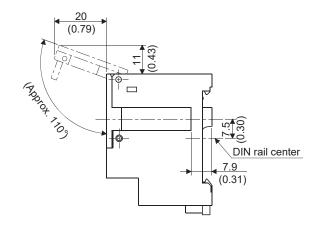
The external dimensions for the AJ65SBTCF1-32  $\square$  remote I/O module are shown below.



# Remark

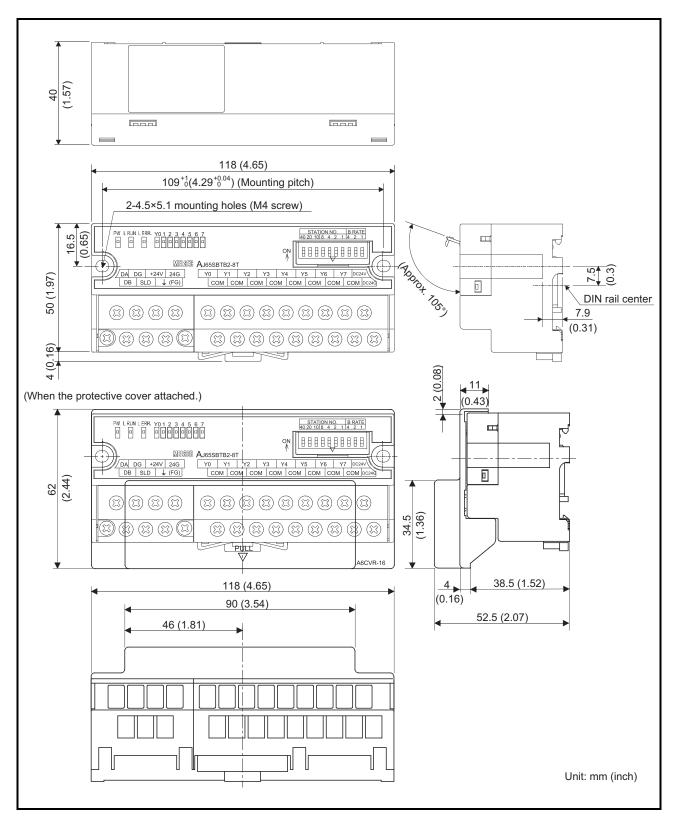
For the modules given in the following table, the side view is shown below.

Model	Hardware Version	
AJ65SBTCF1-32D	F or before	
AJ65SBTCF1-32T	F or before	
AJ65SBTCF1-32DT	F or before	



Appendix 1.7 AJ65SBTB2-8□, AJ65SBTB3-8□, and AJ65SBTB32-8□ remote I/O module

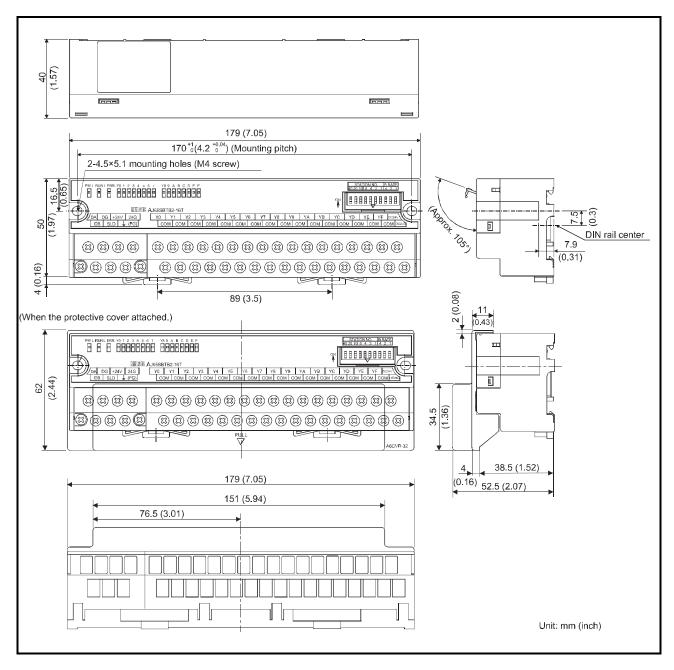
The external dimensions for the AJ65SBTB2-8 $\square$ , AJ65SBTB3-8 $\square$ , and AJ65SBTB32-8 $\square$  remote I/O modules are shown below.



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# Appendix 1.8 AJ65SBTB1B-16□, AJ65SBTB2-16□, AJ65SBTB3-16□, and AJ65SBTB32-16□ remote I/O module

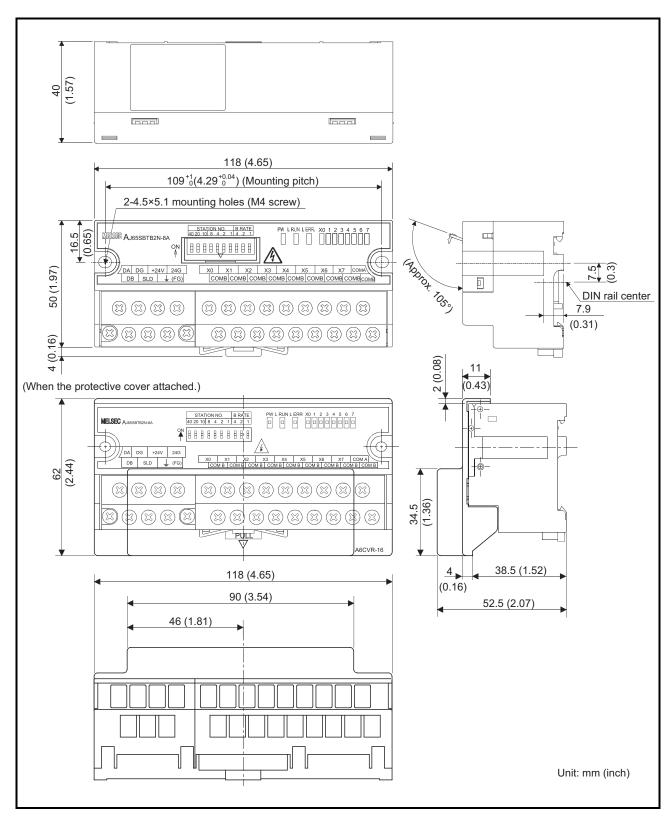
The external dimensions for the AJ65SBTB1B-16 $\square$ , AJ65SBTB2-16 $\square$ , AJ65SBTB3-16 $\square$ , and AJ65SBTB32-16 $\square$  remote I/O modules are shown below.



App - 11 App - 11

### Appendix 1.9 AJ65SBTB2N-8□ remote I/O module

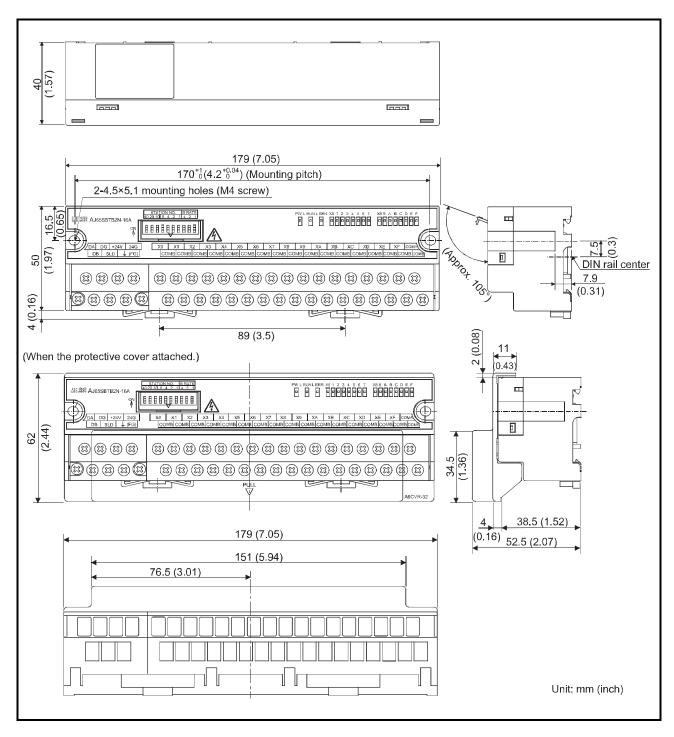
The external dimensions for the AJ65SBTB2N-8  $\square$  remote I/O module are shown below.



App - 12 App - 12

### Appendix 1.10 AJ65SBTB2N-16□ remote I/O module

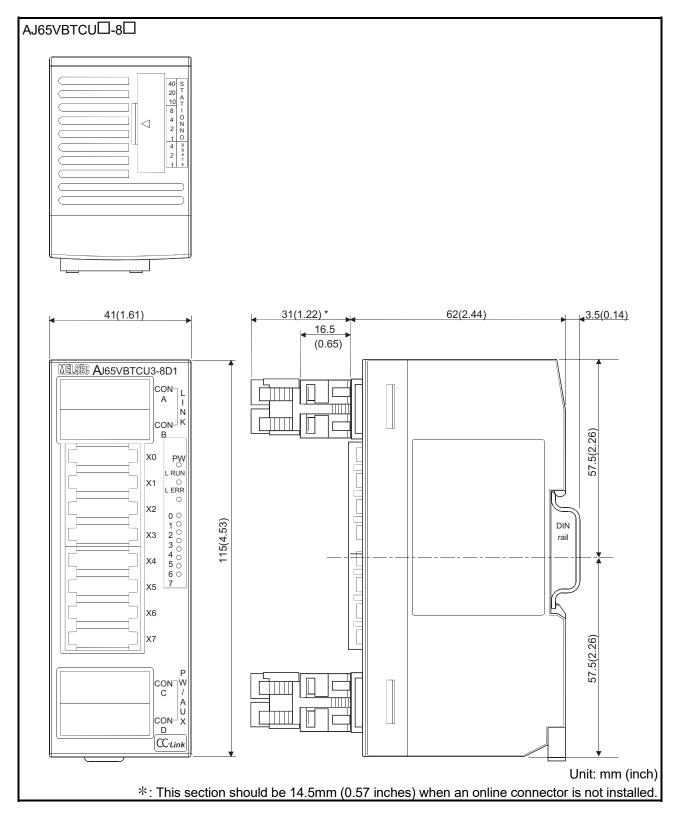
The external dimensions for the AJ65SBTB2N-16  $\square$  remote I/O module are shown below.



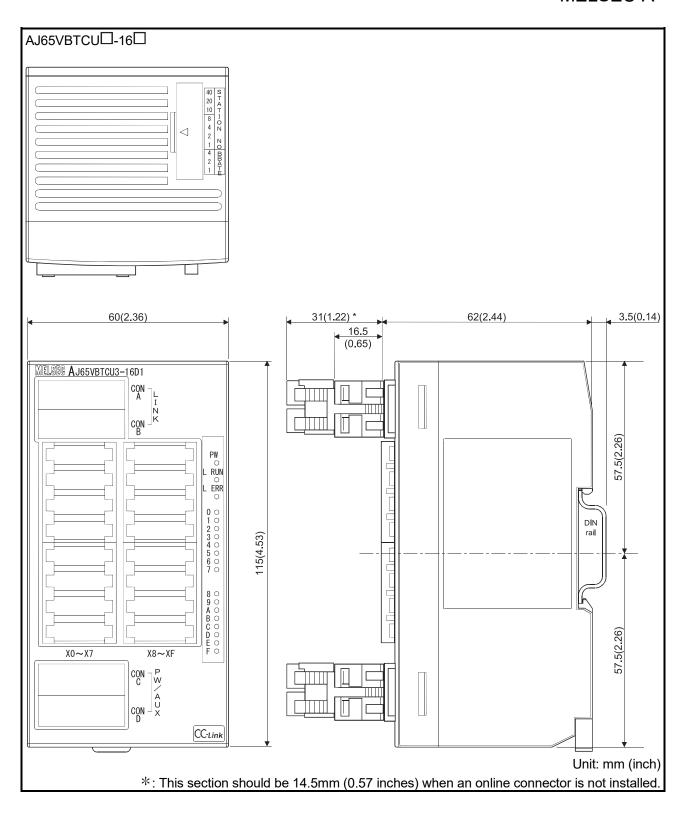
App - 13 App - 13

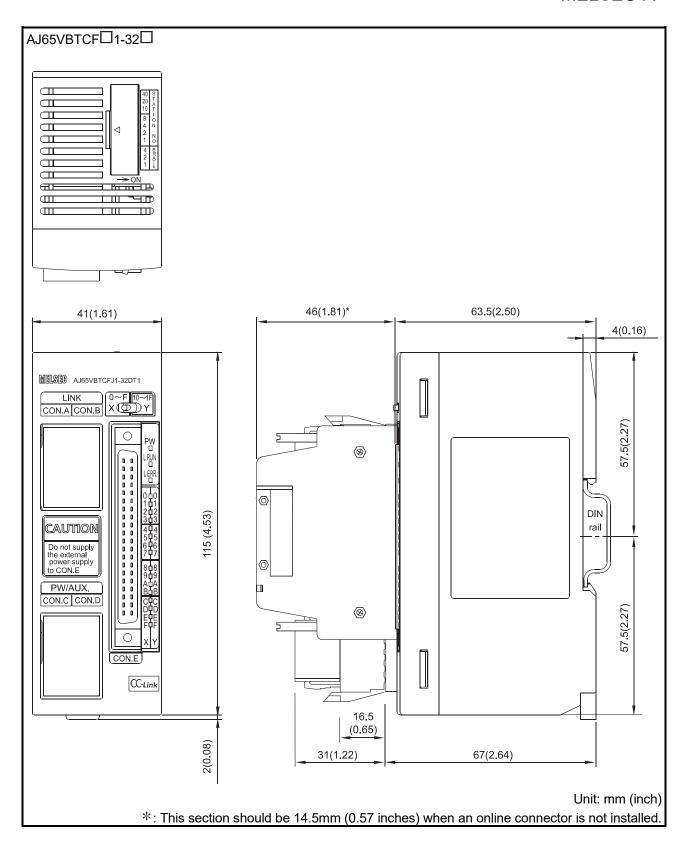
Appendix 1.11 AJ65VBTCU□-8□, AJ65VBTCU□-16□, and AJ65VBTCF1-32□ remote I/O module

The external dimensions for the AJ65VBTCU $\square$ -8 $\square$ , AJ65VBTCU $\square$ -16 $\square$ , and AJ65VBTCF1-32 $\square$  remote I/O modules are shown below.



App - 14 App - 14

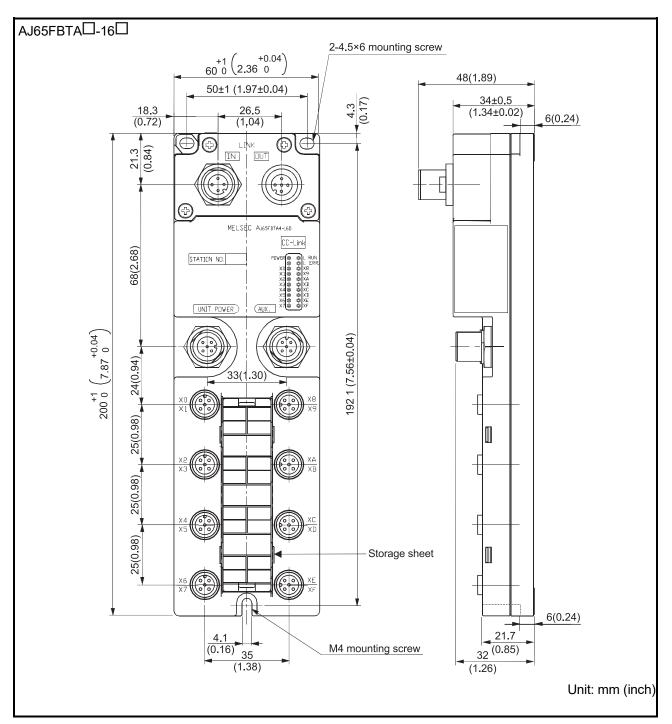




App - 16 App - 16

# Appendix 1.12 AJ65FBTA□-16□ remote I/O module

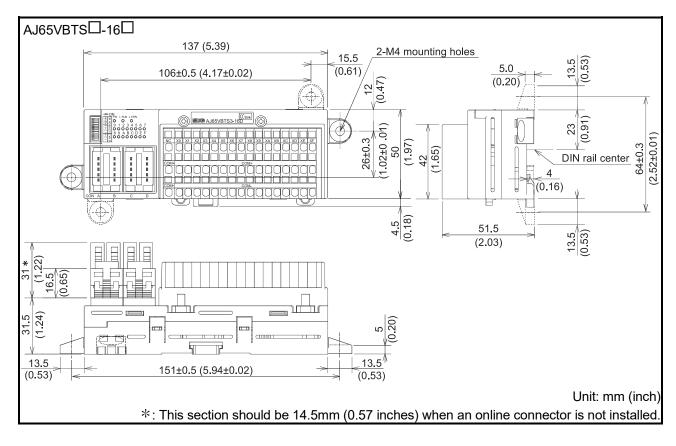
The external dimensions for the AJ65FBTA  $\Box$  -16  $\Box$  remote I/O modules are shown below.



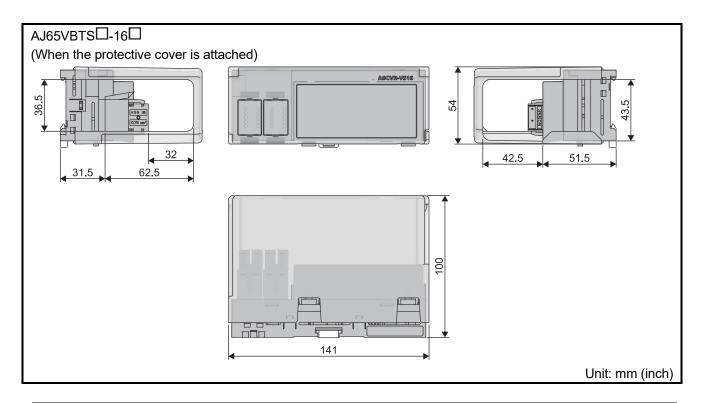
App - 17 App - 17

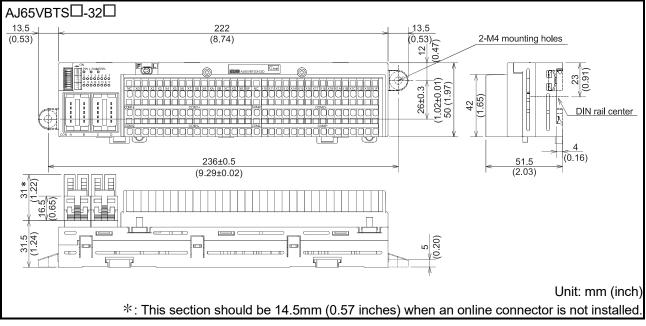
# Appendix 1.13 AJ65VBTS□-16□, and AJ65VBTS□-32□ remote I/O module

The external dimensions of the AJ65VBTS $\square$ -16 $\square$ , and AJ65VBTS $\square$ -32 $\square$  remote I/O modules are shown below.



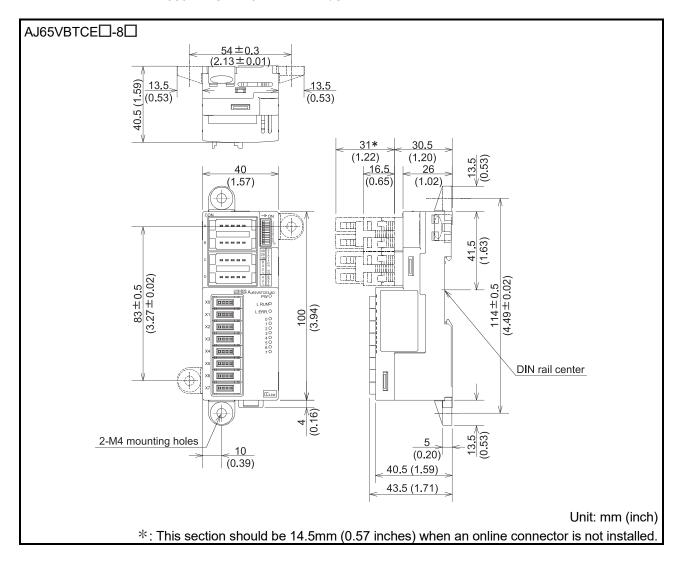
App - 18 App - 18



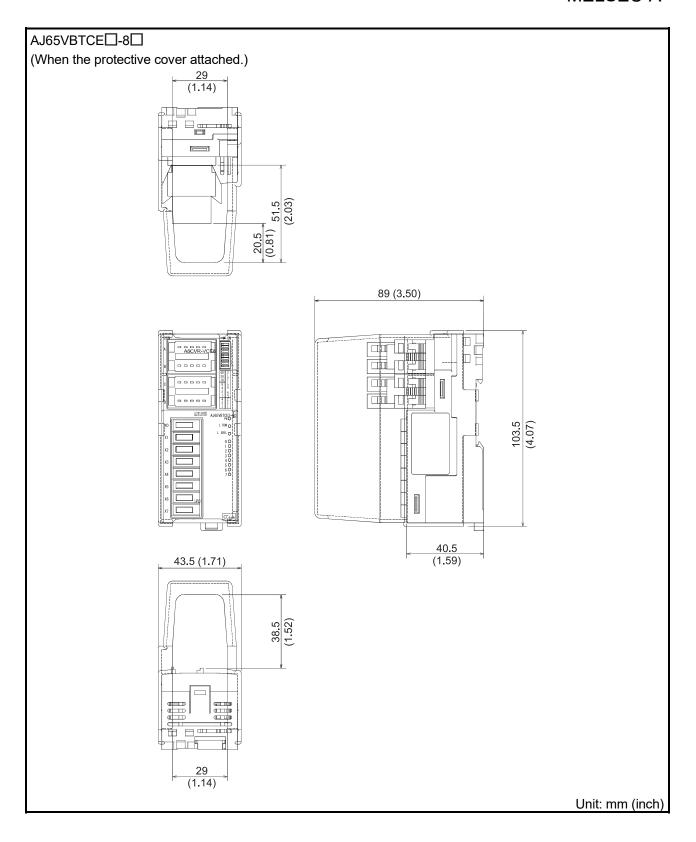


Appendix 1.14 AJ65VBTCE□-8□, AJ65VBTCE□-16□, and AJ65VBTCE□-32□ remote I/O module

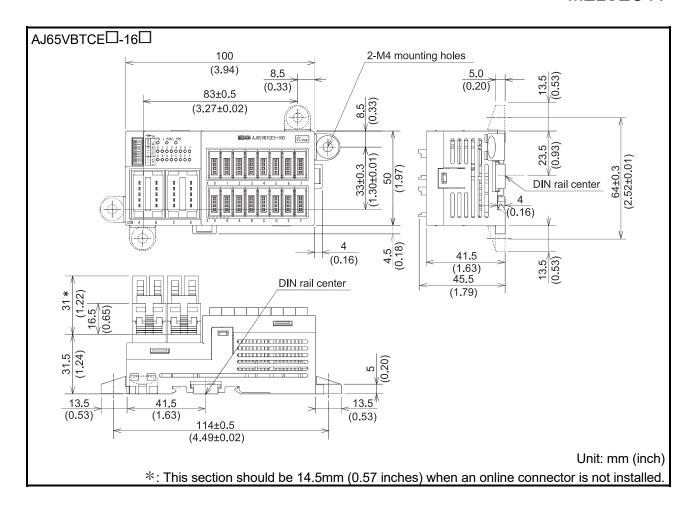
The external dimensions of the AJ65VBTCE $\square$ -8 $\square$ , AJ65VBTCE $\square$ -16  $\square$ , and AJ65VBTCE $\square$ -32 $\square$  remote I/O modules are shown below.

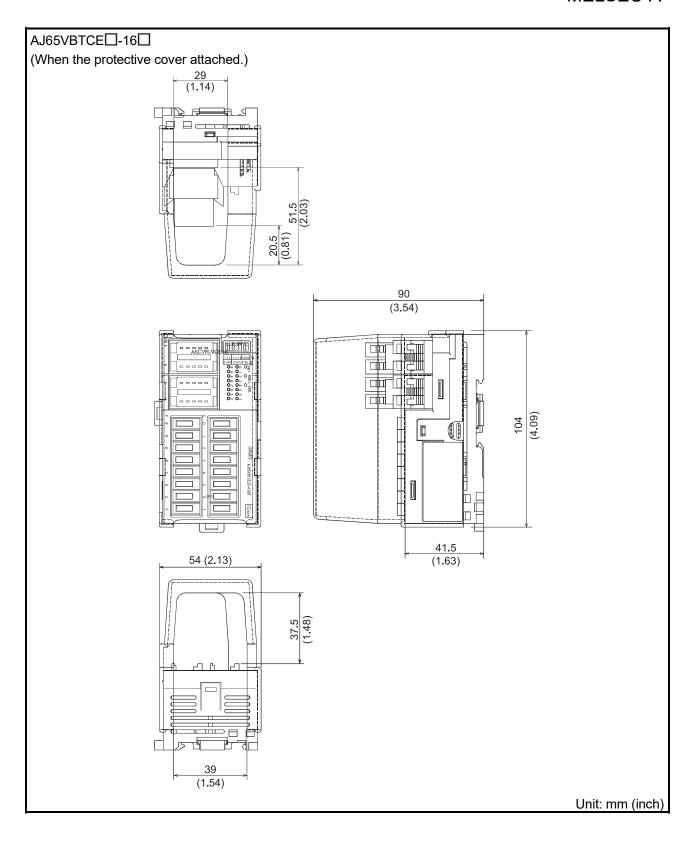


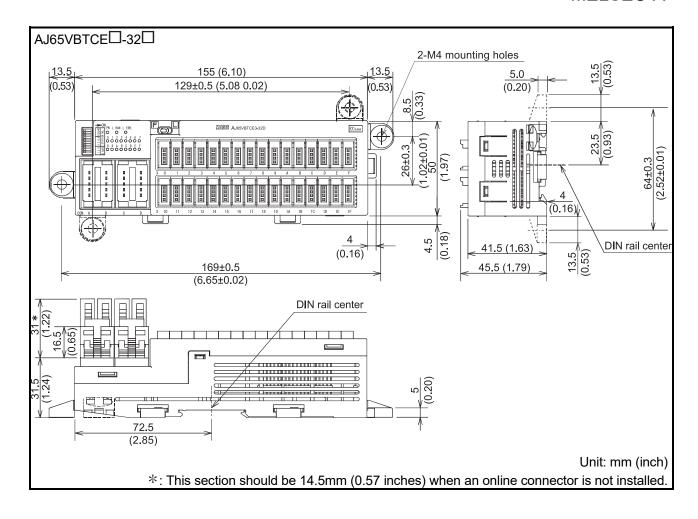
App - 20 App - 20



App - 21 App - 21

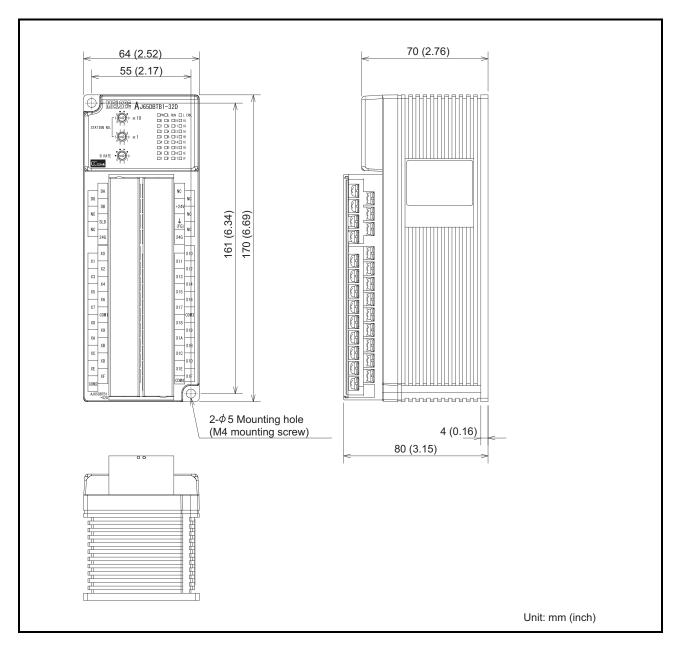






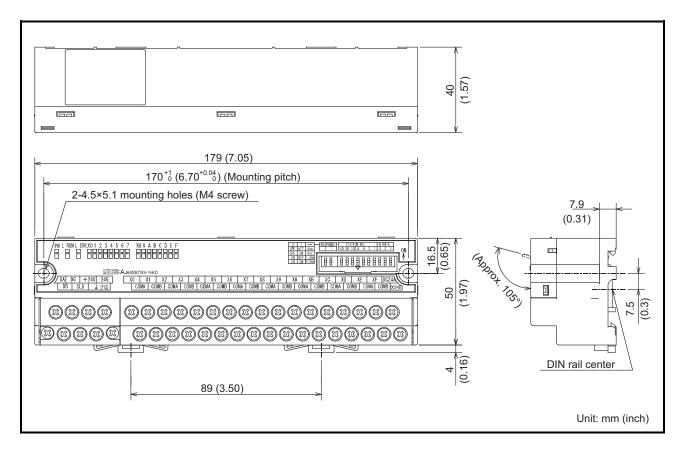
# Appendix 1.15 AJ65DBTB1-32 ☐ remote I/O module

The external dimensions of the AJ65DBTB1-32  $\square$  remote I/O modules are shown below.



Appendix 1.16 AJ65SBTB1-32K□, AJ65SBTB3-16KD, and AJ65SBTB32-16K□ remote I/O module

The external dimensions of the AJ65SBTB1-32K $\square$ , AJ65SBTB3-16KD, and AJ65SBTB32-16K $\square$  remote I/O modules are shown below.



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#### Appendix 2 CC-Link Versions

There are two versions for CC-Link: Ver.1.00 and Ver.1.10.

#### (1) Difference between Ver.1.00 and Ver.1.10

The original CC-Link version is Ver.1.00 and there are restrictions on the station-to-station cable length. The improved version is Ver.1.10 and there is no restriction on the station-to-station cable length (20cm or longer, in any case). For the maximum overall cable distance of Ver.1.10, refer to the user's manual for the master/local module used.

To enable the station-to-station cable length of 20cm or longer, the following conditions must be met.

- All modules connected in the CC-Link system are Ver.1.10-compatible modules.
- Ver.1.10-compatible CC-Link dedicated cables are used in the entire system.

#### **POINT**

In a system where both Ver.1.00- and Ver.1.10-compatible CC-Link modules are connected, the specifications of Ver.1.00-compatible module are applied for the maximum overall cable distance and station-to-station cable length.

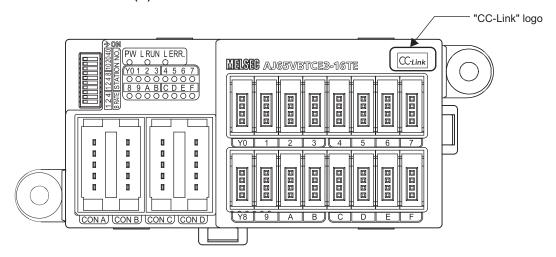
For the maximum overall cable distance and station-to-station cable length of Ver.1.00, refer to the user's manual for the master/local module used.

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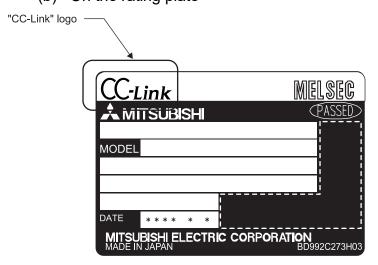
#### (2) Checking a version

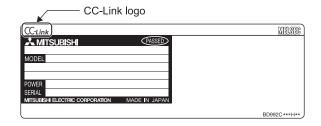
Ver.1.10-compatible modules have a "CC-Link" logo on the front of the module or on the rating plate.

#### (a) On the front of the module



# (b) On the rating plate





### **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.



SH(NA)-4007-AJ(2212)MEE

MODEL: CC-LINK-S-I/O-U-E

MODEL CODE: 13JL72

# MITSUBISHI ELECTRIC CORPORATION

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

Specifications subject to change without notice.