MITSUBISHI ELECTRIC ENGINEERING

Junction Terminal Block
(Spring Clamp Terminal Type)

MODEL

FA1-TE2SD32XY
FA1-TE2SV16XY
FA1-TE2SD40P
FA1-TE2SV20P
FA1-TE2SV40EX

User's Manual

(Detailed Edition)

Time and Wire Saving Devices

SAFETY PRECAUTIONS

(Read these precautions before using the FA Goods products.)

Before using the products, please read this manual and the relevant manuals carefully, and pay full attention to safety to handle the products correctly.
The precautions given in this manual are concerned with the FA Goods products only.
For the safety precautions of the programmable controller system, refer to the user's manual for the programmable controller used.
If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
In this manual, the safety precautions are classified into two levels: "⚠WARNING" and "⚠CAUTION".

⚠ WARNING	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
⚠ CAUTION	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 "⚠CAUTION" may lead to serious consequences.
Observe the precautions of both levels because they are important for personal and system safety.

[Design Precautions]

⚠ WARNING

- ●Configure safety circuits externally to ensure that the entire system operates safely even when a fault occurs in the external power supply, the programmable controller, or the products. Failure to do so may result in an accident due to an incorrect output or malfunction.
  - (1) Emergency stop circuits, protection circuits, and protective interlock circuits for conflicting operations (such as forward/reverse rotations or upper/lower limit positioning) must be configured externally.
  - (2) Outputs may remain on or off due to a failure of a component such as a relay, transistor, and triac used for digital signal converter outputs. Configure an external circuit for monitoring output signals that could cause a serious accident.
- ●In an output circuit for digital signal converter outputs, when a load current exceeding the rated current or an overcurrent caused by a load short-circuit flows for a long time, it may cause smoke and fire. To prevent this, configure an external safety circuit, such as a fuse.
- ●Configure a circuit so that the programmable controller is turned on first and then the external power supply. If the external power supply is turned on first, an accident may occur due to an incorrect output or malfunction.

[Design Precautions]

⚠ CAUTION

- ●Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm (3.94 inches) or more between them. Failure to do so may result in malfunction or failure due to noise.
- ●When using a terminal block conversion module for a high-speed counter module, do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 150mm (5.91 inches) or more between them. Failure to do so may result in malfunction or failure due to noise.
- ●Keep a distance of 100mm (3.94 inches) or more between a thermocouple or RTD (Resistance Temperature Detector) and the main circuit line or AC control lines. Also, keep the thermocouple or RTD away from a circuit that includes harmonics, such as a high-voltage circuit and a load circuit of an inverter. If not, the thermocouple or RTD is more likely to be affected by noise, surges, and induction.
- ●At power-on or power-off, a voltage may occur or a current may flow between output terminals for a moment. To use an analog signal converter or analog terminal block conversion module, start the control after analog outputs become stable.
- ●Do not place an analog signal converter or analog terminal block conversion module near a device that generates magnetic noise.
- ●When a device such as a lamp, heater, or solenoid valve is controlled using a module for digital signal converter outputs, a large current (approximately 10 times greater than normal) may flow when the output is turned from off to on. Therefore, select a module for digital signal converter outputs that has a sufficient current rating.

[Installation Precautions]

⚠ WARNING

●Shut off the external power supply (all phases) used in the system before installation. Failure to do so may result in electric shock or damage to the products.

[Installation Precautions]

⚠ CAUTION

●Use products 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 products.

●Securely fix the products with a DIN rail or screws. Incorrect installation may cause malfunction, failure, or drop of the module. When using the products in an environment of frequent vibrations, fix the products with 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 products, resulting in drop, short circuit, or malfunction.

●Attach DIN rail stoppers on the right and left sides of the spring clamp conversion module (FA1-TESV**) to fix the module securely.

●Shut off the external power supply (all phases) used in the system before mounting or removing the products. Failure to do so may result in damage to, malfunction of, or failure of the products.

●Do not directly touch any conductive parts and electronic components of the products. Failure to do so may cause malfunction or failure of the products.

●Install the products in the correct orientation if it is specified. Failure to do so may result in damage to or deterioration of the products.

●When drilling screw holes, be careful not to drop chips into the inside of the products or conductive parts. Such foreign matter can cause a fire, failure, or malfunction.

●When using modules for replacing digital signal converters or signal conversion modules, use them in the correct combination. Incorrect combination may cause failure.

●Shut off the power supply before installing/removing a module for replacing digital signal converters. Failure to do so may cause failure or malfunction.

●Securely mount a module for replacing digital signal converters and signal conversion module on a digital signal converter and installation base. Failure to do so may cause damage to or drop of the products, or malfunction due to poor contact. Follow the correct procedure to install/remove them. Failure to do so may cause damage to or drop of the products, or malfunction due to poor contact.

●When a module for digital signal converters or signal conversion module is mounted on a digital signal converter or installation base, hold the digital signal converter or installation base to transport them or install them to a panel. Holding the module for digital signal converters or signal conversion module may cause drop or failure of the digital signal converter or installation base.

[Wiring Precautions]

⚠ WARNING

- ●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 products.
- ●After wiring, attach the included terminal cover to the products before turning them on for operation. Failure to do so may result in electric shock.

[Wiring Precautions]

⚠ CAUTION

- ●Use applicable solderless terminals and tighten them within the specified torque range. Failure to do so may cause failure, damage, or malfunction.
- ●Check the rated voltage and terminal layout before wiring to the products, and connect the cables correctly. Connecting a power supply with a different voltage rating or incorrect wiring may cause a fire or failure.
- ●Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm or more between them. Failure to do so may result in malfunction due to noise.
- ●When using a terminal block conversion module for a high-speed counter module, do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 150mm (5.91 inches) or more between them. Failure to do so may result in malfunction or failure due to noise.
- ●Keep a distance of 100mm (3.94 inches) or more between a thermocouple or RTD (Resistance Temperature Detector) and the main circuit line or AC control lines. Also, keep the thermocouple or RTD away from a circuit that includes harmonics, such as a high-voltage circuit and a load circuit of an inverter. If not, the thermocouple or RTD is more likely to be affected by noise, surges, and induction.
- ●Do not place an analog signal converter or analog terminal block conversion module near a device that generates magnetic noise.
- ●Place the cables in a duct or clamp them. If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the products or cables or malfunction due to poor contact.
- ●Tighten the terminal screws within the specified torque range. Undertightening can cause short circuit, fire, or malfunction. Overtightening can damage the screw and/or products, resulting in drop, short circuit, or malfunction.
- ●Tighten the connector screws within the specified torque range. Undertightening can cause short circuit, fire, or malfunction. Overtightening can damage the screw and/or products, resulting in drop, short circuit, fire, or malfunction.
- ●Securely connect connectors to the products. Failure to do so may cause malfunction.
- ●When disconnecting a cable from the products, 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 products may result in malfunction or damage to the products or cable.
- ●Check the interface type and correctly connect the cable. Incorrect wiring (connecting the cable to an incorrect interface) may cause failure of the products and external device.
- ●Prevent foreign matter such as dust or wire chips from entering the products. Such foreign matter can cause a fire, failure, or malfunction.
- ●The products must be installed in control panels. Connect the main power supply to the products in the control panel through a relay terminal block. Wiring and replacement of the products must be performed by qualified maintenance personnel with knowledge of protection against electric shock.
- ●When connecting the products with a programmable controller, check that the product configuration is correct. An incorrect configuration may cause failure or malfunction.
- ●Use the products with no force applied to their connectors. Applied force may cause failure or disconnection.
- ●Attach protective covers or signal conversion modules to unused connectors or empty slots of the products. Failure to do so may cause a fire, failure, or malfunction due to foreign matter.
- ●When using modules for replacing digital signal converters or signal conversion modules, use them in the correct combination. Incorrect combination may cause failure of a programmable controller, digital signal converter, installation base, or external device.
- ●Individually ground the FG terminal of the products with a ground resistance of 100 ohms or less. Failure to do so may result in electric shock or malfunction.

[Startup and Maintenance Precautions]

⚠ WARNING

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

[Startup and Maintenance Precautions]

⚠ CAUTION

- ●Do not disassemble or modify the products. Doing so may cause failure, malfunction, injury, or a fire.
- ●Use any radio communication device such as a cellular phone or PHS (Personal Handy-phone System) more than 25cm away in all directions from the programmable controller and products. Failure to do so may cause malfunction.
- ●Shut off the external power supply (all phases) used in the system before mounting or removing the products. Failure to do so may cause failure or malfunction of or damage to the products.
- ●After the first use of the products, do not connect/remove the products and cables more than 50 times. Exceeding the limit may cause malfunction.
- ●Startup and maintenance of a control panel must be performed by qualified maintenance personnel with knowledge of protection against electric shock. Lock the control panel so that only qualified maintenance personnel can operate it.
- ●This product displays the following symbol marks. This symbol mark indicates that a copper wire with a temperature rating of 75°C or higher is used for wires connected to this product, and that this product is susceptible to static electricity. Before handling the products, touch a conducting object such as a grounded metal to discharge the static electricity from the human body. Failure to do so may cause failure or malfunction of the products.

[Disposal Precautions]

⚠ CAUTION

●When disposing of the products, treat them as industrial waste.

[Transportation Precautions]

⚠ CAUTION

●Do not apply shock that exceeds the shock resistance described in the general specifications during transportation since the products are precision devices. Doing so may cause failure of the module.

●The halogens (such as fluorine, chlorine, bromine, and iodine), which are contained in a fumigant used for disinfection and pest control of wood packaging materials, may cause failure of the products. Prevent the entry of fumigant residues into the product or consider other methods (such as heat treatment) instead of fumigation. The disinfection and pest control measures must be applied to unprocessed raw wood.

Low Voltage Directives

Compliance with the EMC Directive, which is one of the EU directives, has been mandatory for products sold within EU member states since 1996 as well as compliance with the Low Voltage Directive since 1997.
For products compliant to the Low Voltage Directives, their manufacturers are required to declare compliance and affix the CE marking.

(1) Sales representative in EU member states
The sales representative in EU member states is:
Company: MITSUBISHI ELECTRIC EUROPE B.V.
Address: Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany

(2) Method of ensuring compliance*1
To ensure that FA Goods products maintain Low Voltage Directives when incorporated into other machinery or equipment, certain measures may be necessary. Please refer to "EMC and Low Voltage Directives Compliant Manual" (50D-FA9010-108).
*1: The FA1-TE2SD32XY,FA1-TE2SV16XY, FA1-TE2SD40P, and FA1-TE2SV20P are excluded.

REVISIONS

*The manual number is given on the bottom left of the last page.

Print Date	*Manual Number	Revision
February, 2023	50D-FG0672	First edition
September, 2023	50D-FG0672-A	Added parts Connectable modules addition : Q172DLX, Q172LX Q173DPX, Q173PX, Q173PX-S1 Q173DSXY 7-2. WIRING EXAMPLE 24 9. CONNECTABLE MODULES
November, 2023	50D-FG0672-B	Added or modified parts 7-2. WIRING EXAMPLE

CONTENTS

1. INTRODUCTION

This manual describes the specifications and handling of the connector ↔ spring clamp conversion module used in combination with Mitsubishi Electric Corporation programmable controller modules.

2. GENERAL SPECIFICATIONS

Item			Specifications
Operating ambient temperature			-20 to 55°C
Storage ambient temperature			-25 to 75°C
Operating ambient humidity			5 to 95%RH, non-condensing
Storage ambient humidity			5 to 95%RH, non-condensing
Vibration resistance	Applicable standard		JIS B 3502:2011, IEC 61131-2:2007
	Under intermittent vibration	5 to 8.4Hz	Half amplitude: 3.5mm
		8.4 to 150Hz	Constant acceleration: 9.8m/s^2 (1G)
		Sweep count	10 times each in X, Y, and Z directions
	Under continuous vibration	5 to 8.4Hz	Half amplitude: 1.75mm
		8.4 to 150Hz	Constant acceleration: 4.9m/s^2 (0.5G)
		Sweep count	—
Shock resistance			Compliant with JIS B 3502:2011 and IEC 61131-2:2007 (147m/s^2 (15G), 3 times each in X, Y, and Z bidirections)
Operating atmosphere			No corrosive gases
Operating altitude*1			2000m or lower
Installation location			Inside a control panel*4, Indoor use
Overvoltage category*2			II or less
Pollution degree*3			2 or less

*1: Do not use or store the products under pressure higher than the atmospheric pressure of altitude 0m. Doing so may cause malfunction.
*2: This category 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.
*3: This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used.
*4: The enclosure is suitably designed for those specific environmental conditions, as applicable, and enclosure rate meets IP20 and minimum type 1 of UL 50.

3. PERFORMANCE SPECIFICATIONS

3-1. FA1-TE2SD32XY，FA1-TE2SV16XY

Item \ Model			FA1-TE2SD32XY	FA1-TE2SV16XY
Number of points, device numbers			32 points, I/O:00 to 1F, (24V)common: C11 to C14, (0V)common: C21 to C24	16 points, I/O:00 to 0F*1, (24V)common: C11 to C12, (0V)common: C21 to C22
Wiring method for common			32 points / common 4 points +common 4 points	16 points / common 2 points +common 2 points
Rated voltage			DC24V (SELV and LIM or CLASS 2)*2	
Maximum usage voltage			DC30V (SELV and LIM or CLASS 2)*2	
Maximum usage current*3			Signal : 1A, Common : 2A	
Terminal block (spring clamp type)	Number of points		40 points	20 points
	Applicable wire*4,5,6	When a ferrule is not used (stranded wire or solid wire)	0.2 to 1.5mm^2 (AWG 24-16) Copper wire with a temperature rating of 75°C more	
		When a ferrule is used (stranded wire)	0.08 to 0.75mm^2 (AWG 28-18) Copper wire with a temperature rating of 75℃ more	
	Wire strip length		8mm	
Installation method	DIN rail		Applicable DIN rail: TH 35-7.5 Fe, TH 35-7.5 Al (IEC60715 compliant)	
Withstand voltage			1250VAC for 1minutes	
Insulation resistance (initial)			10MΩ or more by 500VDC insulation resistance tester	
Weight			Approx. 60g	Approx. 40g

*1: When connecting this product to the programmable controllers of MELSEC iQ-F series or MELSEC-F series, read the signal name indications 8 to F as 0 to 7 (higher numbers).
*2: The power supply must use CLASS2 power supply or a power supply to the SELV (Safety Extra-Low Voltage) and LIM (Limited Energy Circuit) circuit.
*3: Evaluation for UL certification is conducted under resistance load conditions.
*4: Select wires depending on the current value used.
*5: Use coper wires having temperature rating of 75°C or more for the terminal block.
*6: For UL certification, suitable for field wiring when a ferrule is not used.

3-2. FA1-TE2SD40P，FA1-TE2SV20P

Item \ Model			FA1-TE2SD40P	FA1-TE2SV20P
Number of points, device numbers			40 points, 1 to 40	20 points, 1 to 20
Wiring method for common			—	
Rated voltage			DC24V (SELV and LIM or CLASS 2)*1	
Maximum usage voltage			DC30V (SELV and LIM or CLASS 2)*1	
Maximum usage current*2			Signal : 1A	
Terminal block (spring clamp type)	Number of points		40 points	20 points
	Applicable wire*3,4,5	When a ferrule is not used (stranded wire or solid wire)	0.2 to 1.5mm^2 (AWG 24-16) Copper wire with a temperature rating of 75°C more	
		When a ferrule is used (stranded wire)	0.08 to 0.75mm^2 (AWG 28-18) Copper wire with a temperature rating of 75℃ more	
	Wire strip length		8mm	
Installation method	DIN rail		Applicable DIN rail: TH 35-7.5 Fe, TH 35-7.5 Al (IEC60715 compliant)	
Withstand voltage			1250VAC for 1minutes	
Insulation resistance (initial)			10MΩ or more by 500VDC insulation resistance tester	
Weight			Approx. 60g	Approx. 40g

*1: The power supply must use CLASS2 power supply or a power supply to the SELV (Safety Extra-Low Voltage) and LIM (Limited Energy Circuit) circuit.
*2: Evaluation for UL certification is conducted under resistance load conditions.
*3: Select wires depending on the current value used.
*4: Use coper wires having temperature rating of 75°C or more for the terminal block.
*5: For UL certification, suitable for field wiring when a ferrule is not used.

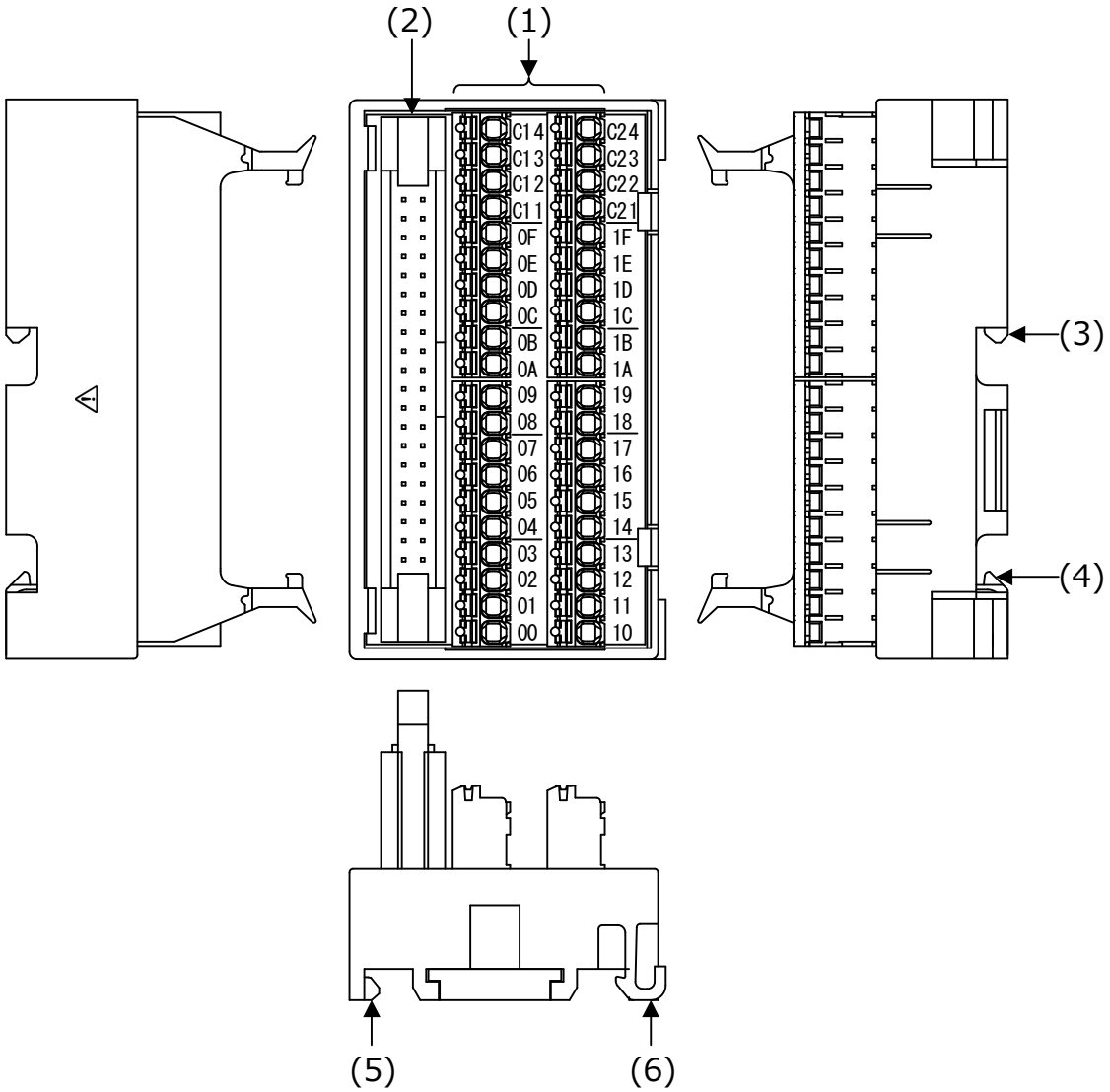
3-3. FA1-TE2SV40EX

Item \ Model			FA1-TE2SV40EX
Number of points, device numbers			40 points, Common: C10 to C1K Common: C20 to C2K
Wiring method for common			common 20 points + common 20 points
Rated voltage			DC24V / AC100 - 240V (+10%, -15%), 50Hz/60Hz
Maximum usage voltage			DC30V / AC264V
Maximum usage current*1			Common : 6A
Terminal block (spring clamp type)	Number of points		40 points
	Applicable wire*2,3,4	When a ferrule is not used (stranded wire or solid wire)	0.2 to 1.5mm^2 (AWG 24-16) Copper wire with a temperature rating of 75°C more
		When a ferrule is used (stranded wire)	0.08 to 0.75mm^2 (AWG 28-18) Copper wire with a temperature rating of 75℃ more
	Wire strip length		8mm
Installation method	DIN rail		Applicable DIN rail: TH 35-7.5 Fe, TH 35-7.5 Al (IEC60715 compliant)
Withstand voltage			3000VAC for 1minutes
Insulation resistance (initial)			10MΩ or more by 500VDC insulation resistance tester
Weight			Approx. 45g

*1: Evaluation for UL certification is conducted under resistance load conditions.
*2: Select wires depending on the current value used.
*3: Use coper wires having temperature rating of 75°C or more for the terminal block.
*4: For UL certification, suitable for field wiring when a ferrule is not used.

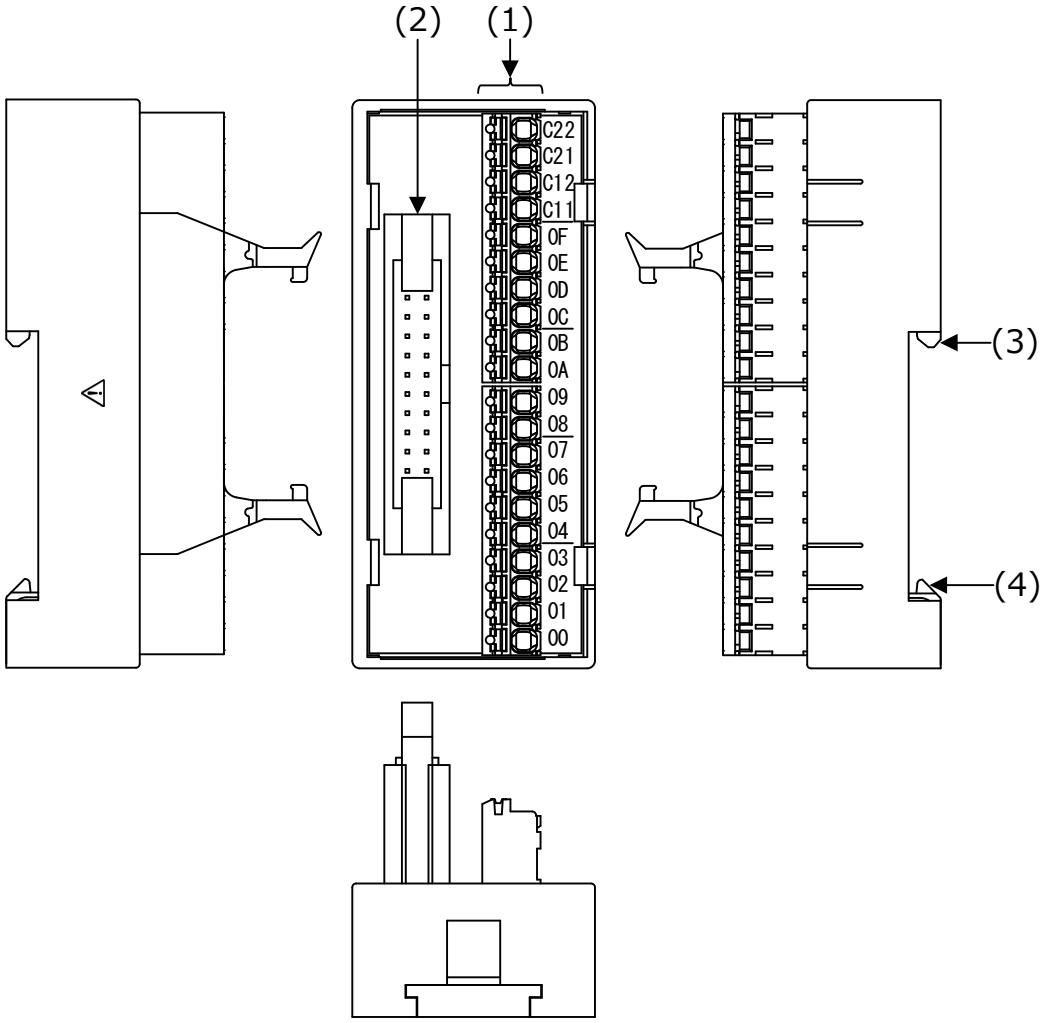
4. PARTS NAMES

4-1. FA1-TE2SD32XY，FA1-TE2SD40P



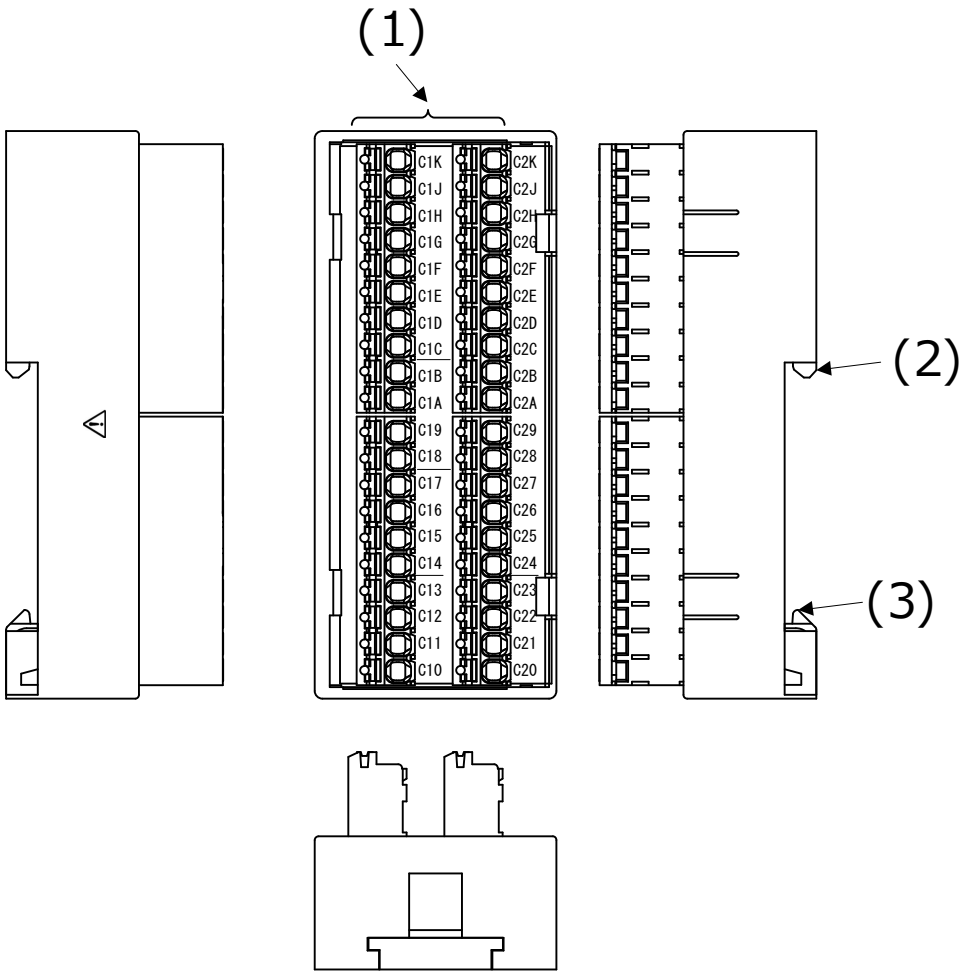
No.	Name	Description
(1)	Spring clamp terminal block	This is a terminal block to connect external signals.
(2)	Connector for cable connection	This connector is used to connect the cable that connects with the PLC.
(3)	Fixed hook (for vertical mounting)	This hook is for attaching this product to the DIN rail Please use it when mounting vertically.
(4)	DIN rail hook (for vertical mounting)	This hook is for attaching this product to the DIN rail Please use it when mounting vertically.
(5)	Fixed hook (for horizontal mounting)	This hook is for attaching this product to the DIN rail. Please use it when mounting horizontally.
(6)	DIN rail hook (for horizontal mounting)	This hook is for attaching this product to the DIN rail. Please use it when mounting horizontally.

4-2. FA1-TE2SV16XY，FA1-TE2SV20P



No.	Name	Description
(1)	Spring clamp terminal block	This is a terminal block to connect external signals.
(2)	Connector for cable connection	This connector is used to connect the cable that connects with the PLC.
(3)	Fixed hook	This hook is for attaching this product to the DIN rail.
(4)	DIN rail hook	This hook is for attaching this product to the DIN rail.

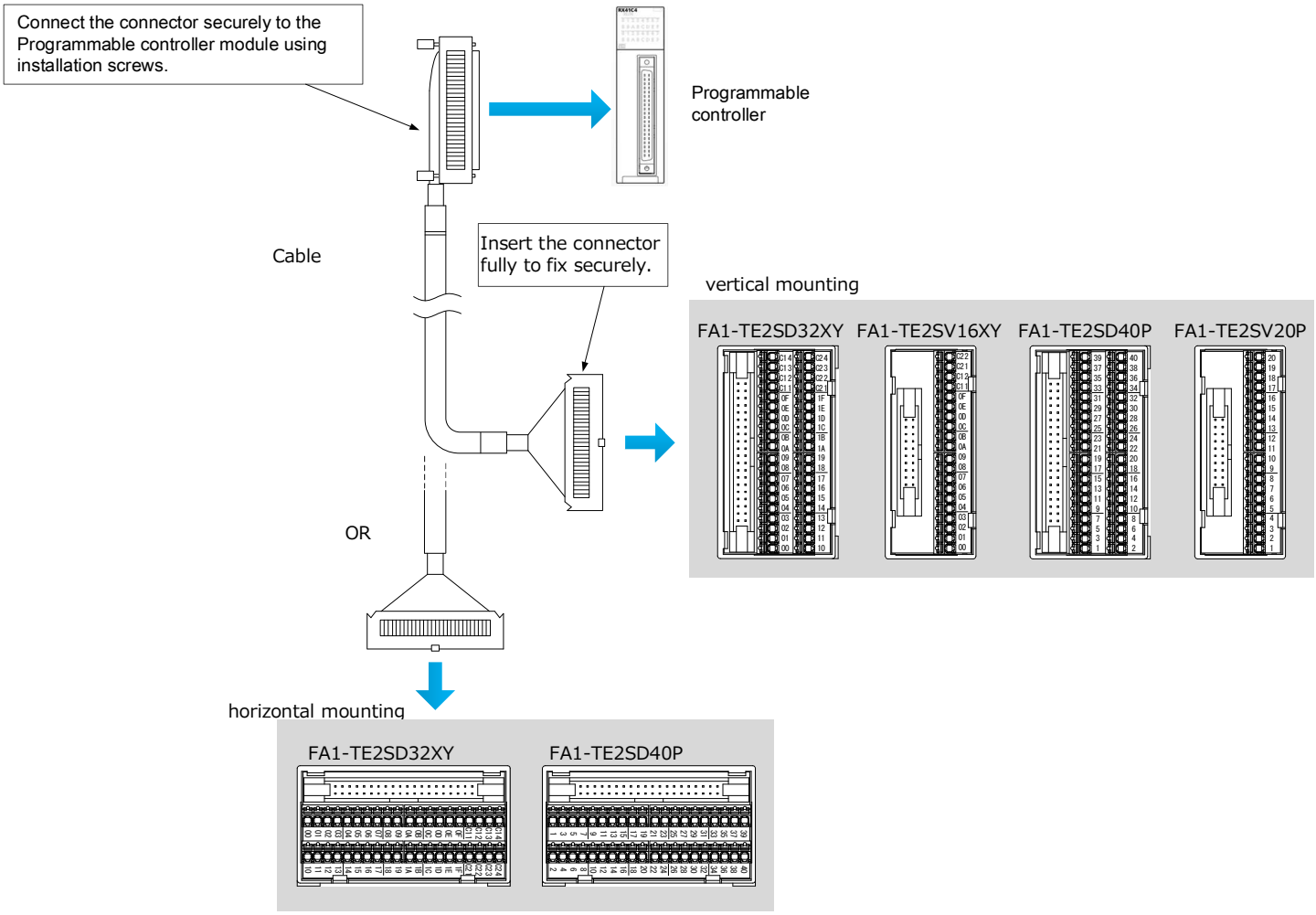
4-3. FA1-TE2SV40EX



No.	Name	Description
(1)	Spring clamp terminal block	This is a terminal block to connect external signals.
(2)	Fixed hook	This hook is for attaching this product to the DIN rail.
(3)	DIN rail hook	This hook is for attaching this product to the DIN rail.

5. CONNECTING METHOD

5-1.Connection example with a connector module of a programmable controller.



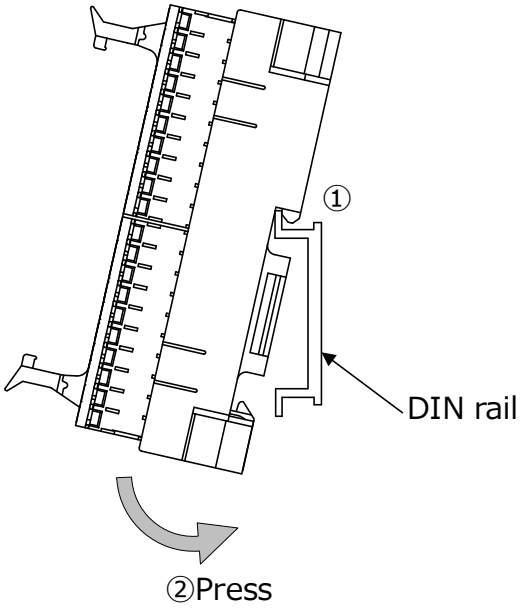
5-2. Connecting method

5-2-1. Installing/removing the module to a DIN rail（ for vertical mounting）

(1) Installing

① Place the DIN rail installing groove onto the DIN rail to hook the module.

② Press the module against the DIN rail until it clicks.

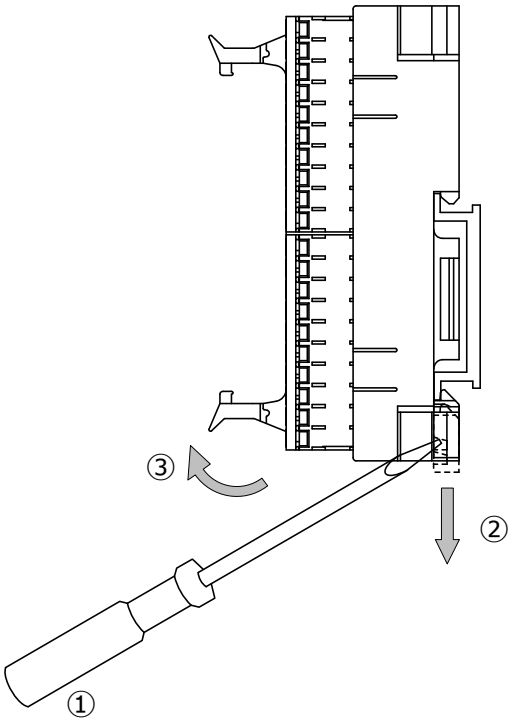


(2) Removing

① Insert a flat-blade screwdriver into the DIN rail hook.

② Move the DIN rail hook downward.

③ Remove from the Din rail.



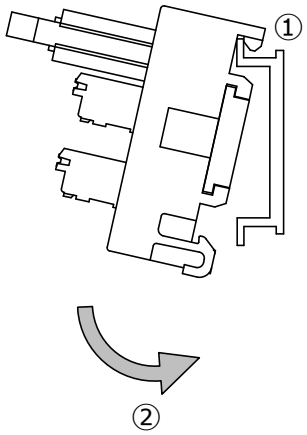
5-2-2. Installing/removing the module to a DIN rail（ for horizontal mounting）

FA1-TE2SD32X, FA-TE2SD40P can be mounted horizontally on a DIN rail.

(1) Installing

① Place the DIN rail installing groove onto the DIN rail to hook the module.

② Press the module against the DIN rail until it clicks.

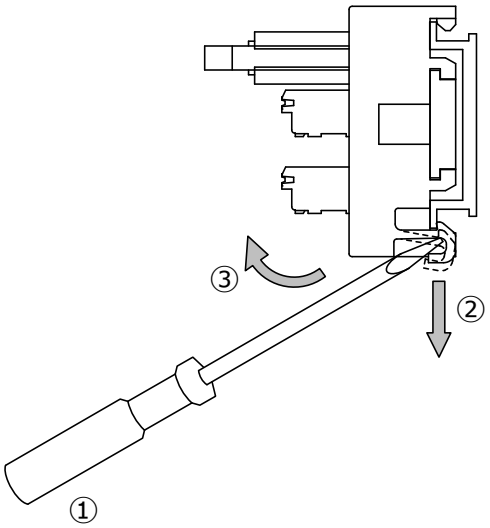


(2) Removing

① Insert a flat-blade screwdriver into the DIN rail hook.

② Move the DIN rail hook downward.

③ Remove from the Din rail.



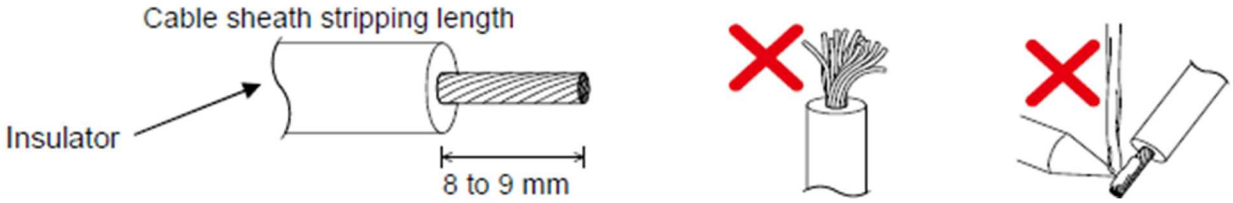
5-3. Wiring to a spring clamp terminal block

Wire the spring clamp terminal block according to the information below.

(1) Wires routing

(a) Fabrication on cable insulator

Strip the wire as follows. If the length of the sheath peeled is too long, a short circuit may occur with neighboring wires. If the length is too short, wires might come off. Wire the stripped cable after twisting it to prevent it from becoming loose. In addition, do not solder it.



(b) Using a ferrule terminal

Insert wires to a ferrule terminal and crimp it.

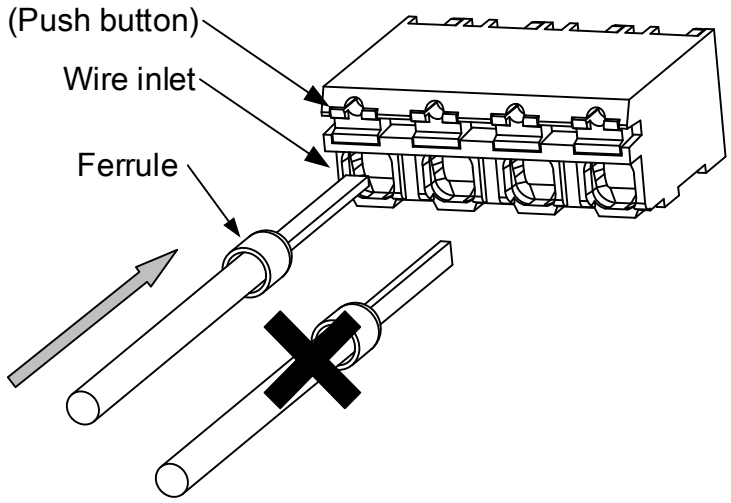
Make sure that core wire slightly comes out of the ferrule.

Check the condition of the ferrule terminal after crimping. Do not use a ferrule terminal of which the crimping is inappropriate, or the face is damaged.

* Ferrule terminals crimped onto one wire are applicable to the terminal block of this product.

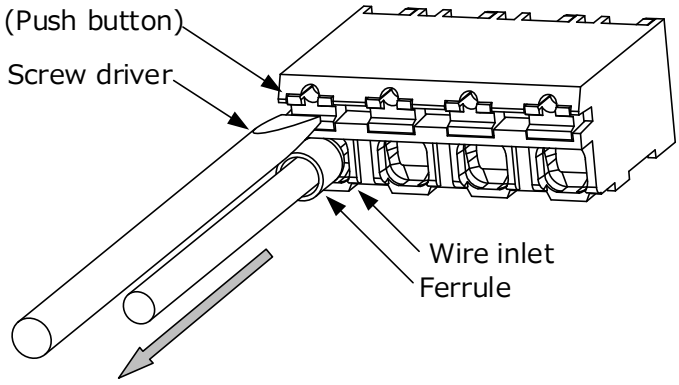
(c) Inserting wires

The wire with ferrule or solid cable can be inserted into the wire insertion hole.
After inserting, pull the wire lightly to confirm that the wire is surely connected.
For the correct terminal insertion direction, refer to the figure below.
When binding twisted wires, press the push button using the screw driver, then insert the twisted wires into the wire insertion hole.
* Make sure to insert the wire straight as far as it will go.



(2) Wires removal

Press the push button all the way using the screw driver, then pull out the wire.



Use the recommended screwdrivers below to hold down the push button.

Recommended tool (screw driver)		
Manufacturer	Model	Blade edge size
PHOENIX CONTACT	SZS 0,4×2,5 VDE	2.5×0.4mm

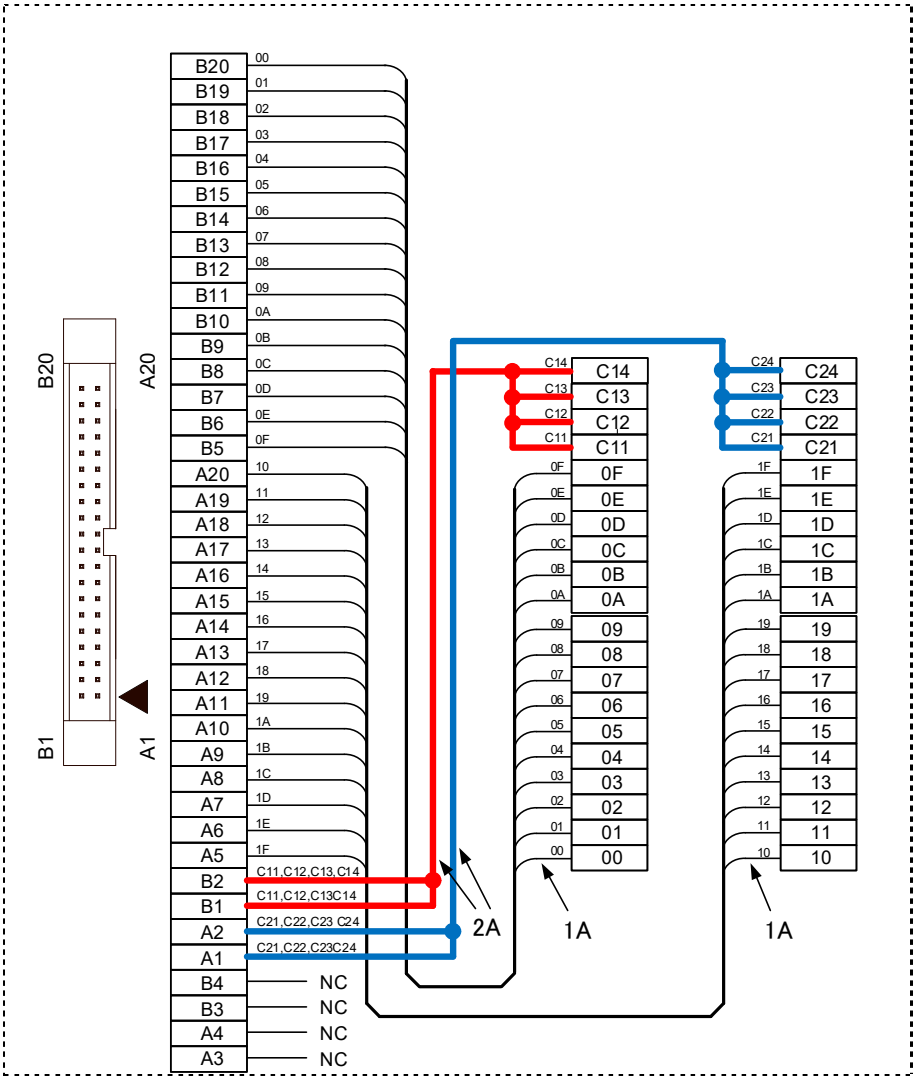
6. MOUNTING DIRECTION

No mounting direction specified.
Use this product by attaching it to a DIN rail.

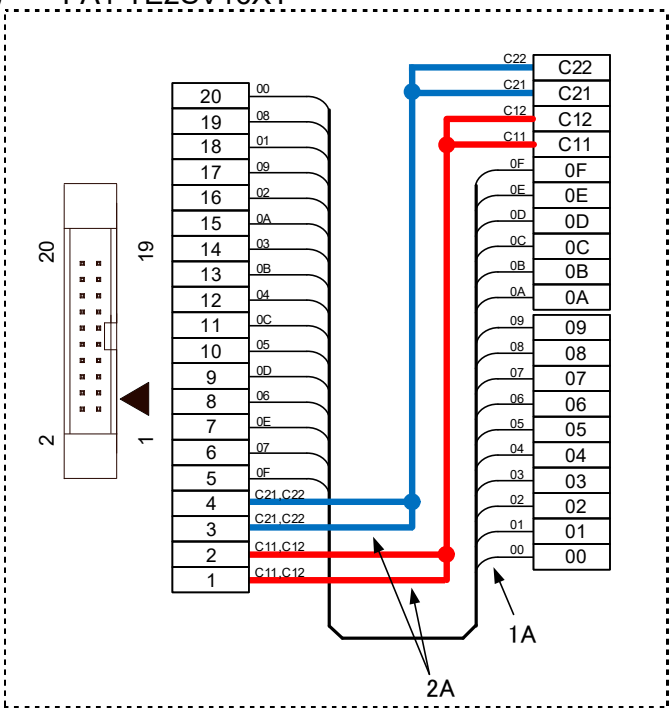
7. EXTERNAL CONNECTION EXAMPLE

7-1. INTERNAL WIRING DIAGRAM

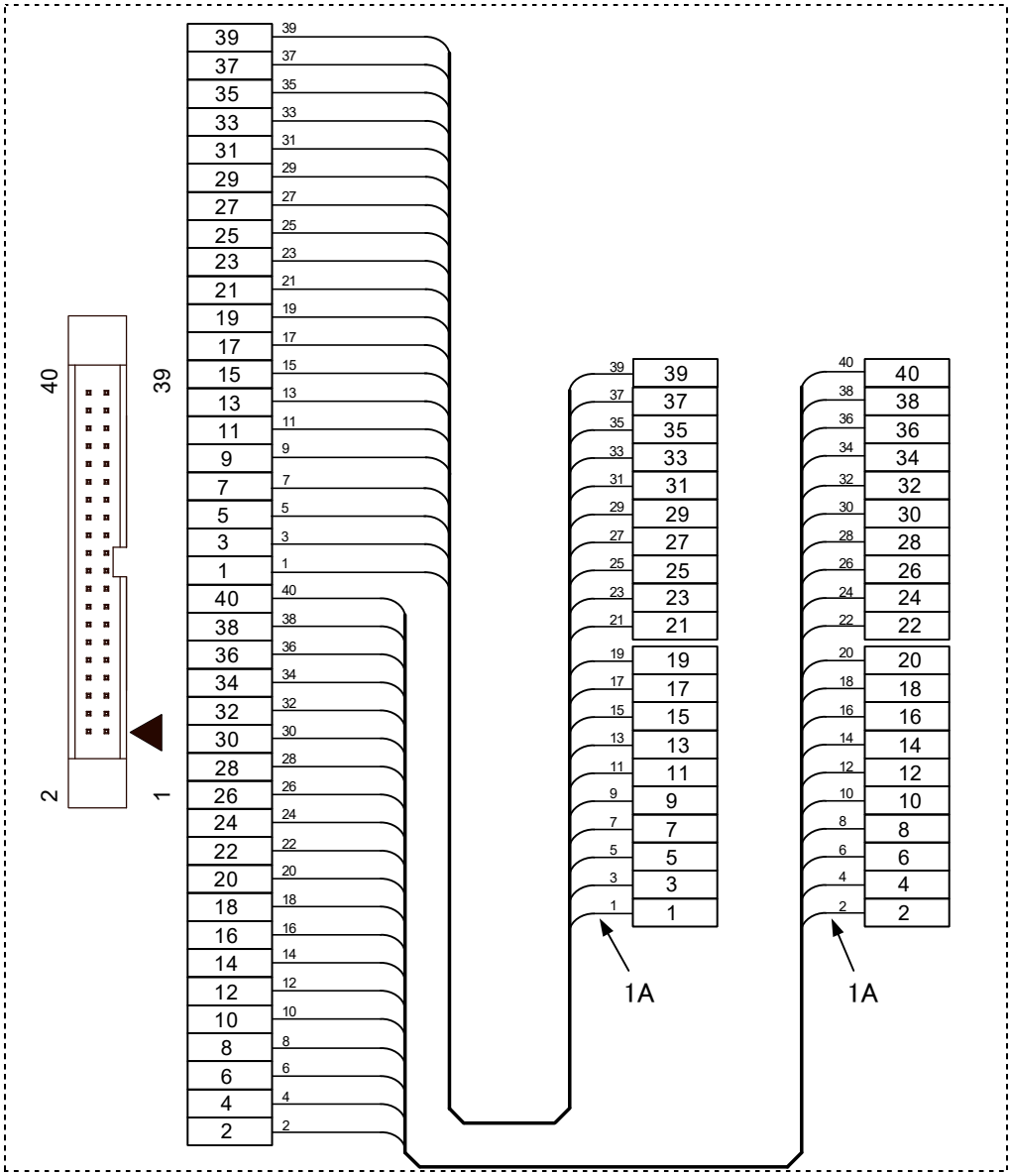
(1) FA1-TE2SD32XY



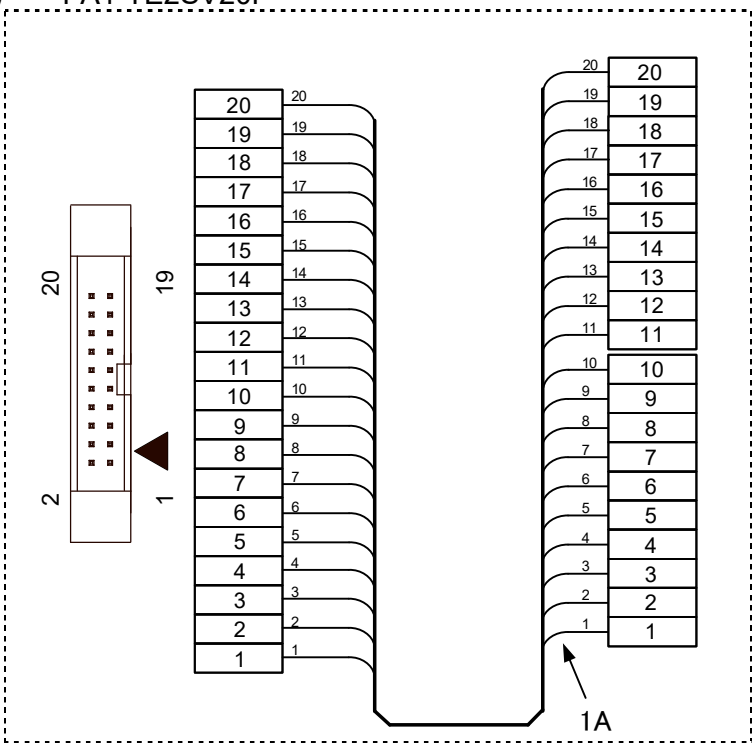
(2) FA1-TE2SV16XY



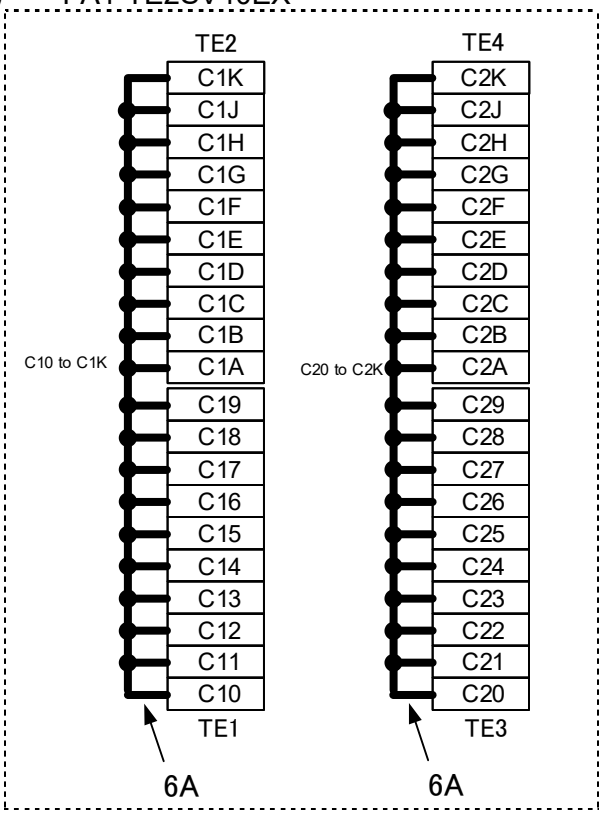
(3) FA1-TE2SD40P



(4) FA1-TE2SV20P



(5) FA1-TE2SV40EX



7-2. WIRING EXAMPLE

Examples of signal names when using this product are shown.

(1) Input module

Model	FA1-TE2SV16XY			
Module	RX40C7	RX40C7-TS	RX40NC6B	RX41C4-TS
Cable	FA-CBL**TMV20	FA1-CB1L**EM1F18	FA-CBL**TMV20	FA1-CB1L**EM2F34
Signal	No. / Signal C22 NC C21 NC C12 COM C11 COM 0F X0F 0E X0E 0D X0D 0C X0C 0B X0B 0A X0A 09 X09 08 X08 07 X07 06 X06 05 X05 04 X04 03 X03 02 X02 01 X01 00 X00	No. / Signal C22 NC C21 NC C12 COM C11 COM 0F X0F 0E X0E 0D X0D 0C X0C 0B X0B 0A X0A 09 X09 08 X08 07 X07 06 X06 05 X05 04 X04 03 X03 02 X02 01 X01 00 X00	No. / Signal C22 COM C21 COM C12 DC24V C11 DC24V 0F X0F 0E X0E 0D X0D 0C X0C 0B X0B 0A X0A 09 X09 08 X08 07 X07 06 X06 05 X05 04 X04 03 X03 02 X02 01 X01 00 X00	No. / Signal C22 NC C21 NC C12 COM C11 COM 0F X0F 0E X0E 0D X0D 0C X0C 0B X0B 0A X0A 09 X09 08 X08 07 X07 06 X06 05 X05 04 X04 03 X03 02 X02 01 X01 00 X00 No. / Signal C22 NC C21 NC C12 COM C11 COM 0F X1F 0E X1E 0D X1D 0C X1C 0B X1B 0A X1A 09 X19 08 X18 07 X17 06 X16 05 X15 04 X14 03 X13 02 X12 01 X11 00 X10

Model	FA1-TE2SV16XY	FA1-TE2SD32XY	FA1-TE2SD40P
Module	RX41C4 RX41C6HS		
Cable	FA-CBL**FM2LV FA-CBL**FM2V	FA-CBL**FMV	FA-CBL**FMVE	FA-CBL**FMV-M

Signal

FA-CBL**FM2LV / FA-CBL**FM2V

No.	Signal
C22	NC
C21	NC
C12	COM
C11	COM
0F	X0F
0E	X0E
0D	X0D
0C	X0C
0B	X0B
0A	X0A
09	X09
08	X08
07	X07
06	X06
05	X05
04	X04
03	X03
02	X02
01	X01
00	X00

No.	Signal
C22	NC
C21	NC
C12	COM
C11	COM
0F	X1F
0E	X1E
0D	X1D
0C	X1C
0B	X1B
0A	X1A
09	X19
08	X18
07	X17
06	X16
05	X15
04	X14
03	X13
02	X12
01	X11
00	X10

FA-CBL**FMV

No.	Signal	No.	Signal
C14	COM	C24	NC
C13	COM	C23	NC
C12	COM	C22	NC
C11	COM	C21	NC
0F	X0F	1F	X1F
0E	X0E	1E	X1E
0D	X0D	1D	X1D
0C	X0C	1C	X1C
0B	X0B	1B	X1B
0A	X0A	1A	X1A
09	X09	19	X19
08	X08	18	X18
07	X07	17	X17
06	X06	16	X16
05	X05	15	X15
04	X04	14	X14
03	X03	13	X13
02	X02	12	X12
01	X01	11	X11
00	X00	10	X10

FA-CBL**FMVE

No.	Signal	No.	Signal
C14	NC	C24	COM
C13	NC	C23	COM
C12	NC	C22	COM
C11	NC	C21	COM
0F	X0F	1F	X1F
0E	X0E	1E	X1E
0D	X0D	1D	X1D
0C	X0C	1C	X1C
0B	X0B	1B	X1B
0A	X0A	1A	X1A
09	X09	19	X19
08	X08	18	X18
07	X07	17	X17
06	X06	16	X16
05	X05	15	X15
04	X04	14	X14
03	X03	13	X13
02	X02	12	X12
01	X01	11	X11
00	X00	10	X10

FA-CBL**FMV-M

No.	Signal	No.	Signal
39	COM	40	NC
37	COM	38	NC
35	NC	36	NC
33	NC	34	NC
31	X0F	32	X1F
29	X0E	30	X1E
27	X0D	28	X1D
25	X0C	26	X1C
23	X0B	24	X1B
21	X0A	22	X1A
19	X09	20	X19
17	X08	18	X18
15	X07	16	X17
13	X06	14	X16
11	X05	12	X15
9	X04	10	X14
7	X03	8	X13
5	X02	6	X12
3	X01	4	X11
1	X00	2	X10

(2) Output module

Model	FA1-TE2SV16XY			
Module	RY40NT5P	RY40PT5P RY40PT5B	RY41NT2P-TS	RY41PT1P-TS
Cable	FA-CBL**TMV20		FA1-CB1L**EM2F34	
Signal				

RY40NT5P

No.	Signal
C22	COM
C21	COM
C12	+V
C11	+V
0F	Y0F
0E	Y0E
0D	Y0D
0C	Y0C
0B	Y0B
0A	Y0A
09	Y09
08	Y08
07	Y07
06	Y06
05	Y05
04	Y04
03	Y03
02	Y02
01	Y01
00	Y00

RY40PT5P
RY40PT5B

No.	Signal
C22	0V
C21	0V
C12	COM
C11	COM
0F	Y0F
0E	Y0E
0D	Y0D
0C	Y0C
0B	Y0B
0A	Y0A
09	Y09
08	Y08
07	Y07
06	Y06
05	Y05
04	Y04
03	Y03
02	Y02
01	Y01
00	Y00

RY41NT2P-TS

No.	Signal
C22	COM
C21	COM
C12	DC12/24V
C11	DC12/24V
0F	Y0F
0E	Y0E
0D	Y0D
0C	Y0C
0B	Y0B
0A	Y0A
09	Y09
08	Y08
07	Y07
06	Y06
05	Y05
04	Y04
03	Y03
02	Y02
01	Y01
00	Y00

No.	Signal
C22	COM
C21	COM
C12	DC12/24V
C11	DC12/24V
0F	Y1F
0E	Y1E
0D	Y1D
0C	Y1C
0B	Y1B
0A	Y1A
09	Y19
08	Y18
07	Y17
06	Y16
05	Y15
04	Y14
03	Y13
02	Y12
01	Y11
00	Y10

RY41PT1P-TS

No.	Signal
C22	0V
C21	0V
C12	COM
C11	COM
0F	Y0F
0E	Y0E
0D	Y0D
0C	Y0C
0B	Y0B
0A	Y0A
09	Y09
08	Y08
07	Y07
06	Y06
05	Y05
04	Y04
03	Y03
02	Y02
01	Y01
00	Y00

No.	Signal
C22	0V
C21	0V
C12	COM
C11	COM
0F	Y1F
0E	Y1E
0D	Y1D
0C	Y1C
0B	Y1B
0A	Y1A
09	Y19
08	Y18
07	Y17
06	Y16
05	Y15
04	Y14
03	Y13
02	Y12
01	Y11
00	Y10

Model	FA1-TE2SV16XY	FA1-TE2SD32XY	FA1-TE2SD40P
Module	RY41NT2P RY41NT2H		
Cable	FA-CBL**FM2LV FA-CBL**FM2V	FA-CBL**FMV	FA-CBL**FMV-M

Signal

No.	Signal
C22	COM
C21	COM
C12	V+
C11	V+
0F	Y0F
0E	Y0E
0D	Y0D
0C	Y0C
0B	Y0B
0A	Y0A
09	Y09
08	Y08
07	Y07
06	Y06
05	Y05
04	Y04
03	Y03
02	Y02
01	Y01
00	Y00

No.	Signal
C22	COM
C21	COM
C12	V+
C11	V+
0F	Y1F
0E	Y1E
0D	Y1D
0C	Y1C
0B	Y1B
0A	Y1A
09	Y19
08	Y18
07	Y17
06	Y16
05	Y15
04	Y14
03	Y13
02	Y12
01	Y11
00	Y10

No.	Signal	No.	Signal
C14	V+	C24	COM
C13	V+	C23	COM
C12	V+	C22	COM
C11	V+	C21	COM
0F	Y0F	1F	Y1F
0E	Y0E	1E	Y1E
0D	Y0D	1D	Y1D
0C	Y0C	1C	Y1C
0B	Y0B	1B	Y1B
0A	Y0A	1A	Y1A
09	Y09	19	Y19
08	Y08	18	Y18
07	Y07	17	Y17
06	Y06	16	Y16
05	Y05	15	Y15
04	Y04	14	Y14
03	Y03	13	Y13
02	Y02	12	Y12
01	Y01	11	Y11
00	Y00	10	Y10

No.	Signal	No.	Signal
39	V+	40	COM
37	V+	38	COM
35	NC	36	NC
33	NC	34	NC
31	Y0F	32	Y1F
29	Y0E	30	Y1E
27	Y0D	28	Y1D
25	Y0C	26	Y1C
23	Y0B	24	Y1B
21	Y0A	22	Y1A
19	Y09	20	Y19
17	Y08	18	Y18
15	Y07	16	Y17
13	Y06	14	Y16
11	Y05	12	Y15
9	Y04	10	Y14
7	Y03	8	Y13
5	Y02	6	Y12
3	Y01	4	Y11
1	Y00	2	Y10

(3) Analog-Digital Converter Module / Digital-Analog Converter Module

<table>
<tr><td>Model</td><td colspan="2">FA1-TE2SD40P</td><td colspan="2">FA1-TE2SV20P</td></tr>
<tr><td>Module</td><td>R60AD6-DG
Q66AD-DG</td><td>R60AD8-G
R60AD16-G
Q68AD-G</td><td>R60ADV8
R60ADI8
Q68ADV
Q68ADI</td><td>Q62AD-DGH</td></tr>
<tr><td>Cable</td><td>FA-CBL**Q66ADDG</td><td>FA-CBL**Q68ADGN</td><td>FA-CBL**Q68ADT
FA-Q6TCA + FA-CBL**Q68ADA</td><td>FA-CBL**Q64DAT</td></tr>
<tr><td>Signal</td><td>
<table>
<tr><th>No.</th><th>Signal</th><th>No.</th><th>Signal</th></tr>
<tr><td>39</td><td>DC24V</td><td>40</td><td>DC24G</td></tr>
<tr><td>37</td><td>NC</td><td>38</td><td>NC</td></tr>
<tr><td>35</td><td>NC</td><td>36</td><td>NC</td></tr>
<tr><td>33</td><td>CH6
I-/CHK-</td><td>34</td><td>NC</td></tr>
<tr><td>31</td><td>CH6
P</td><td>32</td><td>CH6
I+/CHK+</td></tr>
<tr><td>29</td><td>NC</td><td>30</td><td>NC</td></tr>
<tr><td>27</td><td>CH5
I-/CHK-</td><td>28</td><td>NC</td></tr>
<tr><td>25</td><td>CH5
P</td><td>26</td><td>CH5
I+/CHK+</td></tr>
<tr><td>23</td><td>NC</td><td>24</td><td>NC</td></tr>
<tr><td>21</td><td>CH4
I-/CHK-</td><td>22</td><td>NC</td></tr>
<tr><td>19</td><td>CH4
P</td><td>20</td><td>CH4
I+/CHK+</td></tr>
<tr><td>17</td><td>NC</td><td>18</td><td>NC</td></tr>
<tr><td>15</td><td>CH3
I-/CHK-</td><td>16</td><td>NC</td></tr>
<tr><td>13</td><td>CH3
P</td><td>14</td><td>CH3
I+/CHK+</td></tr>
<tr><td>11</td><td>NC</td><td>12</td><td>NC</td></tr>
<tr><td>9</td><td>CH2
I-/CHK-</td><td>10</td><td>NC</td></tr>
<tr><td>7</td><td>CH2
P</td><td>8</td><td>CH2
I+/CHK+</td></tr>
<tr><td>5</td><td>NC</td><td>6</td><td>NC</td></tr>
<tr><td>3</td><td>CH1
I-/CHK-</td><td>4</td><td>NC</td></tr>
<tr><td>1</td><td>CH1
P</td><td>2</td><td>CH1
I+/CHK+</td></tr>
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<tr><th>No.</th><th>Signal</th><th>No.</th><th>Signal</th></tr>
<tr><td>39</td><td>NC</td><td>40</td><td>NC</td></tr>
<tr><td>37</td><td>CH8
Is</td><td>38</td><td>CH8
I+</td></tr>
<tr><td>35</td><td>CH8
V+</td><td>36</td><td>CH8
V-/I-</td></tr>
<tr><td>33</td><td>CH7
Is</td><td>34</td><td>CH7
I+</td></tr>
<tr><td>31</td><td>CH7
V+</td><td>32</td><td>CH7
V-/I-</td></tr>
<tr><td>29</td><td>NC</td><td>30</td><td>NC</td></tr>
<tr><td>27</td><td>CH6
Is</td><td>28</td><td>CH6
I+</td></tr>
<tr><td>25</td><td>CH6
V+</td><td>26</td><td>CH6
V-/I-</td></tr>
<tr><td>23</td><td>CH5
Is</td><td>24</td><td>CH5
I+</td></tr>
<tr><td>21</td><td>CH5
V+</td><td>22</td><td>CH5
V-/I-</td></tr>
<tr><td>19</td><td>NC</td><td>20</td><td>NC</td></tr>
<tr><td>17</td><td>CH4
Is</td><td>18</td><td>CH4
I+</td></tr>
<tr><td>15</td><td>CH4
V+</td><td>16</td><td>CH4
V-/I-</td></tr>
<tr><td>13</td><td>CH3
Is</td><td>14</td><td>CH3
I+</td></tr>
<tr><td>11</td><td>CH3
V+</td><td>12</td><td>CH3
V-/I-</td></tr>
<tr><td>9</td><td>NC</td><td>10</td><td>NC</td></tr>
<tr><td>7</td><td>CH2
Is</td><td>8</td><td>CH2
I+</td></tr>
<tr><td>5</td><td>CH2
V+</td><td>6</td><td>CH2
V-/I-</td></tr>
<tr><td>3</td><td>CH1
Is</td><td>4</td><td>CH1
I+</td></tr>
<tr><td>1</td><td>CH1
V+</td><td>2</td><td>CH1
V-/I-</td></tr>
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*1
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<tr><th>No.</th><th>Signal</th></tr>
<tr><td>20</td><td>NC</td></tr>
<tr><td>19</td><td>NC</td></tr>
<tr><td>18</td><td>NC</td></tr>
<tr><td>17</td><td>NC</td></tr>
<tr><td>16</td><td>CH8
V-/I-</td></tr>
<tr><td>15</td><td>CH8
V+/I+</td></tr>
<tr><td>14</td><td>CH7
V-/I-</td></tr>
<tr><td>13</td><td>CH7
V+/I+</td></tr>
<tr><td>12</td><td>CH6
V-/I-</td></tr>
<tr><td>11</td><td>CH6
V+/I+</td></tr>
<tr><td>10</td><td>CH5
V-/I-</td></tr>
<tr><td>9</td><td>CH5
V+/I+</td></tr>
<tr><td>8</td><td>CH4
V-/I-</td></tr>
<tr><td>7</td><td>CH4
V+/I+</td></tr>
<tr><td>6</td><td>CH3
V-/I-</td></tr>
<tr><td>5</td><td>CH3
V+/I+</td></tr>
<tr><td>4</td><td>CH2
V-/I-</td></tr>
<tr><td>3</td><td>CH2
V+/I+</td></tr>
<tr><td>2</td><td>CH1
V-/I-</td></tr>
<tr><td>1</td><td>CH1
V+/I+</td></tr>
</table>
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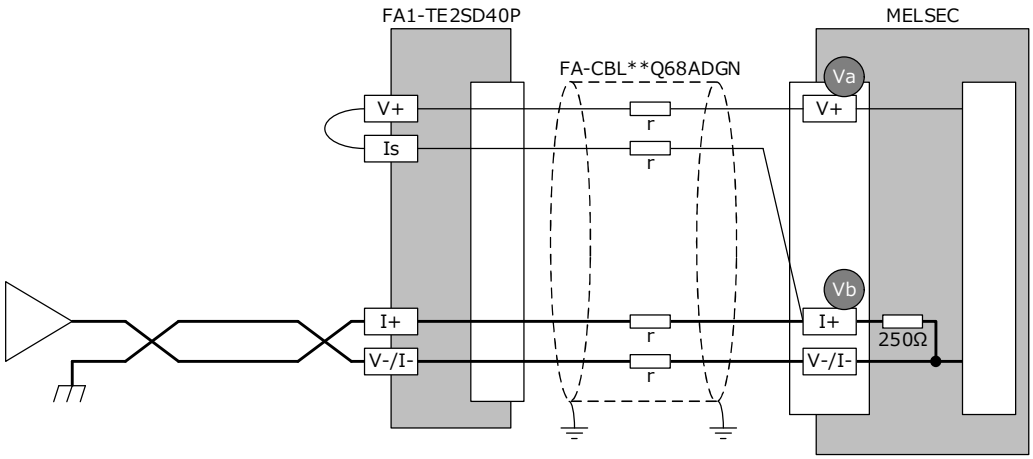
<tr><th>No.</th><th>Signal</th></tr>
<tr><td>20</td><td>NC</td></tr>
<tr><td>19</td><td>NC</td></tr>
<tr><td>18</td><td>FG</td></tr>
<tr><td>17</td><td>24G</td></tr>
<tr><td>16</td><td>24V</td></tr>
<tr><td>15</td><td>NC</td></tr>
<tr><td>14</td><td>NC</td></tr>
<tr><td>13</td><td>NC</td></tr>
<tr><td>12</td><td>NC</td></tr>
<tr><td>11</td><td>NC</td></tr>
<tr><td>10</td><td>CH2
I</td></tr>
<tr><td>9</td><td>CH2
P</td></tr>
<tr><td>8</td><td>NC</td></tr>
<tr><td>7</td><td>NC</td></tr>
<tr><td>6</td><td>NC</td></tr>
<tr><td>5</td><td>NC</td></tr>
<tr><td>4</td><td>NC</td></tr>
<tr><td>3</td><td>NC</td></tr>
<tr><td>2</td><td>CH1
I</td></tr>
<tr><td>1</td><td>CH1
P</td></tr>
</table>
</td></tr>
</table>

*1. For current input, connect the (V+) and (Is) terminals.



Using the Is terminal can reduce the error difference between Va and Vb caused by wiring resistance (r).

<table>
<tr><td>Model</td><td colspan="3">FA1-TE2SV20P</td></tr>
<tr><td>Module</td><td>R60DA4
R60DAH4
Q64DAN
Q64DAH</td><td>Q62DAN</td><td>R60DAI8
R60DAV8
Q68DAIN
Q68DAVN</td></tr>
<tr><td>Cable</td><td colspan="2">FA-CBL**Q64DAT</td><td>FA-CBL**Q68DAT
FA-Q6TCA + FA-CBL**Q68DAA</td></tr>
<tr><td>Signal</td><td>
<table>
<tr><th>No.</th><th>Signal</th></tr>
<tr><td>20</td><td>NC</td></tr>
<tr><td>19</td><td>NC</td></tr>
<tr><td>18</td><td>NC</td></tr>
<tr><td>17</td><td>24G</td></tr>
<tr><td>16</td><td>+24V</td></tr>
<tr><td>15</td><td>CH4
I+</td></tr>
<tr><td>14</td><td>CH4
COM</td></tr>
<tr><td>13</td><td>CH4
V+</td></tr>
<tr><td>12</td><td>NC</td></tr>
<tr><td>11</td><td>CH3
I+</td></tr>
<tr><td>10</td><td>CH3
COM</td></tr>
<tr><td>9</td><td>CH3
V+</td></tr>
<tr><td>8</td><td>NC</td></tr>
<tr><td>7</td><td>CH2
I+</td></tr>
<tr><td>6</td><td>CH2
COM</td></tr>
<tr><td>5</td><td>CH2
V+</td></tr>
<tr><td>4</td><td>NC</td></tr>
<tr><td>3</td><td>CH1
I+</td></tr>
<tr><td>2</td><td>CH1
COM</td></tr>
<tr><td>1</td><td>CH1
V+</td></tr>
</table>
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<tr><th>No.</th><th>Signal</th></tr>
<tr><td>20</td><td>NC</td></tr>
<tr><td>19</td><td>NC</td></tr>
<tr><td>18</td><td>NC</td></tr>
<tr><td>17</td><td>24G</td></tr>
<tr><td>16</td><td>+24V</td></tr>
<tr><td>15</td><td>NC</td></tr>
<tr><td>14</td><td>NC</td></tr>
<tr><td>13</td><td>NC</td></tr>
<tr><td>12</td><td>NC</td></tr>
<tr><td>11</td><td>NC</td></tr>
<tr><td>10</td><td>NC</td></tr>
<tr><td>9</td><td>NC</td></tr>
<tr><td>8</td><td>NC</td></tr>
<tr><td>7</td><td>CH2
I+</td></tr>
<tr><td>6</td><td>CH2
COM</td></tr>
<tr><td>5</td><td>CH2
V+</td></tr>
<tr><td>4</td><td>NC</td></tr>
<tr><td>3</td><td>CH1
I+</td></tr>
<tr><td>2</td><td>CH1
COM</td></tr>
<tr><td>1</td><td>CH1
V+</td></tr>
</table>
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<tr><th>No.</th><th>Signal</th></tr>
<tr><td>20</td><td>NC</td></tr>
<tr><td>19</td><td>NC</td></tr>
<tr><td>18</td><td>24G</td></tr>
<tr><td>17</td><td>+24V</td></tr>
<tr><td>16</td><td>CH8
COM</td></tr>
<tr><td>15</td><td>CH8
V+/I+</td></tr>
<tr><td>14</td><td>CH7
COM</td></tr>
<tr><td>13</td><td>CH7
V+/I+</td></tr>
<tr><td>12</td><td>CH6
COM</td></tr>
<tr><td>11</td><td>CH6
V+/I+</td></tr>
<tr><td>10</td><td>CH5
COM</td></tr>
<tr><td>9</td><td>CH5
V+/I+</td></tr>
<tr><td>8</td><td>CH4
COM</td></tr>
<tr><td>7</td><td>CH4
V+/I+</td></tr>
<tr><td>6</td><td>CH3
COM</td></tr>
<tr><td>5</td><td>CH3
V+/I+</td></tr>
<tr><td>4</td><td>CH2
COM</td></tr>
<tr><td>3</td><td>CH2
V+/I+</td></tr>
<tr><td>2</td><td>CH1
COM</td></tr>
<tr><td>1</td><td>CH1
V+/I+</td></tr>
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Model	FA1-TE2SD40P	
Module	R60DA8-G R60DA16-G	Q66DA-G
Cable	FA1-CBL**R60DA8G	FA-CBL**Q66DAG

Signal

端子番号	信号名	端子番号	信号名
39	DC24V	40	DC24G
37	NC	38	NC
35	NC	36	NC
33	NC	34	NC
31	CH8 V+/I+	32	CH8 V-/I-
29	NC	30	NC
27	CH7 V+/I+	28	CH7 V-/I-
25	NC	26	NC
23	CH6 V+/I+	24	CH6 V-/I-
21	NC	22	NC
19	CH5 V+/I+	20	CH5 V-/I-
17	NC	18	NC
15	NC	16	NC
13	CH4 V+/I+	14	CH4 V-/I-
11	NC	12	NC
9	CH3 V+/I+	10	CH3 V-/I-
7	NC	8	NC
5	CH2 V+/I+	6	CH2 V-/I-
3	NC	4	NC
1	CH1 V+/I+	2	CH1 V-/I-

端子番号	信号名	端子番号	信号名
39	DC24V	40	DC24G
37	NC	38	NC
35	NC	36	NC
33	CH6 I+	34	NC
31	CH6 V+	32	CH6 COM6
29	NC	30	NC
27	CH5 I+	28	NC
25	CH5 V+	26	CH5 COM5
23	NC	24	NC
21	CH4 I+	22	NC
19	CH4 V+	20	CH4 COM4
17	NC	18	NC
15	CH3 I+	16	NC
13	CH3 V+	14	CH3 COM3
11	NC	12	NC
9	CH2 I+	10	NC
7	CH2 V+	8	CH2 COM2
5	NC	6	NC
3	CH1 I+	4	NC
1	CH1 V+	2	CH1 COM1

(4) High-Speed Counter Module

Model	FA1-TE2SD40P		
Module	RD62P2 QD62 QD62E LD62	RD62P2E	RD62PD2 QD62D LD62D
Cable	FA-SCBL**FMV-M		

Signal

No.	Signal	No.	Signal
39	12/24V	40	0V
37	12/24V	38	0V
35	NC	36	NC
33	NC	34	NC
31	CH2 EQU2	32	CH2 EQU1
29	CH1 EQU2	30	CH1 EQU1
27	CH2 FUNC(5V)	28	CH2 FUNC(12V)
25	CH2 FUNC(24V)	26	CH2 CTRLCOM
23	CH2 PRST(5V)	24	CH2 PRST(12V)
21	CH2 PRST(24V)	22	CH2 φB(5V)
19	CH2 φB(12V)	20	CH2 φB(24V)
17	CH2 ABCOM	18	CH2 φA(5V)
15	CH2 φA(12V)	16	CH2 φA(24V)
13	CH1 FUNC(5V)	14	CH1 FUNC(12V)
11	CH1 FUNC(24V)	12	CH1 CTRLCOM
9	CH1 PRST(5V)	10	CH1 PRST(12V)
7	CH1 PRST(24V)	8	CH1 φB(5V)
5	CH1 φB(12V)	6	CH1 φB(24V)
3	CH1 ABCOM	4	CH1 φA(5V)
1	CH1 φA(12V)	2	CH1 φA(24V)

No.	Signal	No.	Signal
39	12/24V	40	NC
37	12/24V	38	NC
35	NC	36	NC
33	NC	34	NC
31	CH2 EQU2	32	CH2 EQU1
29	CH1 EQU2	30	CH1 EQU1
27	CH2 FUNC(5V)	28	CH2 FUNC(12V)
25	CH2 FUNC(24V)	26	CH2 CTRLCOM
23	CH2 PRST(5V)	24	CH2 PRST(12V)
21	CH2 PRST(24V)	22	CH2 φB(5V)
19	CH2 φB(12V)	20	CH2 φB(24V)
17	CH2 ABCOM	18	CH2 φA(5V)
15	CH2 φA(12V)	16	CH2 φA(24V)
13	CH1 FUNC(5V)	14	CH1 FUNC(12V)
11	CH1 FUNC(24V)	12	CH1 CTRLCOM
9	CH1 PRST(5V)	10	CH1 PRST(12V)
7	CH1 PRST(24V)	8	CH1 φB(5V)
5	CH1 φB(12V)	6	CH1 φB(24V)
3	CH1 ABCOM	4	CH1 φA(5V)
1	CH1 φA(12V)	2	CH1 φA(24V)

No.	Signal	No.	Signal
39	12/24V	40	0V
37	12/24V	38	0V
35	NC	36	NC
33	NC	34	NC
31	CH2 EQU2	32	CH2 EQU1
29	CH1 EQU2	30	CH1 EQU1
27	NC	28	NC
25	NC	26	NC
23	CH2 FUNCCOM	24	CH2 FUNC(5V)
21	CH2 FUNC(12V)	22	CH2 FUNC(24V)
19	CH2 PRSTCOM	20	CH2 PRST(5V)
17	CH2 PRST(12V)	18	CH2 PRST(24V)
15	CH2 $\overline{\varphi B}$	16	CH2 φB
13	CH2 $\overline{\varphi A}$	14	CH2 φA
11	CH1 FUNCCOM	12	CH1 FUNC(5V)
9	CH1 FUNC(12V)	10	CH1 FUNC(24V)
7	CH1 PRSTCOM	8	CH1 PRST(5V)
5	CH1 PRST(12V)	6	CH1 PRST(24V)
3	CH1 $\overline{\varphi B}$	4	CH1 φB
1	CH1 $\overline{\varphi A}$	2	CH1 φA

(5) Servo external signals interface module

Model	FA1-TE2SD40P
Module	Q172DLX Q172LX
Cable	FA-SCBL**FMV-M

Signal

No.	Signal	No.	Signal
39	COM	40	NC
37	COM	38	NC
35	NC	36	NC
33	NC	34	NC
31	DOG4/ CHANGE4	32	DOG8/ CHANGE8
29	STOP4	30	STOP8
27	RLS4	28	RLS8
25	FLS4	26	FLS8
23	DOG3/ CHANGE3	24	DOG7/ CHANGE7
21	STOP3	22	STOP7
19	RLS3	20	RLS7
17	FLS3	18	FLS7
15	DOG2/ CHANGE2	16	DOG6/ CHANGE6
13	STOP2	14	STOP6
11	RLS2	12	RLS6
9	FLS2	10	FLS6
7	DOG1/ CHANGE1	8	DOG5/ CHANGE5
5	STOP1	6	STOP5
3	RLS1	4	RLS5
1	FLS1	2	FLS5

(6) Manual pulse generator interface module

Model	FA1-TE2SD40P
Module	Q173DPX Q173PX Q173PX-S1
Cable	FA-SCBL**FMV-M

Signal

No.	Signal	No.	Signal
39	FG	40	FG
37	TREN3-	38	TREN3+
35	TREN2-	36	TREN2+
33	TREN1-	34	TREN1+
31	NC	32	NC
29	HB3N	30	HB3P
27	HA3N	28	HA3P
25	5V	26	HPSEL3
23	SG	24	SG
21	HB3	22	HA3
19	HB2N	20	HB2P
17	HA2N	18	HA2P
15	5V	16	HPSEL2
13	SG	14	SG
11	HB2	12	HA2
9	HB1N	10	HB1P
7	HA1N	8	HA1P
5	5V	6	HPSEL1
3	SG	4	SG
1	HB1	2	HA1

(7) Safety signal module

Model	FA1-TE2SD40P
Module	Q173DSXY
Cable	FA-SCBL**FMV-M

Signal

Motion IO connector				PLC IO connector			
No.	Signal	No.	Signal	No.	Signal	No.	Signal
39	24VDC (COM1)	40	0V (COM2)	39	24VDC (COM1)	40	0V (COM2)
37	24VDC (COM1)	38	0V (COM2)	37	24VDC (COM1)	38	0V (COM2)
35	NC	36	NC	35	NC	36	NC
33	NC	34	NC	33	NC	34	NC
31	MC-Y0F/ X0F	32	MC-Y1F/ X1F	31	PLC-Y0F/ X0F	32	PLC-Y1F/ X1F
29	MC-Y0E/ X0E	30	MC-Y1E/ X1E	29	PLC-Y0E/ X0E	30	PLC-Y1E/ X1E
27	MC-Y0D/ X0D	28	MC-Y1D/ X1D	27	PLC-Y0D/ X0D	28	PLC-Y1D/ X1D
25	MC-Y0C/ X0C	26	MC-Y1C/ X1C	25	PLC-Y0C/ X0C	26	PLC-Y1C/ X1C
23	MC-Y0B/ X0B	24	MC-Y1B/ X1B	23	PLC-Y0B/ X0B	24	PLC-Y1B/ X1B
21	MC-Y0A/ X0A	22	MC-Y1A/ X1A	21	PLC-Y0A/ X0A	22	PLC-Y1A/ X1A
19	MC-X09	20	MC-X19	19	PLC-X09	20	PLC-X19
17	MC-X08	18	MC-X18	17	PLC-X08	18	PLC-X18
15	MC-X07	16	MC-X17	15	PLC-X07	16	PLC-X17
13	MC-X06	14	MC-X16	13	PLC-X06	14	PLC-X16
11	MC-X05	12	MC-X15	11	PLC-X05	12	PLC-X15
9	MC-X04	10	MC-X14	9	PLC-X04	10	PLC-X14
7	MC-X03	8	MC-X13	7	PLC-X03	8	PLC-X13
5	MC-X02	6	MC-X12	5	PLC-X02	6	PLC-X12
3	MC-X01	4	MC-X11	3	PLC-X01	4	PLC-X11
1	MC-X00	2	MC-X10	1	PLC-X00	2	PLC-X10

8. APPLICABLE SOLDERLESS TERMINALS (Ferrule)

Type		Applicable ferrule*1	Crimp tool
Manufacturer	Applicable wire size (mm^2／AWG)		
PHOENIX CONTACT	0.25／24	AI 0,25-8 YE	CRIMPFOX 6
	0.3,0.34／22	AI 0,34-8 TQ	
	0.5／20	AI 0,5-8 WH	
	0.75／18	AI 0.75-8 GY	
WAGO	0.08～0.34／28～22	216-302	206-220
	0.34／24, 22	216-302	206-1204 206-204
	0.5／22, 20	216-201	
	0.75／20, 18	216-202	

*1 : For UL certification, suitable for field wiring when a ferrule is not used.

9. CONNECTABLE MODULES

(1) I/O modules

Programmable controller			Model	Cable
MELSEC iQ-R	RX40C7	Positive common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
		Negative common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
	RX40C7-TS	Positive common	FA1-TE2SV16XY	FA1-CB1L＊＊EM1F18
		Negative common	FA1-TE2SV16XY	FA1-CB1L＊＊EM1F18
	RX40NC6B	Negative common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
	RX41C4-TS	Positive common	FA1-TE2SV16XY	FA1-CB1L＊＊EM2F34
		Negative common	FA1-TE2SV16XY	FA1-CB1L＊＊EM2F34
	RX70C4	Positive common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
		Negative common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
	RY40NT5P		FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
	RY40NT5P-TS		FA1-TE2SV16XY	FA1-CB1L＊＊EM1F18
	RY40PT5P-TS		FA1-TE2SV16XY	FA1-CB1L＊＊EM1F18
	RY41NT2P-TS		FA1-TE2SV16XY	FA1-CB1L＊＊EM2F34
	RY41PT1P-TS		FA1-TE2SV16XY	FA1-CB1L＊＊EM2F34
	RY41NT2P-TS		FA1-TE2SV16XY	FA1-CB1L＊＊EM2F34
	RH42C4NT2P		See RX41C4 for the input sid. See RY41NT2P for the output sid.	
	RX41C4 RX41C6HS RX42C4	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
		Negative common	FA1-TE2SD32XY	FA-CBL＊＊FMVE
		Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMV-M
	RX71C4 RX72C4 RX61C6HS	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
		Negative common	FA1-TE2SD32XY	FA-CBL＊＊FMVE
		Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMV-M
	RY40PT5P RY40PT5B		FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
	RY41NT2P RY42NT2P RY41NT2H		FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
			FA1-TE2SD40P	FA-CBL＊＊FMV-M
	RY41PT1P RY42PT1P RY41PT2H		FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
			FA1-TE2SD40P	FA-CBL＊＊FMV-M

Programmable controller			Model	Cable
MELSEC iQ-F	FX5-C16EX/D	Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C16EX/DS	Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Source input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C16EYT/D	Sink output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C16EYT/DSS	Source output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C32ET/DSS-TS	Sink input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Source output	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Source input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
	FX5-C32ET/DS-TS	Sink output	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Sink input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Source input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
	FX5-C32EX/D	Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C32EX/DS	Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Source input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C32EX/DS-TS	Sink input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Source input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
	FX5-C32EYT/D	Sink output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C32EYT/DSS	Source output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5-C32EYT/DSS-TS	Source output	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
	FX5-C32EYT/D-TS	Sink output	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
	FX5UC-32MT/DSS-TS	Sink input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Source output	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Source input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
	FX5UC-32MT/DS-TS	Sink output	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Sink input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
		Source input	FA1-TE2SV16XY	FA2-CB1L＊ ＊ EM1F18
	FX5UC-32MT/D FX5-C32ET/D	Sink output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5UC-64MT/D FX5UC-96MT/D	Sink output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5UC-32MT/DSS FX5-C32ET/DSS	Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Source output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Source input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
	FX5UC-64MT/DSS FX5UC-96MT/DSS	Sink input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Source output	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20
		Source input	FA1-TE2SV16XY	FA2-CB1LT＊ ＊ MM1H20
				FA-FXCBL ＊ ＊ MMH20

Programmable controller			Model	Cable
MELSEC-Q	QX70	Positive common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
		Negative common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
	QX80	Negative common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
	QY70		FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
	QY71		FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
			FA1-TE2SD40P	FA-CBL＊＊FMV-M
	QY80		FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
	QY81P		FA1-TE2SV16XY	FA-CBL＊＊DM2FY
			FA1-TE2SD32XY	FA-CBL＊＊DMFY
	QY82P		FA1-TE2SV16XY	FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
			FA1-TE2SD40P	FA-CBL＊＊FMV-M
	QX40 QX40-S1	Positive common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
	QX41 QX42 QX41-S1 QX41-S2	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
	QX42-S1	Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMV-M
	QX71 QX72	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
		Negative common	FA1-TE2SD32XY	FA-CBL＊＊FMVE
		Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMV-M
	QX81 QX81-S2	Negative common	FA1-TE2SD32XY	FA-CBL＊＊DMFX
	QX82 QX82-S1	Negative common	FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMVE
			FA1-TE2SD40P	FA-CBL＊＊FMV-M
	QY40P QY50		FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊TMV20
				FA-CBL＊＊YM20
	QY41P QY41H QY42P		FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
			FA1-TE2SD40P	FA-CBL＊＊FMV-M
	QH42P QX41Y41P		See QX41 for the input side. See QY41P for the output side.	

Programmable controller			Model	Cable
MELSEC-L	LH42C4NT1P		See LX41C4 for the input side. See LY41NT1P for the input side.	
	LH42C4PT1P		See LX41C4 for the input side. See LY41NT1P for the input side.	
	LX40C6	Positive common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
		Negative common	FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
	LY40NT5P		FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
	LY40PT5P		FA1-TE2SV16XY	FA-CBL＊＊M20
				FA-CBL＊＊YM20
	LX41C4 LX42C4	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
		Negative common	FA1-TE2SD32XY	FA-CBL＊＊FMVE
		Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMV-M
	LY41NT1P LY42NT1P		FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
			FA1-TE2SD40P	FA-CBL＊＊FMV-M
	LY41PT1P LY42PT1P		FA1-TE2SV16XY	FA-CBL＊＊FM2LV
				FA-CBL＊＊FM2V
			FA1-TE2SD32XY	FA-CBL＊＊FMV
			FA1-TE2SD40P	FA-CBL＊＊FMV-M
	L02SCPU L02SCPU-P L02CPU L02CPU-P L06CPU L06CPU-P L26CPU L26CPU-P L26CPU-BT		FA1-TE2SV20P	FA-SCBL**FM2LV-LB
	L26CPU-PBT		FA1-TE2SD40P	FA-SCBL＊＊FMV-M
MELSEC-F	FX2NC-16EX	Sink input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX2NC-16EYT	Sink output	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX2NC-16EYT-DSS	Source output	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX2NC-32EX	Sink input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX2NC-32EYT	Sink output	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX2NC-32EYT-DSS	Source output	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX3GC-32MT/D FX3UC-16MT/D FX3UC-32MT/D FX3UC-32MT-LT FX3UC-32MT-LT2 FX3UC-64MT/D	Sink output	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX3UC-96MT/D	Sink input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX3GC-32MT/DSS	Sink input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX3UC-16MT/DSS	Source output	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX3UC-32MT/DSS	Source input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX3UC-64MT/DSS FX3UC-96MT/DSS	Sink input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
		Source output	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
		Source input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX2NC-16EX-DS	Sink input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20
	FX2NC-32EX-DS	Source input	FA1-TE2SV16XY	FA-FXCBL＊＊MMH20

(2) CC-Link modules

Programmable controller			Model	Cable
CC-Link IE TSN	NZ2GN2S1-16D	Positive common	FA1-TE2SV16XY	FA3-CB1L＊＊EM1F18X
	NZ2GN2S1-16T		FA1-TE2SV16XY	FA3-CB1L＊＊EM1F18Y
	NZ2GN2S1-16TE		FA1-TE2SV16XY	FA3-CB1L＊＊EM1F18Y
	NZ2GN2S1-32D	Positive common	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34X
	NZ2GN2S1-32DT	Output part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
		Input part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
	NZ2GN2S1-32DTE	Output part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
		Input part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
	NZ2GN2S1-32T		FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
	NZ2GN2S1-32TE		FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
	NZ2GNCF1-32D	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2H
				FA-CBL＊＊FM2LH
			FA1-TE2SD32XY	FA-CBL＊＊FMH
				FA-FCBL＊＊FMH
		Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMH-M
	NZ2GNCF1-32T	Sink output	FA1-TE2SV16XY	FA-CBL＊＊FM2H
				FA-CBL＊＊FM2LH
			FA1-TE2SD32XY	FA-CBL＊＊FMH
				FA-FCBL＊＊FMH
			FA1-TE2SD40P	FA-CBL＊＊FMH-M
CC-Link IE Field Basic	NZ2MF2S1-32D	Positive common	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34X
	NZ2MF2S1-32DT	Output part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
		Input part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
	NZ2MF2S1-32DTE1	Output part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
		Input part	FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
	NZ2MF2S1-32T		FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
	NZ2MF2S1-32TE1		FA1-TE2SV16XY	FA3-CB1L＊＊EM2F34Y
CC-Link IE Field	NZ2GFCF1-32D	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2H
				FA-CBL＊＊FM2LH
			FA1-TE2SD32XY	FA-CBL＊＊FMH
				FA-FCBL＊＊FMH
		Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMH-M
	NZ2GFCF1-32DT	Input/Output	FA1-TE2SD40P	FA-CBL＊＊FMH-M
	NZ2GFCF1-32T	Sink output	FA1-TE2SV16XY	FA-CBL＊＊FM2H
				FA-CBL＊＊FM2LH
			FA1-TE2SD32XY	FA-CBL＊＊FMH
				FA-FCBL＊＊FMH
			FA1-TE2SD40P	FA-CBL＊＊FMH-M
CC-Link	AJ65SBTCF1-32D	Positive common	FA1-TE2SV16XY	FA-CBL＊＊FM2H
				FA-CBL＊＊FM2LH
			FA1-TE2SD32XY	FA-CBL＊＊FMH
				FA-FCBL＊＊FMH
		Positive /negative common shared type	FA1-TE2SD40P	FA-CBL＊＊FMH-M
	AJ65SBTCF1-32DT	Input/Output	FA1-TE2SD40P	FA-CBL＊＊FMH-M
	AJ65SBTCF1-32T AJ65BTC1-32T	Sink output	FA1-TE2SV16XY	FA-CBL＊＊FM2H
				FA-CBL＊＊FM2LH
			FA1-TE2SD32XY	FA-CBL＊＊FMH
				FA-FCBL＊＊FMH
			FA1-TE2SD40P	FA-CBL＊＊FMH-M
	AJ65VBTCF1-32DT1	Input/Output	FA1-TE2SD40P	FA-CBL＊＊FMH-M

(3) Analog-Digital Converter Modules / Digital -Analog Converter Modules

Programmable controller		Model	Cable
MELSEC iQ-R	R60AD6-DG	FA1-TE2SD40P	FA-CBL * * Q66ADDG
	R60AD8-G R60AD16-G	FA1-TE2SD40P	FA-CBL * * Q68ADGN
	R60ADI8	FA1-TE2SV20P	FA-CBL * * Q68ADT
			FA-Q6TCA + FA-CBL * * Q68ADA
	R60ADV8	FA1-TE2SV20P	FA-CBL * * Q68ADT
			FA-Q6TCA + FA-CBL * * Q68ADA
	R60DA4	FA1-TE2SV20P	FA-CBL * * Q64DAT
	R60DA8-G R60DA16-G	FA1-TE2SD40P	FA1-CBL * * R60DA8G
	R60DAH4	FA1-TE2SV20P	FA-CBL * * Q64DAT
	R60DAI8	FA1-TE2SV20P	FA-CBL * * Q68DAT
			FA-Q6TCA + FA-CBL * * Q68DAA
	R60DAV8	FA1-TE2SV20P	FA-CBL * * Q68DAT
			FA-Q6TCA + FA-CBL * * Q68DAA
MELSEC-Q	Q62AD-DGH	FA1-TE2SV20P	FA-CBL * * Q64DAT
	Q64DAN Q64DAH Q62DAN	FA1-TE2SV20P	FA-CBL * * Q64DAT
	Q66AD-DG	FA1-TE2SD40P	FA-CBL * * Q66ADDG
	Q66DA-G	FA1-TE2SD40P	FA-CBL * * Q66DAG
	Q68AD-G	FA1-TE2SD40P	FA-CBL * * Q68ADGN
	Q68ADI	FA1-TE2SV20P	FA-CBL * * Q68ADT
			FA-Q6TCA + FA-CBL * * Q68ADA
	Q68ADV	FA1-TE2SV20P	FA-CBL * * Q68ADT
			FA-Q6TCA + FA-CBL * * Q68ADA
	Q68DAIN	FA1-TE2SV20P	FA-CBL * * Q68DAT
			FA-Q6TCA + FA-CBL * * Q68DAA
	Q68DAVN	FA1-TE2SV20P	FA-CBL * * Q68DAT
			FA-Q6TCA + FA-CBL * * Q68DAA

(4) High-Speed Counter Modules

Programmable controller		Model	Cable
MELSEC iQ-R	RD62P2 RD62D2 RD62P2E	FA1-TE2SD40P	FA-SCBL＊＊FMV-M
MELSEC-L	LD62 LD62D	FA1-TE2SD40P	FA-SCBL＊＊FMV-M
MELSEC-Q	QD62 QD62E QD62D	FA1-TE2SD40P	FA-SCBL＊＊FMV-M

(5) Servo external signals interface module

Programmable controller		Model	Cable
MELSEC-Q	Q172DLX Q172LX	FA1-TE2SD40P	FA-SCBL＊＊FMV-M

(6) Manual pulse generator interface module

Programmable controller		Model	Cable
MELSEC-Q	Q173DPX Q173PX Q173PX-S1	FA1-TE2SD40P	FA-SCBL＊＊FMV-M

(7) Safety signal module

Programmable controller		Model	Cable
MELSEC-Q	Q173DSXY	FA1-TE2SD40P	FA-SCBL＊＊FMV-M

(8) NC modules

Programmable controller		Model	Cable
M800W M80W	FCU8-DX220 FCU8-DX230 FCU8-DX231 FCU8-DX651	FA1-TE2SD40P	FA-CBL＊＊MMH

(9) Other PLC

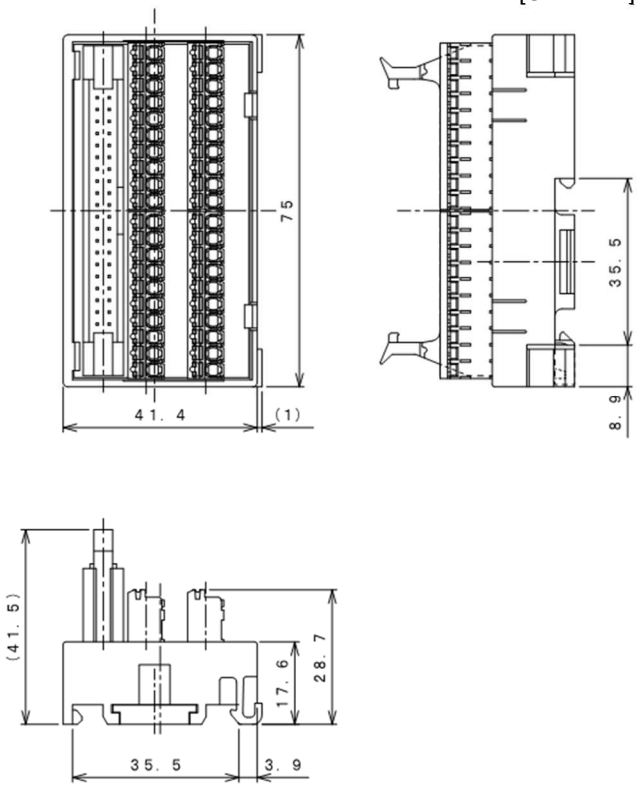
Programmable controller		Model	Cable
Omron	CJ1W-ID231 CJ1W-ID261	FA1-TE2SD40P	FA-CBL * * FMH
	CJ1W-ID232 CJ1W-ID262 CJ1W-ID233	FA1-TE2SD40P	FA-CBL * * MMH-R
	CJ1W-MD261	FA1-TE2SD40P	FA-CBL * * FMH
	CJ1W-MD263 CJ1W-MD563	FA1-TE2SD40P	FA-CBL * * MMH-R
	CJ1W-OD231 CJ1W-OD261	FA1-TE2SD40P	FA-CBL * * FMH
	CJ1W-OD232 CJ1W-OD233 CJ1W-OD262 CJ1W-OD263 CJ1W-OD234	FA1-TE2SD40P	FA-CBL * * MMH-R
	CS1W-ID231 CS1W-ID261	FA1-TE2SD40P	FA-CBL * * FMH
	CS1W-MD261 CS1W-MD262 CS1W-MD561	FA1-TE2SD40P	FA-CBL * * FMH
	CS1W-OD231 CS1W-OD232 CS1W-OD261 CS1W-OD262	FA1-TE2SD40P	FA-CBL * * FMH
	DRT2-ID32ML DRT2-ID32ML-1	FA1-TE2SD40P	FA-CBL * * MMH-R
	DRT2-MD32ML DRT2-MD32ML-1	FA1-TE2SD40P	FA-CBL * * MMH-R
	DRT2-OD32ML DRT2-OD32ML-1	FA1-TE2SD40P	FA-CBL * * MMH-R
	GT1-ID32ML GT1-ID32ML-1	FA1-TE2SD40P	FA-CBL * * FMH
	GT1-OD32ML GT1-OD32ML-1	FA1-TE2SD40P	FA-CBL * * FMH
	SRT2-ID32ML SRT2-ID32ML-1	FA1-TE2SD40P	FA-CBL * * MMH-R
	SRT2-MD32ML SRT2-MD32ML-1	FA1-TE2SD40P	FA-CBL * * MMH-R
	SRT2-OD32ML SRT2-OD32ML-1	FA1-TE2SD40P	FA-CBL * * MMH-R

Programmable controller		Model	Cable
Yocogawa Electric	F3WD64-3P F3WD64-4P	FA1-TE2SD40P	FA-CBL * * FMH-FY
	F3XD32-3F F3XD32-4F F3XD32-5F F3XD64-3F F3XD64-4F F3XD64-6M	FA1-TE2SD40P	FA-CBL * * FMH-FY
	F3YD32-1H F3YD32-1P F3YD32-1R F3YD32-1T F3YD64-1M F3YD64-1P F3YD64-1R	FA1-TE2SD40P	FA-CBL * * FMH-FY
Fuji Electric	NP1W3206T NP1W3206U NP1W6406T NP1W6406U	FA1-TE2SD40P	FA-CBL * * FMH-FY
	NP1X3206-W NP1X3202-W NP1X6406-W	FA1-TE2SD40P	FA-CBL * * FMH-FY
	NP1Y32T09P1 NP1Y32U09P1 NP1Y64T09P1 NP1Y64U09P1	FA1-TE2SD40P	FA-CBL * * FMH-FY

10. EXTERNAL DIMENSIONS

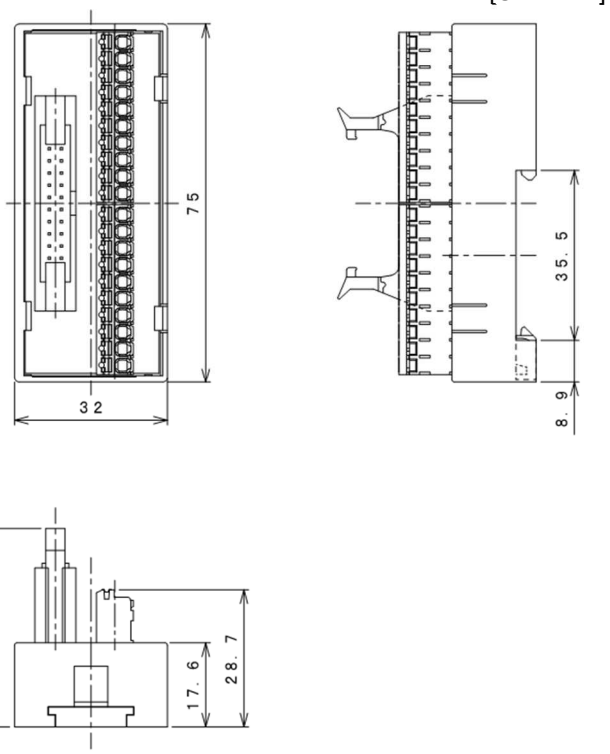
(1) FA1-TE2SD40P/32XY

[Unit : mm]



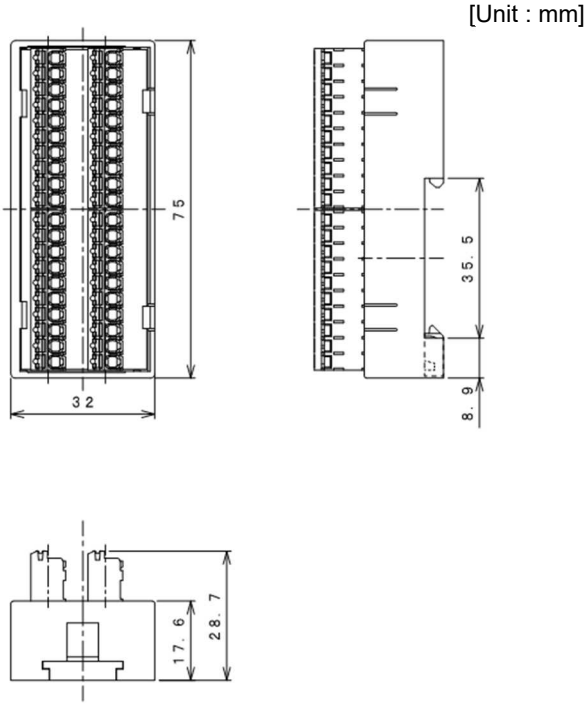
(2) FA1-TE2SV20P/16XY

[Unit : mm]



(3) FA1-TE2SV40EX

[Unit : mm]



11. PRECAUTIONS

For wiring to the terminal block, refer to the manual of the programmable controller module to be connected, published by Mitsubishi Electric.

12. TROUBLESHOOTING

When wires and ferrule terminals cannot be connected to the spring clamp terminal block

Check item	Action
Is the wire insulation processed correctly?	Check whether the processing of the wire insulation and the crimping of the ferrule terminal are correct. (5-3.Wiring to a spring clamp terminal block)
Is the ferrule terminal properly crimped?	
For stranded wires, is the push button on the spring clamp terminal block pressed?	Use a screwdriver to press the push button on the spring clamp terminal block and insert the stranded wire into the wire insertion slot. (5-3.Wiring to a spring clamp terminal block)

If no signal is output. / If no continuity.

Check item	Action
Is there any looseness in the mounting of the connected?	Make sure the connector is securely attached.
Is there incorrect wiring of the spring clamp terminal block?	Check if there are any problems with the wiring of the connected device.
Is there contact failure due to insulating foreign matter?	
Is there any malfunction in the connected device?	

If unintended signal output or continuity

Check item	Action
Are there any short circuits between signals due to protruding wires or conductive foreign matter?	Check if there are any problems with the wiring of the connected device.
Is there incorrect wiring of the spring clamp terminal block?	
Is there any malfunction in the connected device?	

13. GRATIS WARRANTY TERMS AND GRATIS WARRANTY RANGE

If any fault or defect (hereinafter referred to as "Failure") attributable to Mitsubishi Electric Engineering should occur within the gratis warranty period, Mitsubishi Electric Engineering shall replace the product free of charge via the distributor from whom you made your purchase.

● Gratis warranty period

The gratis warranty period of this product shall be one (1) year from the date of purchase or delivery to the designated place.

Note that the gratis warranty period shall be limited to 18 months after manufacturing, which includes six months as the distribution period in the market.

In addition, the gratis warranty period of the product after repair is the same as that of the product before repair.

● Gratis warranty range

(1) The gratis warranty range shall be limited to normal use based on the usage conditions, methods and environment, etc., defined by the terms and precautions, etc., given in the instruction manual, user's manual, and caution labels on the product.

(2) In the following cases, a repair fee shall be applied even if within the gratis warranty period.

1) Failure resulting from inappropriate storage or handling, carelessness or negligence by the user, or Failure caused by the user's hardware or software design.
2) Failure caused by unapproved modifications, etc., to the product by the user.
3) Failure that could have been avoided if, when the Mitsubishi Electric Engineering product was assembled into the user's device, safeguards defined by legal regulations applicable to the user's device or functions or structures considered standard by the industry had been provided.
4) Failure recognized as preventable if the consumed products specified in instruction manuals, etc., were normally maintained or replaced.
5) Replacement of consumable parts (relays, etc.).
6) Failure caused by external factors beyond anyone's control such as fires or abnormal voltage, and Failure caused by Force Majeure such as earthquakes, lightning, or wind and water damage.
7) Failure caused by reasons unpredictable by scientific technology standards at the time of shipment from Mitsubishi Electric Engineering.
8) Any other failure not attributable to Mitsubishi Electric Engineering or found by the user to not be attributable to Mitsubishi Electric Engineering.

14. EXCLUSION FROM LIABILITY FOR OPPORTUNITY LOSS AND SECONDARY LOSS

Regardless of the gratis warranty period, Mitsubishi Electric Engineering shall not be liable for compensation for damages arising from causes not attributable to Mitsubishi Electric Engineering, opportunity losses or lost profits incurred by the user due to Failures of Mitsubishi Electric Engineering products, damages or secondary damages arising from special circumstances, whether foreseen or unforeseen by Mitsubishi Electric Engineering, compensation for accidents, compensation for damages to products other than Mitsubishi Electric Engineering products, or compensation for replacement work, readjustment of onsite machinery and equipment, startup test runs or other duties carried out by the user.

15. TRADEMARKS

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In some cases, trademark symbols such as '™' or '®' are not specified in this manual.

⚠ FOR SAFE OPERATIONS

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric Engineering.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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