

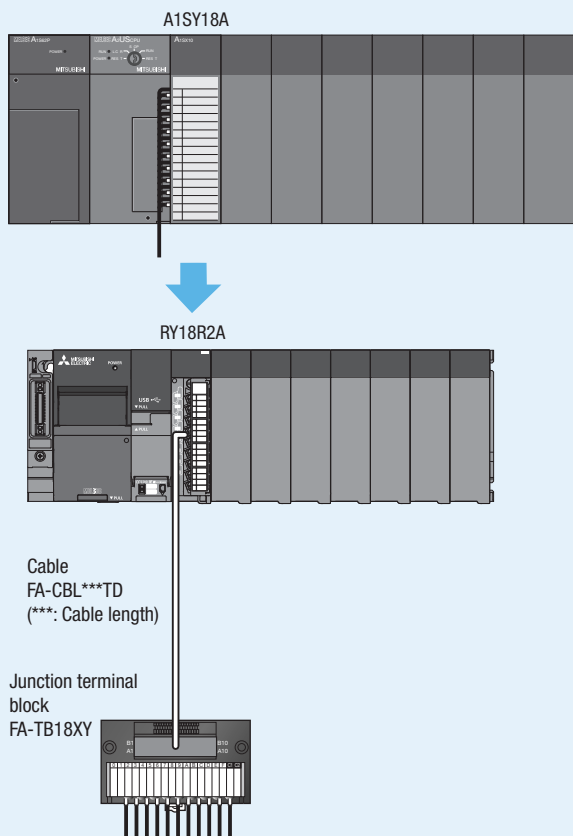
Replacing the MELSEC-AnS series with the MELSEC iQ-R series

▶ Suggestion [1]

Use of junction terminal blocks

◎ Replacement example using junction terminal blocks

Example) A1SY18A → RY18R2A



Reference

Replacement method → P.87

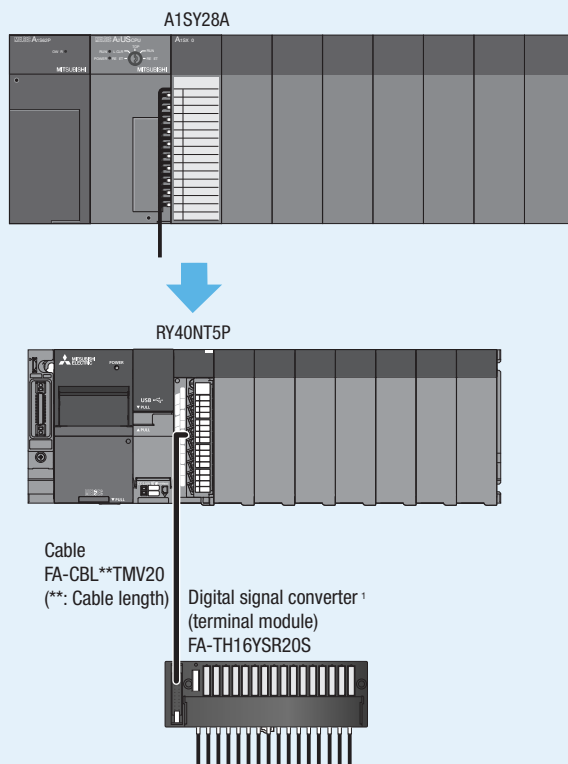
Modules to be replaced → P.90 and P.91

▶ Suggestion [2]

Use of digital signal converters (terminal modules)

◎ Replacement example using digital signal converters (terminal modules)

Example) A1SY28A → RY40NT5P



Reference


Replacement method → P.88

Modules to be replaced → P.90 and P.91

¹1: The spring clamp terminal block type output terminal module, FA1-TH16Y1SR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

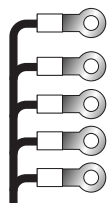
Junction terminal block

The following is an example when a MELSEC-AnS series output module (independent, 8-point, 24VDC/240VAC) is replaced using a junction terminal block.



1) Remove the wiring.

2) Check the solderless terminals.



- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the junction terminal block.

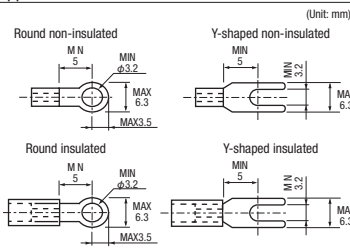
Solderless terminals used for the module

- R1.25-3.5, R2-3.5
- RAV1.25-3.5, RAV2-3.5

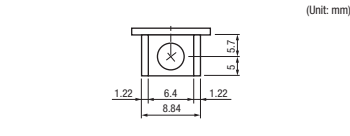
Solderless terminals applicable to the junction terminal block (M3 screw, 7.62mm pitch)


Manufacturer	Type	Applicable wire size	Round		Y-shaped	
			Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTM	0.3 to 1.25mm ²	R1.25-3N R1.25-3.5N	TG1.1.25-3N TG1.1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG1.1.25Y-3 TG1.1.25Y-3N TG1.1.25Y-3L TG1.1.25Y-3.5	
	1.25 to 2.0mm ²	R2-3N	TG2.2-3N	2Y-3 2Y-3.5S	TG2.2Y-3 TG2.2Y-3.5S	
J.S.T.MFG. CO., LTD JST	0.3 to 1.25mm ²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A	
	1.25 to 2.0mm ²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A	
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm ²	R1.25-3ML R1.25-3.5SL	RAV1.25-3ML RAV1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S	
	1.25 to 2.0mm ²	R2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3.5SS VDAV2-3.5S	

Applicable solderless terminal dimensions (Unit: mm)

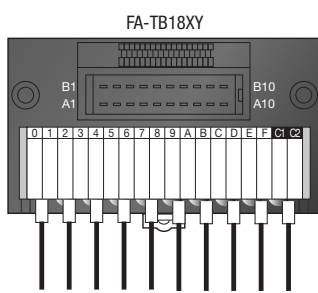


Terminal block dimensions (Unit: mm)



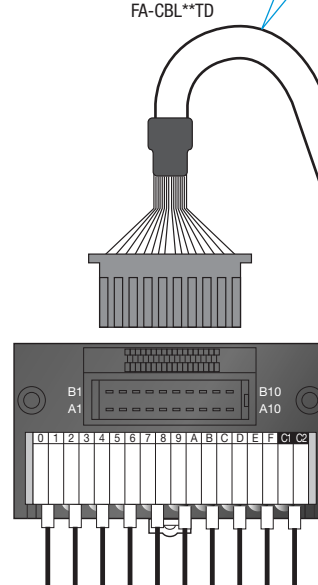


3) Wire the junction terminal block.

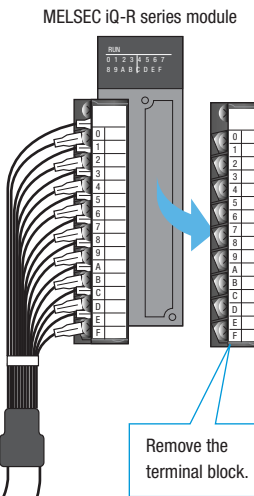


4) Connect the replaced module to the junction terminal block with a cable.

Connect a cable.



Remove the terminal block.



Note

- For the specifications of the junction terminal block, refer to our website or the FAgoods General Catalog: Time and Wire Saving Devices.
- Check that the junction terminal block used satisfies the system specifications prior to use.

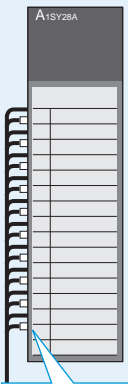
For programmable controllers

Upgrading existing programmable controller systems using the time and wire saving devices

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Digital signal converter (terminal module)

The following is an example when a MELSEC-AnS series output module (independent, 8-points, triac) is replaced using a digital signal converter (terminal module).



1) Remove the wiring.

2) Check the solderless terminals.

- Check the model or dimensions of solderless terminals.
- Change the terminals which are not applicable to the digital signal converter (terminal module).

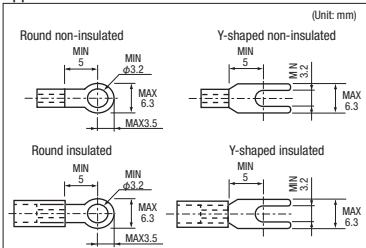
Solderless terminals used for the module

- R1.25-3.5, R2-3.5
- RAV1.25-3.5, RAV2-3.5

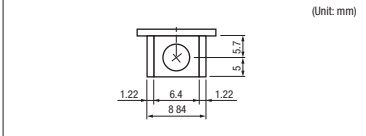
Solderless terminals applicable to the digital signal converter (terminal module) (M3 screw, 7.62mm pitch)


Manufacturer	Type	Applicable wire size	Round		Y-shaped	
			Non-insulated	Insulated	Non-insulated	Insulated
NICHIFU Co., Ltd. NTK	0.3 to 1.25mm ²	R1.25-3N R1.25-3.5N	TG1.1.25-3N TG1.1.25-3.5N	1.25Y-3 1.25Y-3N 1.25Y-3L 1.25Y-3.5	TG1.1.25Y-3 TG1.1.25Y-3N TG1.1.25Y-3L TG1.1.25Y-3.5	
	1.25 to 2.0mm ²	R2-3N	TG2.2-3N	2Y-3 2Y-3.5S	TG2.2Y-3 TG2.2Y-3.5S	
J.S.T.MFG. CO., LTD. JST	0.3 to 1.25mm ²	1.25-MS3	V1.25-MS3	1.25-B3A 1.25-C3A 1.25-N3A 1.25-C3.5A	V1.25-B3A V1.25-N3A	
	1.25 to 2.0mm ²	2-MS3	V2-MS3	2-N3A 2-M3A	V2-N3A	
Nippon Tanshi Co., Ltd. NTK	0.3 to 1.25mm ²	R1.25-3ML R1.25-3.5SL	RAV1.25-3ML RAV1.25-3ML	VD1.25-3L VD1.25-3.5SS VD1.25-3.5S	VDAV1.25-3L VDAV1.25-3.5SS VDAV1.25-3.5S	
	1.25 to 2.0mm ²	R2-3SL	RAV2-3SL RAP2-3SL	VD2-3S VD2-3.5SS VD2-3.5S	VDAV2-3.5SS VDAV2-3.5S	

Applicable solderless terminal dimensions (Unit: mm)

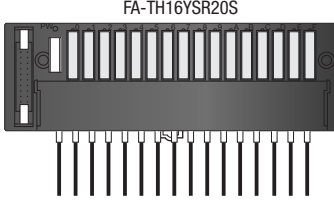



Terminal block dimensions (Unit: mm)



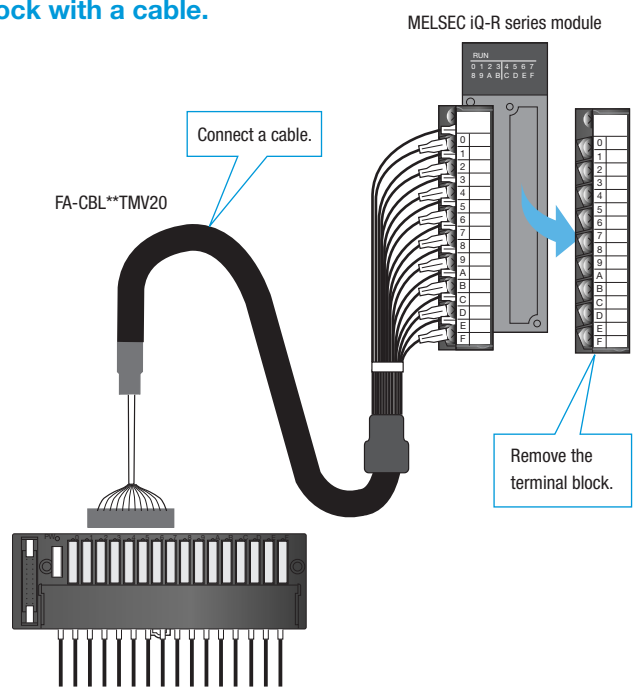


3) Wire the digital signal converter (terminal module).





4) Connect the replaced module to the junction terminal block with a cable.



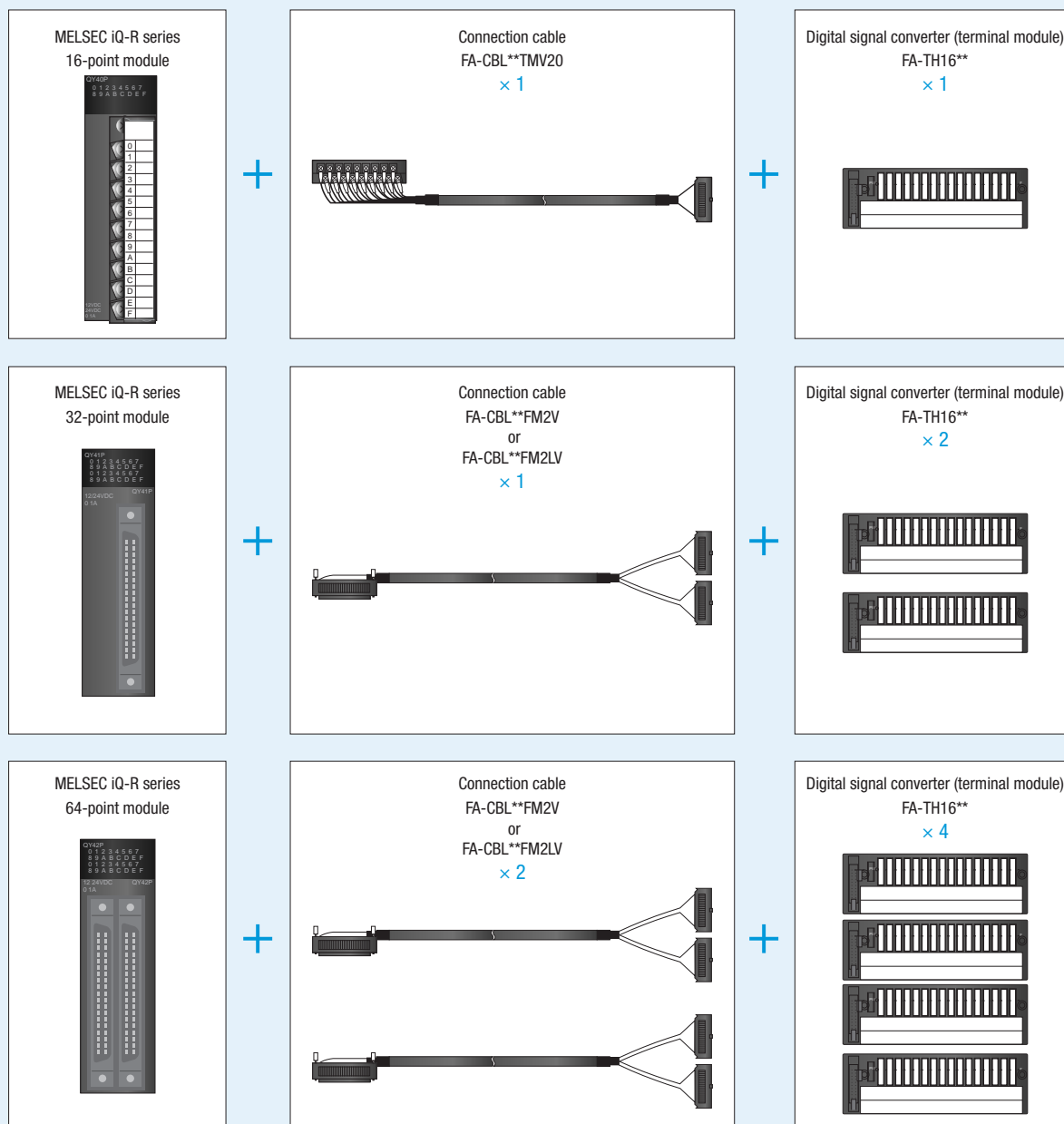
Note

- For the specifications of the digital signal converter, refer to our website or the Fagoods General Catalog: Time and Wire Saving Devices.
- Check that the digital signal converter (terminal module) used satisfies the system specifications prior to use.

Number of cables and modules

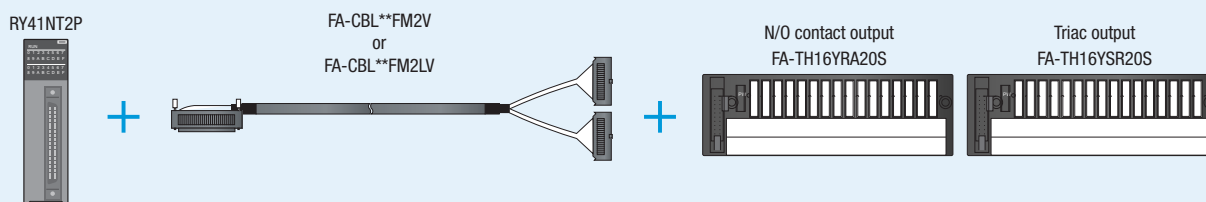
The digital signal converter (terminal module) has 16 input/output points. Therefore, the number of cables and modules differs depending on the number of points of I/O module after replacement.

The number of cables and modules of the 16-point, 32-point, and 64-point I/O modules will be as follows.




Advantage of using a digital signal converter (terminal module)

- A digital signal converter (terminal module) has 16 input/output points and can be isolated from the programmable controller at every 16 points. Therefore, different digital signal converters (terminal modules) can be used for each 16-point group.




Modules to be replaced using a junction terminal block

MELSEC-AnS series module						Replacement using time and wire saving devices				
						MELSEC iQ-R series module				
	Model	Specifications	No. of points	Terminal		Model	Specifications	No. of points	No. of required modules	
Output	A1SY18A	Contact output, 24VDC/240VAC, 2A, independent common	8	20P		RY18R2A	Contact output, 24VDC/240VAC, 2A, independent common	8	1	
	A1SY28A	Triac output, 100 to 240VAC, 1A, independent common				RY20S6	Triac output, 100 to 240VAC, 0.6A, 16 points/common, with surge suppressor	16		
	A1SY28EU	Triac output, 100 to 240VAC, 0.6A, 4 points/common				RY18R2A	Contact output, 24VDC/240VAC, 2A, independent common	8		
	A1SY68A	Transistor output, 5/12/24/48VDC, 2A, independent common, sink/source type								

Note) For the detailed specifications of each module, refer to the user's manual for each module used, our website, or the Fagoods General Catalog: Time and Wire Saving Devices.

Modules to be replaced using a digital signal converter (terminal module)

MELSEC-AnS series input module						Replacement using time and wire saving devices							
						MELSEC iQ-R series module			Digital signal converter (terminal module)				
	Model	Specifications	No. of points	No. of modules		Model	No. of points	No. of required modules	Cable model	No. of required cables	Module model	No. of required modules	
Output	A1SY18A	Contact output, 24VDC/240VAC, 2A, independent common	8	1		RY40NT5P	16	1	FA-CBL**TMV20	1	FA-TH16YRA20S ^{*1}	1	
	A1SY28A	Triac output, 100 to 240VAC, 1A, independent common									FA-TH16YSR20S ^{*2}		
	A1SY28EU	Triac output, 100 to 240VAC, 0.6A, 4 points/common											
	A1SY68A	Transistor output, 5/12/24/48VDC, 2A, independent common, sink/source type									FA-TH16Y2TR20 ^{*3}		

*1: The spring clamp terminal block type output terminal module, FA1-TH16Y2RA20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

*2: The spring clamp terminal block type output terminal module, FA1-TH16Y1SR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

*3: The spring clamp terminal block type output terminal module, FA1-TH16Y1TR20S1E, can be used by changing the solderless terminals (round and Y-shaped) to the ferrules.

** indicates a cable length.

Replacement using time and wire saving devices								
Junction terminal block								
	Cable model	No. of required modules	Module model	No. of required modules	Specifications	No. of points	Terminal	Remarks
	FA-CBL**TD	1	FA-TB18XY	1	18 points terminal conversion (8 points conversion, independent common)	8	18P	• An external power supply is not required.
			FA-TB161AC		16 points conversion, 1-wire type	16	18P	• An independent common is not supported. • The output current changes from 1A to 0.6A.
			FA-TB161ACC2		16 points conversion, 2-wire type		34P	• The number of points per common changes from 4 to 16.
			FA-TB18XY		18 points terminal conversion (8 points conversion, independent common)	8	18P	• The output type changes from transistor output to contact output.

** indicates a cable length.

Replacement using time and wire saving devices		
Digital signal converter (terminal module)		
	Specifications	Remarks
	NO contact, 24VDC/200VAC, 2A, independent common (socket type, module replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required.
	Triac output, 30 to 240VAC, 1A, independent common (socket type, module replaceable)	• To use a digital signal converter, an external power supply (24VDC) is required. • To use a digital signal converter, an external power supply (24VDC) is required. • A cable for wiring common terminals is required.
	Transistor output, 3 to 30VDC, 2A, independent common, sink/source type	• To use a digital signal converter, an external power supply (24VDC) is required. • 48VDC is not supported.