Mitsubishi Electric Programmable Controller Upgrade Tool

Conversion Adapter

Model ERNT-1AR38TB

User's Manual

50CM-D180419-A(1811)

MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED HEAD OFFICE: Hulic KUDAN BLDG.1-13-5, KUDANKITA CHIYODA-KU, TOKYO 102-0073, JAPAN

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SAFETY PRECAUTIONS

(Always read these precautions prior to use.) Before using this product, please read this manual carefully and pay full attention to safety to ensure that the

product is used correctly The precautions presented in this manual are concerned with this product only. For Programmable Controller

system safety precautions, refer to "Safety Guidelines" for MELSEC iQ-R Series Modules. 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 ranked as "WARNING" and "CAUTION."

_____ **WARNING**

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

conditions, resulting in death or severe injury.

Indicates that incorrect handling may cause hazardous

Note that failure to observe the A CAUTION level instructions may lead to a serious consequence according to the circumstances. Always follow the precautions of both levels because they are important to personal safety. Please keep this manual in an easy-to-access location for future reference, and be sure to provide the manual to the end use

[Precautions before using]

▲ CAUTION

• When making a switch to the MELSEC iQ-R Series, be sure to consult user's manual supplied with individual module under the MELSEC iO-R Series to confirm differences in various aspects including performance, function, CPU input/output signals between the two modules.

[Installation Precautions]

\land CAUTION

- Use the conversion adapter and conversion adapter anchor base in the environment conditions described in the general specifications in "Safety Guidelines" for MELSEC iQ-R Series Modules. Failure to do so could lead to electric shock, fire, malfunction or product failure or deterioration.
- Do not come in direct contact with the conductive area of the conversion adapter. Doing so could lead to system malfunction or failure.
- Fully secure the conversion adapter and conversion adapter anchor base using the installation screws, and tighten the installation screws securely within the specified torque range. Failure to do so could cause the conversion adapter and anchor base to fall, resulting in conversion adapter and conversion adapter anchor base damage.
- Always check for correct match between MELSEC iQ-R Series and the conversion adapter. Incorrect match can cause damage to the MELSEC iQ-R Series module

[Wiring Precautions]

\land WARNING

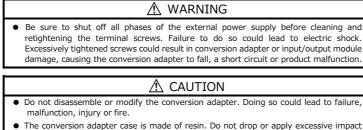
- Be sure to shut off all phases of the external power supply before performing installation or wiring work. Failure to do so could result in electric shock or product damage.
- After installation and wiring, close the terminal block cover before turning on the module for operation. Failure to do so may result in electric shock

▲ CAUTION

- Properly wire the conversion adapter after verifying the specifications and terminal layout of the module to be used. Connecting a power supply with a different rating or improper wiring could lead to fire or product failure.
- Tighten the terminal installation screws and terminal screw securely by applying torque within the specified limits. Loose screws will cause short circuit, fire or malfunction. Excessive tightening will damage the screws or the Conversion Adapter which in turn will cause dropping of parts, short circuit or malfunction.
- Do not allow foreign matter such as cuttings or wiring shavings to enter the conversion adapter or module. Doing so could lead to fire, failure or malfunction

[Startup and Maintenance Precautions]

🕂 WARNING				
• Do not touch the terminals during energization. Doing so could result in electric shock				
or malfunction				



to the case. Doing so could lead to conversion adapter damage

[Disposal Precautions]

▲ CAUTION

When disposing of the product, treat it as industrial waste

EMC AND LOW VOLTAGE DIRECTIVES

Compliance to the EMC Directive, which is one of the EU Directives, has been a legal obligation for the products sold in European countries since 1996 as well as the Low Voltage Directive since 1997.

Manufacturers who recognize their products are compliant to the EMC and Low Voltage Directives are required to declare that print a "CE mark" on their products.

Authorized representative in Europe

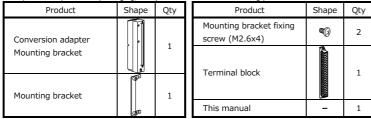
- Authorized representative in Europe is shown below
- Name: Mitsubishi Electric Europe B.V.
- Address: Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany

1. Overview

This manual describes the Mitsubishi Electric Programmable Controller Upgrade Tool conversion adapter (ERNT-1AR38TB).

Before attempting to make a switch to MELSEC iO-R Series in your installation, consult the user's manual supplied with individual module under the latter series to learn about how they differ in various aspects including performance and function.

Once you have opened the packaging, verify that it contains the following products



2. Specifications

2.1 General Specifications						
Item		Specifications				
Operating ambient temperature		0 to 55°C (Maximum surrounding air temperature 55°C)				
Storage ambient temperature			-25 to	75℃		
Operating ambient humidity						
Storage ambient humidity		5 to 95%RH, non-condensing				
	Compliant with JIS B 3502 and IEC 61131-2		Frequency	Constant acceleration	Half amplitude	Sweep count
		vibration Under	5 to 8.4Hz	-	3.5mm	10 times each in
Vibration resistance			8.4 to 150Hz	9.8m/s ²	-	X, Y, Z directions
			5 to 8.4Hz	-	1.75mm	
		continuous vibration	8.4 to 150Hz	4.9m/s ²	-	-
Shock resistance	Compliant with JIS B 3502 and IEC 61131-2 (147m/s ² , 3 times each in 3 directions X, Y, Z)					
Operating atmosphere	No corrosive gases					
Operating altitude *1	0 to 2000m					
Installation location	Inside a control panel *2					
Overvoltage category *3	II or less					
Pollution degree *4		2				

- *1: Do not use or store under pressure higher than the atmospheric pressure of altitude 0m.
 *2: The enclosure is suitably designed for those specific environmental conditions, as applicable, and enclosure rate meets IP20 and minimum type 1 of UL 50.
- rate meets IP20 and minimum type 1 of UL 50. *3: 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. *4: 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 evenered or creationally.

must be expected occasionally

3. Conversion Adapter Product Specifications

For the details of specifications of the MELSEC iO-R series modules not described herein, refer to the user's manual of the applicable MELSEC iO-R series module. Also, check that the specifications of the connected devices meet the specifications of the MELSEC iQ-R series module.

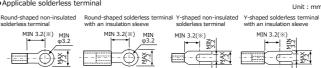
(1) MELSEC iQ-R Series module

The conversion adapter can be used in combination with the following MELSEC iQ-R series

neddicol					
Input / Output	MELSEC iQ-R Series module model				
Input	RX41C4	RX41C6HS	RX61C6HS	RX71C4	
Output	RY41NT2P	RY41PT1P	RY41NT2H	RY41PT2H	

(2) Specifications of the terminal block (conversion adapter accessory)

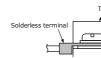


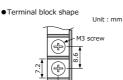




num length is 4.75 mm when the so nal is attached up side dow as show

rminal block





4,75 3.5

TB2

TB4

TB6

ТВ8

TB10

TB12

TB14

TB16

TB18

ТВ20

TB22

тв24

TB26

TB28

TB30

TB32

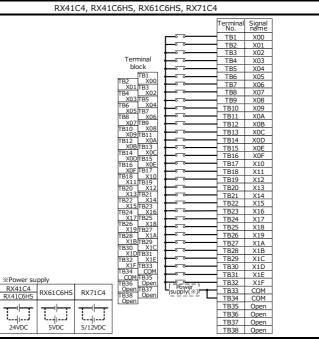
TB34

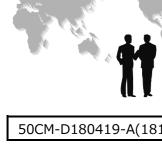
TB36

Open

(3) Internal connection Internal circuit diagram ERNT-1AR38TB TB1 B20 TB2 B19 Termina TB3 B18 block B17 TB4 TB: B16 MELSEC iQ-R Series TB3 TB7 B14 module TB8 B13 TBS B12 B20 0 0 A20 TB1 B11 B19 0 0 A19 TB1 B10 B18 0 0 A18 TB1 B09 B17 0 0 A17 TB13 B08 B16 0 0 A16 TB14 B07 TB13 B15 0 0 A15 B06 B14 0 0 A14 TB15 TB1 B05 B13 0 0 A13 TB17 B04 TB17 B12 0 0 A12 B03 TB18 B11 0 0 A11 TB19 B02 | B10 0 0 A10 T_{B2} B01 TB21 B9 0 0 A9 TB21 A20 B8 0 0 A8 TB23 TB2 A19 B7 0 0 A7 TB25 TB2 A18 B6 0 0 A6 TB24 A17 B5 0 0 A5 TB27 TB2 A16 B4 0 0 A4 TB29 TB2 B3 0 0 A3 TB27 A14 B2 0 0 A2 TB31 TB2 A13 B1 0 0 A1 TB33 TB A11 TB35 TB3 A10 A09 TB37 TB38 Open TB? A08 A07 A06 A05 TB37 and TB38 are open terminals. **TB37** A04 A03 TB38 A02 A01

(4) External connection





RY41NT2P	,	RY41PT1P	,
	Terminal Signal No. name		Terminal Signal No. name
_ TT 	TB1 Y00		No. năme TB1 Y00
	TB2 Y01		TB2 Y01
	TB3 Y02		TB3 Y02
Terminal block	TB4 Y03	Terminal	TB4 Y03
	TB5 Y04 TB6 Y05		TB5 Y04
TB2 Y00 L	TB7 Y06		TB6 Y05 TB7 Y06
TB4 Y02	TB8 Y07		TB8 Y07
	TB9 Y08		TB9 Y08
	TB10 Y09 TB11 Y0A		TB10 Y09
Y07/TB9	TB11 YUA TB12 Y0B	Y07 TB9	TB11 Y0A TB12 Y0B
TB10 Y08 Y09 TB11 TB12 Y0A	TB13 Y0C	TB10 Y08 Y09 TB11	TB13 Y0C
TB12 YOA YOB TB13	TB14 YOD	TB12 YOA	TB14 YOD
TB14 YOC YODTB15	TB15 YOE TB16 YOE	Y0B TB13 TB14 Y0C Y0D TB15	TB15 YOE
	TB16 Y0F TB17 Y10		TB16 Y0F TB17 Y10
	TB17 110 TB18 Y11		TB17 110
TB18 Y10 Y11 TB19 -	TB19 Y12	TB18 Y10 Y11 TB19 TB20 Y12 Y13 TB21	TB19 Y12
FR30 V13	TB20 Y13	TB20 Y12	TB20 Y13
IB20 112 Y13 TB21 TB22 Y14 Y15 TB23 TB24 Y15 TB24 Y16	TB21 Y14		TB21 Y14
<u>Y15</u> TB23 TB24 Y16	TB22 Y15	TB24 Y16	TB22 Y15
Y17 TB25	TB23 Y16 TB24 Y17		TB23 Y16 TB24 Y17
<u>Y17/TB25</u> TB26 <u>Y18</u> Y19/TB27 TB28 <u>Y1A</u>	TB25 Y18	1B26 118 Y19TB27	TB25 Y18
	TB26 Y19		TB26 Y19
	TB27 Y1A	Y1B TB29 TB30 Y1C Y1D TB31	TB27 Y1A
	TB28 Y1B TB29 Y1C		TB28 Y1B TB29 Y1C
	TB30 Y1D		TB30 Y1D
TB34 12/24VDC 12/24VDC TB35	TB31 Y1E		TB31 Y1E
	TB32 Y1F		TB32 Y1F
TB38 Open	TB33 12/24VDC	TB38 Open 12/24VDC	TB33 COM TB34 COM
LOpen	TB34 12/24VDC TB35 COM	Open 12/24VDC	TB35 0V
12/24VDC	TB36 COM		TB36 0V
	TB37 Open		TB37 Open
	TB38 Open		TB38 Open
		1	
RY41NT2H		RY41PT2H	
	Terminal Signal No. name		Terminal Signal No. name
	Terminal Signal No. name TB1 Y00		Terminal Signal No. name TB1 Y00
	Terminal Signal name TB1 Y00 TB2 Y01		Terminal Signal name TB1 Y00 TB2 Y01
	Terminal Signal No. name TB1 Y00 TB2 Y01 TB3 Y02		Terminal Signal No. name TB1 Y00 TB2 Y01 TB3 Y02
Terminal	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03	Terminal	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03
Terminal	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05	Terminal	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05
	Terminal Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06	Terminal	Terminal Signal No. name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06
Terminal block fraz (19 100) fraz (19 100)	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07	Terminal	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07
Terminal block ft82_1181 y01.1183 T64_102_14T64_102_14 T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14 T64_102_14T64_102_14T64_100_100_100_100_100_100_100_100_100_10	Terminal No. Signal näme TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB8 Y07 TB9 Y08	Terminal block TR2TR3 Y01_TR3 Y01_TR3 TR4Y02 Y03_TR5 TR5 Y03_TR5 TR5_T TR5 TR5 TR5 TR5 TR5 TR5 TR5_T TR5T	Terminal No. Signal näme TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB8 Y07
Terminal block FR2 FR1 Y01/R25 FR6 Y04 FR5 FR5 FR6 Y04 FR5 FR5 FR6 Y04 FR5 FR5	Terminal No. Signal näme TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A	Terminal	Terminal No. Signal näme TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A
Terminal block [T62 V00] V01 [B30 V00] T62 V00] T62 V00 T63 V01 T65 V04 V05 [T67 T68 V04 V05 [T67 T68 V04 V05 [T67 V05 [Terminal No. Signal näme TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A	Terminal block 1781 1790 1790 1790 1790 1790 1790 1790 179	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y08
Terminal block TB1 TB2 TB2 TB3 TB4 TB4 TB4 TB5 TB4 TB5 TB4 TB5 TB4 TB5 TB5 TB5 TB6 TB7 TB5 TB7 TB5 TB7 TB5 TB7 TB5 TB7 TB5 TB7 TB7 <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y06</td> <td>Terminal</td> <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y08 TB13 Y0C</td>	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y06	Terminal	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y08 TB13 Y0C
Terminal block F82_F84 Y01F82 Y03F82 F66_Y04 F05_F766 F66_Y04 F05_F766 F66_Y04 F67_F766 F66_Y04 F67_F766 F61_ Y02F81 F61_ F61_ F61_ F61_ F61_ F61_ F61_ F61	Terminal No. Signal näme TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D	Terminal	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y08 TB12 Y08 TB13 Y0C TB14 Y0D
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Terminal block TF81 Y001 Y001 T62 Y001	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB15 Y0E TB15 Y06 TB15 Y07	Terminal block	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB16 Y0F TB16 Y0F TB16 Y0F TB16 Y0F
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Terminal block F82 F83 F84 F85 F86 Y01 Y03 F86 Y03 F87 F88 F89 Y03 F80 Y03 F81 Y03 F81 F83 F84 Y03 F81 F83 F83 F84 F84 F85 F84 F84 F85 F84 F84 <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB19 Y13 TB21 Y14 TB22 Y15</td> <td>Terminal block TB2 762 762 763 764 765 766 767 768 768 703 766 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 766 767 768 768 700 71163 <</td> <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB13 Y0C TB14 Y00 TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB20 Y13 TB21 Y14</td>	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB19 Y13 TB21 Y14 TB22 Y15	Terminal block TB2 762 762 763 764 765 766 767 768 768 703 766 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 700 766 766 767 768 768 700 71163 <	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB13 Y0C TB14 Y00 TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB20 Y13 TB21 Y14
Terminal block Bloc	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16	Terminal block TB3 TB4 TB12 TB13 TB14 TB15 TB16 TB16 TB17 TB18 TB11 TB12 TB14 TB15 TB16 TB17 TB18 TB17 TB18 TB17 TB18 TB17 TB18 TB17 TB18 TB17 TB18	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB20 Y13 TB22 Y14 TB22 Y16
Terminal block Bloc	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y0B TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16	Terminal block TB3 TB4 TB12 TB13 TB14 TB15 TB16 TB16 TB17 TB18 TB11 TB12 TB14 TB15 TB16 TB17 TB18 TB17 TB18 TB17 TB18 TB17 TB18 TB17 TB18 TB17 TB18	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB13 Y0C TB14 Y0D TB15 Y0E TB15 Y0E TB16 Y0F TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17
Terminal block FB1 FB2 T62 T62 T800 T810 T905	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y0F TB19 Y12 TB20 Y13 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18	Terminal block 162 1781 1782 1790	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y08 TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y0F TB19 Y12 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18
Terminal block TB1 TB2 TB2 TB3 TB4 TB4 TB2 TB5 TB4 TB5 TB5 TB5 TB5 TB5 TB1 TB1 TB2 TB5 TB1 TB1 <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19</td> <td>Terminal block TB1 block TB2 TB3 TB4 TB2 TB5 TB7 TB7 <</td> <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19</td>	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19	Terminal block TB1 block TB2 TB3 TB4 TB2 TB5 TB7 TB7 <	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19
Terminal block TB1 Y01 Y03 TB4 Y01 Y03 TB4 Y01 Y03 TB4 Y05 TB4 Y05 TB4 Y05 TB4 Y05 TB1 Y06 TB13 TB14 Y06 TB14 Y06 TB14 Y06 TB14 Y06 Y16 Y16 Y17 TB20 Y12 Y13	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y0B TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y16 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A	Terminal block TB1 block TB2 TB3 TB4 TB2 TB5 TB7 TB7 <	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y16 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A
Terminal block FB2 Y01 Y02 Y03 FB2 Y01 Y02 Y03 FB3 Y06 Y07 Y08 Y08 Y09 Y10 Y10 Y11 Y11 <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB12 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y18 TB27 Y1A TB28 Y1E</td> <td>Terminal block block T62 T64 T64 T64 T64 T64 T64 T64 T65 T66 T67 T68 T68 T69 T69 T60 T60 T60 T60 T60 T61 T61 <</td> <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB25 Y18 TB26 Y19 TB27 Y1A TB28 Y16 TB29 Y16</td>	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y00 TB15 Y0E TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB12 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y18 TB27 Y1A TB28 Y1E	Terminal block block T62 T64 T64 T64 T64 T64 T64 T64 T65 T66 T67 T68 T68 T69 T69 T60 T60 T60 T60 T60 T61 T61 <	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB10 Y09 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB21 Y14 TB25 Y18 TB26 Y19 TB27 Y1A TB28 Y16 TB29 Y16
Terminal block FB2 Y01 Y02 Y03 FB2 Y01 Y02 Y03 FB3 Y06 Y07 Y08 Y08 Y09 Y10 Y10 Y11 Y11 <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB20 Y13 TB21 Y16 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A TB28 Y16 TB29 Y1C TB29 Y1C</td> <td>Terminal block block T62 T64 T64 T64 T64 T64 T64 T64 T65 T66 T67 T68 T68 T69 T69 T60 T60 T60 T60 T60 T61 T61 <</td> <td>Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB22 Y16 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A TB28 Y16 TB29 Y1C TB29 Y1C TB20 Y18 TB20 Y18 TB29 Y16</td>	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB20 Y13 TB21 Y16 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A TB28 Y16 TB29 Y1C TB29 Y1C	Terminal block block T62 T64 T64 T64 T64 T64 T64 T64 T65 T66 T67 T68 T68 T69 T69 T60 T60 T60 T60 T60 T61 T61 <	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB20 Y13 TB22 Y16 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A TB28 Y16 TB29 Y1C TB29 Y1C TB20 Y18 TB20 Y18 TB29 Y16
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Terminal block IEI 162 1762 1763 1764 1765 1764 1765 1767 1768 1769 1760 1761 1762 1763 1764 1765 1767	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y0F TB19 Y12 TB20 Y13 TB21 Y14 TB22 Y15 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A TB29 Y1C TB30 Y1E TB31 Y1E TB32 Q16 TB31 Y1E TB31 Q16	Terminal block 100 1782 1783 1784 1785 1784 1785 1784 1785 1786 1787 1788 1789 1789 1789 1789 1789 1790	Terminal No. Signal name TB1 Y00 TB2 Y01 TB3 Y02 TB4 Y03 TB5 Y04 TB6 Y05 TB7 Y06 TB8 Y07 TB9 Y08 TB11 Y0A TB12 Y08 TB13 Y0C TB14 Y0D TB15 Y0E TB16 Y0F TB17 Y10 TB18 Y11 TB19 Y12 TB20 Y13 TB21 Y16 TB22 Y16 TB23 Y16 TB24 Y17 TB25 Y18 TB26 Y19 TB27 Y1A TB29 Y1C TB30 Y1E TB31 Y1E TB32 COM TB33 COM TB34 COM
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(5) MELSEC iQ-R Series module specification

input module						
Model		RX41C4 (Positive/Negative Common Shared Type)	RX41C6HS (Positive/Negative Common Shared Type)	RX61C6HS (Positive/Negative Common Shared Type)	RX71C4 (Positive/Negative Common Shared Type)	
Number of input	points	32 points	32 points	32 points	32 points	
Rated input voltage		24VDC (20.4 to 28.8VDC)	24VDC 24VDC 5VDC		5VDC (4.25 to 6VDC) 12VDC (10.2 to 14.4VDC)	
Rated input curre	ent	4.0mA TYP. (at 24VDC)	6.0mA TYP. (at 24VDC)	6.0mA TYP. (at 5VDC)	1.7mA TYP. (5VDC) 4.8mA TYP. (12VDC)	
ON voltage/ON c	N current 19V or higher/3mA or higher 19V or higher/4mA or higher 3.5V or higher/3mA or higher 3.5V or higher/3mA or higher		3.5V or higher/1mA or higher			
OFF voltage/OFF current		6V or lower/1.0mA or lower	6V or lower/1.7mA or lower	1V or lower/1mA or lower	1V or lower/0.1mA or lower	
Input impedance	out impedance 5.3kg		4kΩ	600Ω	2.3kΩ	
Response time OFF to ON ON to OFF		0.1/0.2/0.4/0.6/ 1/5/10/20/70ms or less	1/10/20/50µs 0.1/0.2/0.4/0.6/ 1/5/10/20/70ms or less	1/10/20/50µs 0.1/0.2/0.4/0.6/ 1/5/10/20/70ms or less	0.2/0.3/0.5/0.6/ 1/5/10/20/70ms or less	
		0.2/0.3/0.5/0.7/ 1/5/10/20/70ms or less	1/10/20/50µs 0.1/0.2/0.4/0.6/ 1/5/10/20/70ms or less	1/10/20/50µs 0.1/0.2/0.4/0.6/ 1/5/10/20/70ms or less	0.21/0.3/0.5/0.6/ 1/5/10/20/70ms or less	
Internal current consumption (5V	DC)	150mA(TYP. All points ON)	150mA(TYP. All points ON)	150mA(TYP. All points ON)		
Wiring method for common		32 points/common	32 points/common	32 points/common	32 points/common	

Output module

Model		RY41NT2P (Sink type)	RY41PT1P RY41NT2H (Source type) (Sink type)		RY41PT2H (Source type)
Number of output	t points	32 points	32 points	32 points	32 points
Rated load voltage		12/24VDC (10.2 to 28.8VDC)	12/24VDC 5/12/24VDC (10.2 to 28.8VDC) (4.25 to 28.8VDC)		5/12/24VDC (4.25 to 28.8VDC)
		0.1A/point, Pilot Duty, 2A/common	0.2A/point, 2A/common	0.2A/point, 2A/common	
Maximum load current		Current is to be limited by the overload protection function.	Current is to be limited by the overload protection function.	0.7A 10ms or less	0.7A 10ms or less
OFF leakage current		0.1mA or lower	0.1mA or lower	0.1mA or lower	0.1mA or lower
Maximum voltage power-ON			0.1VDC (TYP.) 0.2A, 0.2VDC (MAX.) 0.2A	0.1VDC (TYP.) 0.2A, 0.2VDC (MAX.) 0.2A	
OFF to ON		0.5ms or less	0.5ms or less	1µs or less	1µs or less
Response time ON to OFF		1ms or less (rated load and resistance load)	1ms or less (rated load and resistance load)	2µs or less (rated load and resistance load)	2µs or less (rated load and resistance load)
Surge killer		Zener diode	Zener diode Zener diode		Zener diode
Fuse		None	None	None	None
Internal current consumption (5VDC)		180mA(TYP. All points ON)	190mA(TYP. All points ON)	420mA(TYP. All points ON)	410mA(TYP. All points ON)
Wiring method for	or common	32 points/common	32 points/common	32 points/common	32 points/common

4. Products Required by the Conversion Adapter

(1) Conversion Adapter Anchor Base (Sold Separately)

The conversion adapter anchor base secures the bottom of the conversion adapter. One anchor base is required per base unit.

Conversion Adapter	Specification			
Anchor Base Model	Туре	Weight(g)		
ERNT-1AR12F	12-slot conversion adapter anchor base	775		
ERNT-1AR8F	8-slot conversion adapter anchor base	540		
ERNT-1AR5F	5-slot conversion adapter anchor base	360		

(2) Base Adapter (Sold Separately)

Both the MELSEC iQ-R series base unit and the conversion adapter anchor base can be installed on the base adapter without drilling screw holes.

However, drilling screw holes (M5 screws) is required to install the base adapter to the panel surface. For the base unit models marked with *1 to *3, two or more base adapter models are applicable. Select the most suitable base adapter according to the product dimensions.

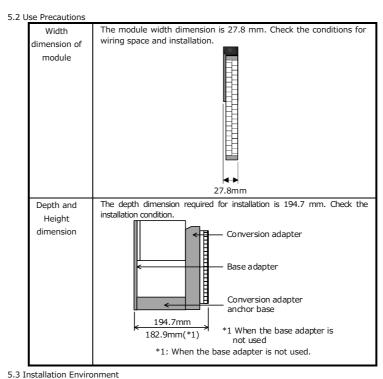
Deve device			Installable Product dimensions		Waish4		
Base adapter Model	MELSEC iQ-R Series Base Unit		Conversion Adapter	Width×Height	Weight		
Model	12 slots	8 slots	5 slots	Anchor Base	(mm)	(g)	
ERNT-AQB38N	R312B			ERNT-1AR12F	480×240	970	
ERNT-AQB30N		R38B(*1)		ERNT-1AR8F	400×240	970	
ERNT-AOB35N		R38B(*1)		ERNT-1AR8F	382×240	795	
EKINT-AQB35IN			R35B	ERNT-1AR5F	302×240		
ERNT-AQB68N	R612B			ERNT-1AR12F	466×240	930	
ERINT-AQDOON		R68B(*2)		ERNT-1AR8F	400×240	930	
ERNT-AQB65N		R68B(*2)		ERNT-1AR8F	352×240	790	
ERNT-AQB05N			R65B(*3)	ERNT-1AR5F	552×240	790	
ERNT-AQB58N		R68B(*2)		ERNT-1AR8F	411×240	870	
ERNT-AQB55N			R65B(*3)	ERNT-1AR5F	297×240	655	

5. Mounting and Installation

5.1 Handling Precautions

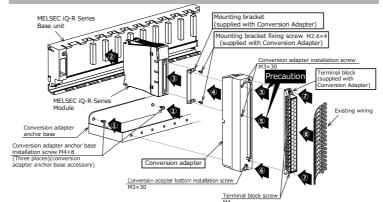
- (1) Before attempting to install the Unit or carry out the necessary wiring, make certain that the external power supply, used in the system, is shut off on all three phases. Failure to do so may result in electric shock or damage to the product.
- (2) Do not touch live terminals. There is a danger of electric shock or malfunction.
- (3) Do not modify the Conversion Adapter or take it apart. Doing so will cause failure, malfunction, personal injury, or fire.
- (4) Do not touch the energized part of the Conversion Adapter directly. Contact will cause malfunction or failure in the system
- (5) Fully secure the conversion adapter and conversion adapter anchor base using the installation screws, and securely tighten the screws within the specified torque range. Failure to do so could cause the conversion adapter and anchor base to fall, resulting in conversion adapter and conversion adapter anchor base damage.
- (6) Use care to prevent foreign materials including cuttings and wiring debris from entering the Conversion Adapter or the MELSEC iQ-R Series Module. These will be cause for fire, failure or malfunction.
- (7) Do not drop the Conversion Adapter or do not give a strong impact to it. This will cause damage.

(8) Conversion Adapter is intended for indoor use only.



Refer to "Safety Guidelines" for iQ-R Series Modules

6. Part Names and Installation Method



6.1 Installation Method

- Secure the conversion adapter anchor base to the base adapter or control panel using the conversion adapter anchor base installation screws (M4 x 8; 2 locations at both sides, 1 location at the center) provided as an accessory.
- [2] Mount the MELSEC iQ-R Series module to the MELSEC iQ-R Series Base Unit.
- [3] Secure the mounting bracket to the Programmable Controller Module using the mounting bracket fixing screws (M2.6 × 4; 2 upper/lower locations).
- [4] Mount the conversion adapter onto the mounting bracket.
- [5] Secure the conversion adapter using the conversion adapter installation screws (M3 x 30: 2 locations).

Precaution

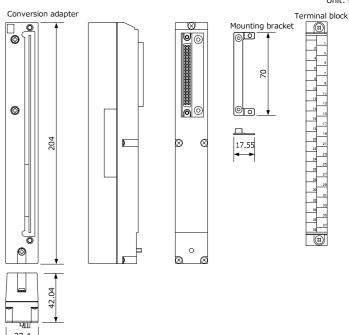
- Before tightening the installation screws, check that the Conversion Adapter has been securely installed on the Programmable Controller Module. Tightening the screws in floating-off state or tilting state will damage the Conversion Adapter installation screws and the mounting bracket.
- [6] Secure the conversion adapter using the conversion adapter bottom installation screw (M3 x 30; 1 location).
- [7] Secure the terminal block to the conversion adapter using the terminal block installation screws (M4; two upper/lower locations).
- [8] Connect the existing wiring to the terminal block. When any wires are left unconnected, connect them to open terminals or insulate them.
- 6.2 Tightening Torque

Tighten the module installation screws to the specified torque below. An inappropriate tightening torque could cause the product to fall or result in a short circuit, product failure or malfunction.

Screw Location	Tightening Torque Range	
Conversion adapter anchor base installation screw (M4 screw)	1.39 to 1.89 N·m	
Mounting bracket fixing screw (M2.6 screw)	0.20 to 0.29 N·m	
Conversion adapter bottom installation screw (M3 screw)	0.43 to 0.57 N·m	
Conversion adapter installation screw (M3 screw)	0.43 (0 0.37 N-111	
Terminal block installation screw(M4 screw)	1.02 to 1.38 N·m	
Terminal block screw (M3 screw)	0.43 to 0.57 N·m	

7. External Dimensions





Weight: 255g

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Product Warranty Details

Please confirm the following product warranty details prior to product use.

Gratis Warranty Terms and Gratis Warranty Range

If any fault or defect (hereinafter referred to as "Failure") attributable to Mitsubishi Electric Engineering Company Limited (hereinafter referred to as "MEE") should occur within the gratis warranty period, MEE shall repair 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 after manufacture and shipment from MEE, the maximum distribution period

Note that after manufacture and snipment from MEE, the maximum distribution period shall be six (6) months, and the gratis warranty period after manufacturing shall be limited to eighteen (18) months.

In addition, the gratis warranty period for repaired products shall not exceed the gratis warranty period established prior to repair.

Gratis Warranty Range

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.

Warranty Period after Discontinuation of Production

- (1) MEE shall offer product repair services (fee applied) for seven (7) years after production of the product has been discontinued. Discontinuation of production shall be reported via distributors.
- (2) Product supply (including spare parts) is not possible after production has been discontinued.

Exclusion of Opportunity Loss and Secondary Loss from Warranty Liability

Regardless of the gratis warranty period, MEE shall not be liable for compensation for damages arising from causes not attributable to MEE, opportunity losses or lost profits incurred by the user due to Failures of MEE products, damages or secondary damages arising from special circumstances, whether foreseen or unforeseen by MEE, compensation for accidents, compensation for damages to products other than MEE products, or compensation for other work carried out by the user.

Changes in Product Specifications

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

This document is a new publication, effective November 2018. Specifications are subject to change without notice.