



Supported thermocouples and effect from wiring resistance of 1Ω

Thermocouple type	°C						°F							
	Temperature measurement range			Resolution	Effect from wiring resistance of 1Ω			Temperature measurement range			Resolution	Effect from wiring resistance of 1Ω		
	A1S64TCTT-S1 A1S64TCTTBW-S1	A1S64TCTRT A1S64TCTRTBW	R60TCTRT2TT2 R60TCTRT2TBW		A1S64TCTT-S1 A1S64TCTTBW-S1	A1S64TCTRT A1S64TCTRTBW	R60TCTRT2TT2 R60TCTRT2TBW	A1S64TCTT-S1 A1S64TCTTBW-S1	A1S64TCTRT A1S64TCTRTBW	R60TCTRT2TT2 R60TCTRT2TBW		A1S64TCTT-S1 A1S64TCTTBW-S1	A1S64TCTRT A1S64TCTRTBW	R60TCTRT2TT2 R60TCTRT2TBW
R	0 to 1700			1	0.35μV/Ω	0.15μV/Ω	0.030°C/Ω	0 to 3000			1	0.054°F/Ω		
K	0 to 500, 0 to 800, 0 to 1300			1			0.005°C/Ω	0 to 1000, 0 to 2400			1	0.008°F/Ω		
	-200.0 to 400.0, 0.0 to 400.0, 0.0 to 500.0, 0.0 to 800.0, -200 to 1300			0.1			0.0 to 1000.0			0.1	0.006°F/Ω			
J	0 to 500, 0 to 800, 0 to 1200			1			0.003°C/Ω	0 to 1000, 0 to 1600, 0 to 2100			1	0.006°F/Ω		
	0.0 to 400.0, 0.0 to 500.0, 0.0 to 800.0			0.1			0.0 to 1000.0			0.1	0.008°F/Ω			
T	-200 to 400, -200 to 200, 0 to 200, 0 to 400			1			0.004°C/Ω	0 to 700, -300 to 400			1	0.008°F/Ω		
	-200.0 to 400.0, 0.0 to 400.0			0.1			0.0 to 700.0			0.1	0.054°F/Ω			
S	0 to 1700			1			0.030°C/Ω	0 to 3000			1	0.054°F/Ω		
	0 to 1700			0.1			0.038°C/Ω	0 to 3000, 800 to 3000, 0 to 3000 *1			1	0.068°F/Ω		
E	0 to 400, 0 to 1000			1			0.003°C/Ω	0 to 1800			1	0.005°F/Ω		
	0.0 to 700.0			0.1	0 to 1800			1	0.005°F/Ω					
N	0 to 1300			1	0.006°C/Ω	0 to 2300			1	0.011°F/Ω				
	0.0 to 1000.0			0.1	0 to 2300			1	0.009°F/Ω					
U	0 to 400, -200 to 200			1	0.004°C/Ω	0 to 700, -300 to 400			1	0.006°F/Ω				
	0.0 to 600.0			0.1	0 to 800, 0 to 1600			1	0.010°F/Ω					
L	0 to 400, 0 to 900			1	0.003°C/Ω	0 to 800, 0 to 1600			1	0.006°F/Ω				
	0.0 to 400.0, 0.0 to 900.0			0.1	0 to 2300			1	0.021°F/Ω					
PL II	0 to 1200			1	0.005°C/Ω	0 to 2300			1	0.010°F/Ω				
W5Re/W26Re	0 to 2300			1	0.017°C/Ω	0 to 3000			1	0.021°F/Ω				

\*1: Although a temperature lower than 400°C or lower than 800°C can be measured, the accuracy cannot be guaranteed.

## 4. Mounting and Installation

### 4.1 Handling Precautions

- 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.
- Do not touch live terminals. There is a danger of electric shock or malfunction.
- Do not modify the Conversion Adapter or take it apart. Doing so will cause failure, malfunction, personal injury, or fire.
- Do not touch the energized part of the Conversion Adapter directly. Contact will cause malfunction or failure in the system.

- Fasten the Conversion Adapter and the Mounting Bracket securely with retaining screws, and tighten the screws by applying torque within specified limits. Loose screws can lead to the dropping of the Conversion Adapter or Mounting Bracket, possibly causing breakage thereof. Excessive tightness of the screws can lead to breakage of the screws, Converter Adapter, Mounting bracket, or MELSEC iQ-R Series Module, possibly causing the dropping, shorting, and malfunction thereof.
- 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.

- Do not drop the Conversion Adapter and Mounting Bracket or do not give a strong impact to it. This will cause damage.
- Conversion Adapter is intended for indoor use only.

4.3 Installation Environment  
Refer to "Safety Guidelines" for iQ-R Series Modules.

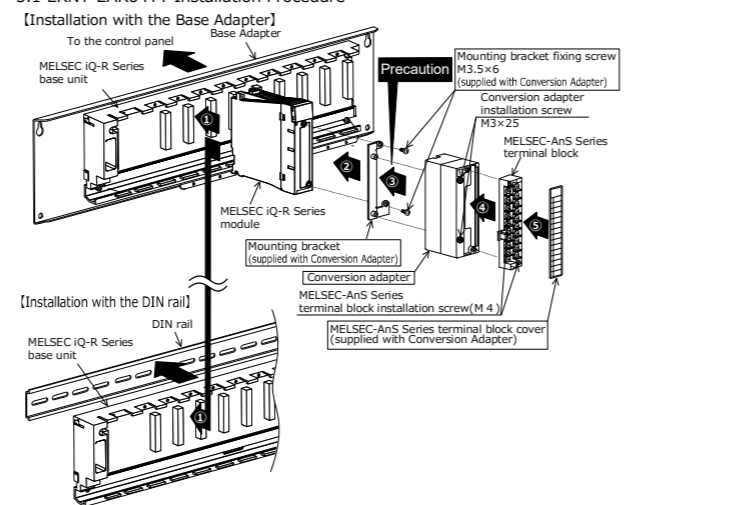
4.4 Wiring module power source  
External connection to 24VDC power supply circuit of Conversion Adapter must be powered from approved source that meets of SELV/PELV, Class 2, and limited energy according to UL 61010-2-201.

### 4.2 Use Precautions

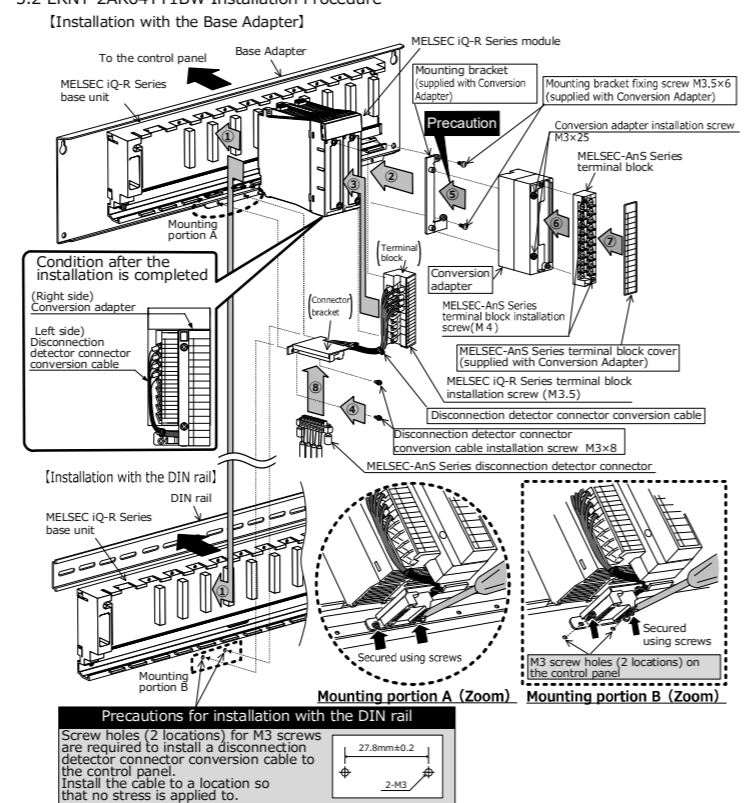
Item	Use Precautions
Width dimension of module	Because the module is reduced in width dimension (34.5mm→27.8mm) and thus in area available for wiring, check dimensional data before installing the module. 
Terminal block cover	The terminal block cover for MELSEC-AnS Series is bigger than the width of the MELSEC iQ-R Series Module. Therefore, it is necessary to replace it with the terminal block cover supplied with the converter adapter. 
Depth and Height dimension	<p><b>Installation with the Base Adapter</b> Because the module is increased in depth dimension, check dimensional data before installing the module.</p> <p><b>Installation with the DIN rail</b> Because the module is increased in depth and height dimension, check dimensional data before installing the module.</p>

## 5. Part Names and Installation Method

### 5.1 ERNT-2AR64TT Installation Procedure



### 5.2 ERNT-2AR64TT1BW Installation Procedure



### 5.3 Installation Method

Installation with the Base Adapter	Installation with the DIN rail
Mount the MELSEC iQ-R Series Base Unit to the Base Adapter. Refer to the Base Adapter's manual for how to install them to the control panel.	Mount the DIN rail mounting adapter manufactured by Mitsubishi Electric to the MELSEC iQ-R Series Base Unit. For how to install the Base Unit on the DIN rail, refer to the MELSEC iQ-R Module Configuration Manual.

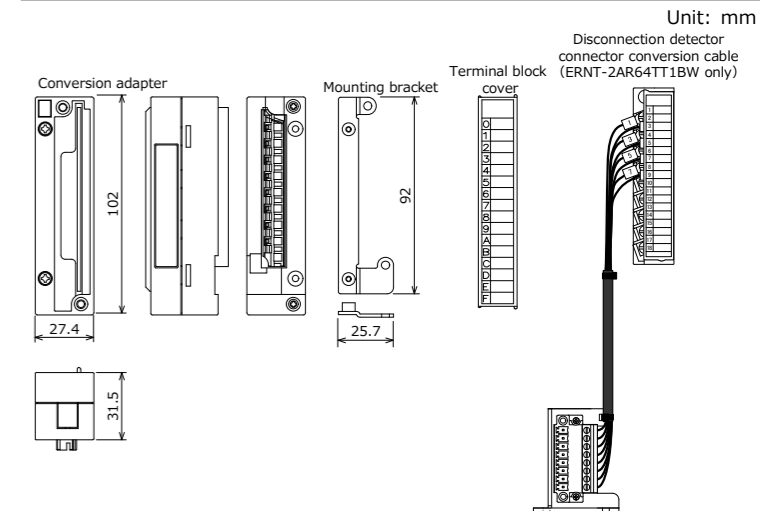
5.1 ERNT-2AR64TT Installation Procedure	5.2 ERNT-2AR64TTBW Installation Procedure	Description
①	①	Install the MELSEC iQ-R Series module to the MELSEC iQ-R Series Base Unit.
②	②	Remove the terminal block attached with the MELSEC iQ-R Series module after loosening the terminal block installation screws (2 places up and down). (When using R60TCTRT2TT2BW, remove the terminal blocks from both right and left slots.) The MELSEC iQ-R series terminal block is not used.
③	③	Secure the mounting bracket to the MELSEC iQ-R Series module (to the right slot when using R60TCTRT2TT2BW) using the mounting bracket fixing screws (M3.5 × 6). (2 places)
④	④	Fix the terminal block for the disconnection detector connector conversion cable to the target MELSEC iQ-R series module (left slot) using the MELSEC iQ-R series terminal block installation screws (M3.5). (2 places, top and bottom)
⑤	⑤	Fix the connector bracket of the disconnection detector connector conversion cable to the base adapter or the conversion adapter DIN rail mounting bracket (bottom) using the disconnection detector connector conversion cable installation screws (M3 × 8). (2 places)
⑥	⑥	Install the Conversion Adapter to the mounting bracket, and secure it using the Conversion Adapter installation screws (M3 × 25). (2 places)
⑦	⑦	<b>Precaution</b> Before tightening the installation screws, check that the Conversion Adapter has been securely installed on the MELSEC iQ-R Series module. Tightening the screws in floating-off state or tilting state will damage the Conversion Adapter installation screws and the mounting bracket.
⑧	⑧	Secure the MELSEC-AnS Series terminal block to the Conversion Adapter with the supplied terminal block installation screw (M4). (2 places, top and bottom).
⑨	⑨	Remove the terminal block cover from the MELSEC-AnS Series terminal block and fit the terminal block cover supplied with the Conversion Adapter in place.
⑩	⑩	Connect the MELSEC-AnS series disconnection detector connector to the disconnection detector connector conversion cable.

### 5.4 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
Mounting bracket fixing screw (M3.5x6)	0.68 to 0.92N·m
Conversion Adapter installation screw (M3x25)	0.43 to 0.57N·m
MELSEC-AnS Series terminal block installation screw (M4)	0.78 to 1.18N·m
MELSEC iQ-R Series terminal block installation screw (M3.5)	0.66 to 0.89N·m
Disconnection detector connector conversion cable installation screw (M3x8)	0.61 to 0.82N·m

## 6. External Dimensions



**Duplication Prohibited**  
This manual may not be reproduced in any form, in part or in whole, without written permission from Mitsubishi Electric Engineering Company Limited.  
©2018 MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED ALL RIGHTS RESERVED

MELSEC, MELSEC iQ-R is a registered trademark of Mitsubishi Electric Corporation in Japan. ERNT is a registered trademark of Mitsubishi Electric Engineering Corporation in Japan.

## 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 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

- 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.
- 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.