

(2) Source type (AY80, AY80EP → RY40PT5P)

Specifications	Model	A Series		iQ-R Series
Number of output points	AY80	AY80EP	RY40PT5P	16 points
Rated load voltage	12/24VDC	12/24VDC	12/24VDC	(allowable voltage range: 10.2 to 28.8VDC)
Maximum load current	0.5A/point 2A/common	0.8A/point 0.8A/point (60% ON, 55°C)	0.5A/point, pilot Duty, 5A/common	
Maximum inrush current	7A 10ms or less 3.5A 100ms or less	No restrictions (short-circuit protect)	Current is to be limited by the overload protection function	
OFF leakage current	0.1mA or less	1mA or less	0.1mA or less	
Maximum voltage drop at power-ON	1.5VDC (MAX.) 0.5A	1.0VDC (TYP.) 0.8A 1.5VDC (MAX.) 0.8A	0.2VDC (TYP.) 0.5A 0.3VDC (MAX.) 0.5A	
Response time	OFF to ON ON to OFF	2ms or less 2ms or less (resistance load)	0.5ms or less 1.5ms or less	0.5ms or less 1ms or less (rated load and resistance load)
Surge killer	Varistor (52 to 62V)	Zener diode	Zener diode	
Fuse	Available	None	None	
Protective function	None	Provided (overheat protection and short-circuit protection)	Provided (overload protection and overheat protection)	
Internal current consumption	115mA (TYP. All points ON)	115mA (TYP. All points ON)	130mA (TYP. All points ON)	
External power supply	Voltage	12/24VDC (10.2 to 30VDC)	12/24VDC (10.2 to 26.4VDC)	12/24VDC (ripple ratio: within 5%) (allowable voltage range: 10.2 to 28.8VDC)
	Current	60mA (24VDC TYP. per common)	110mA (24VDC TYP. per common)	16mA (at 24VDC)
Wiring method for common *1	8 points/common	8 points/common	16 points/common	
External connection system	20-point terminal block	20-point terminal block	18-point terminal block	

Make sure the [] section of the above table meets the specification of the machines and equipment connected to the iQ-R Series module.

*1: Because the switch concerned causes the number of points per common to change from 8 (two circuits) to 16, an alteration to the wiring is required if the terminal numbers TB9 and TB19, and TB10 and TB20, on the A series-side terminal block have been used in separation from each other.

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 and is required for conversion adapter use. One anchor base is required per base.

Conversion Adapter Anchor Base Model	Specifications	
	Type	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)

The base adapter enables iQ-R series installation using the installation holes of the A series base unit. (Additional hole machining not required)

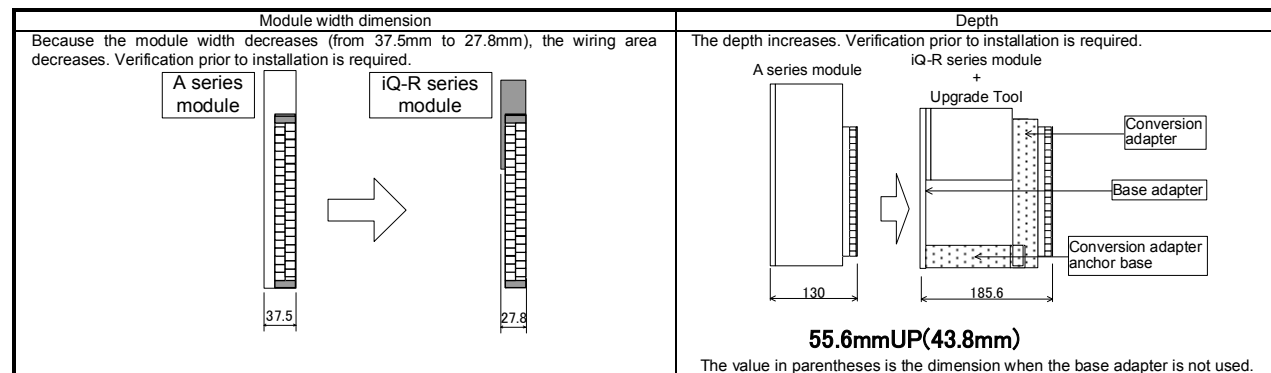
Base Adapter Model	Specifications			
	A Series Compliant Module	iQ-R Series Compliant Module	Conversion Adapter Anchor Base	Weight (g)
ERNT-AQB38N	A38B, A38B-UL, A38B-E A38HB, A38HBEU	R312B R38B	ERNT-1AR12F ERNT-1AR8F	970
ERNT-AQB68N	A68B, A68B-UL	R612B R68B	ERNT-1AR12F ERNT-1AR8F	930
ERNT-AQB58N	A58B, A58B-UL	R68B	ERNT-1AR8F	870
ERNT-AQB35N	A35B, A35B-UL, A35B-E	R38B R35B	ERNT-1AR8F ERNT-1AR5F	795
ERNT-AQB65N	A65B, A65B-UL	R65B		790
ERNT-AQB55N	A55B, A55B-UL		ERNT-1AR5F	655

5. Mounting and Installation

5.1 Handling Precautions

- Do not touch the terminals during energization. Doing so could result in electric shock or malfunction.
- Do not disassemble or modify the conversion adapter. Doing so could result in failure, malfunction, injury or fire.
- Do not come in direct contact with the conductive area of the conversion adapter. Doing so could result in system malfunction or failure.
- 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.
- Conversion Adapter is intended for indoor use only.

5.2 Use Precautions



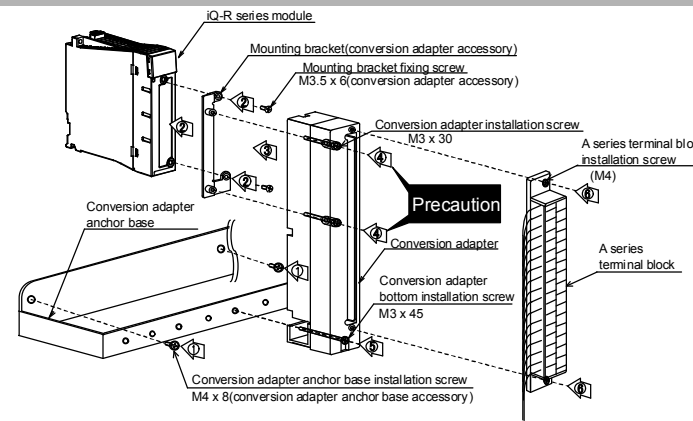
5.3 Installation Environment

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

5.4 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.

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 × 8; 2 locations at both sides, 1 location at the center) provided as an accessory.
- Secure the mounting bracket to the Programmable Controller Module using the mounting bracket fixing screws (M3.5 × 6; 2 upper/lower locations).
- Mount the conversion adapter onto the mounting bracket.
- Secure the conversion adapter using the conversion adapter installation screws (M3 × 30; 4 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.

- Secure the conversion adapter using the conversion adapter bottom installation screw (M3 × 45; 1 location).
- Secure the A series terminal block to the conversion adapter using the terminal block installation screws (M4; two upper/lower locations).

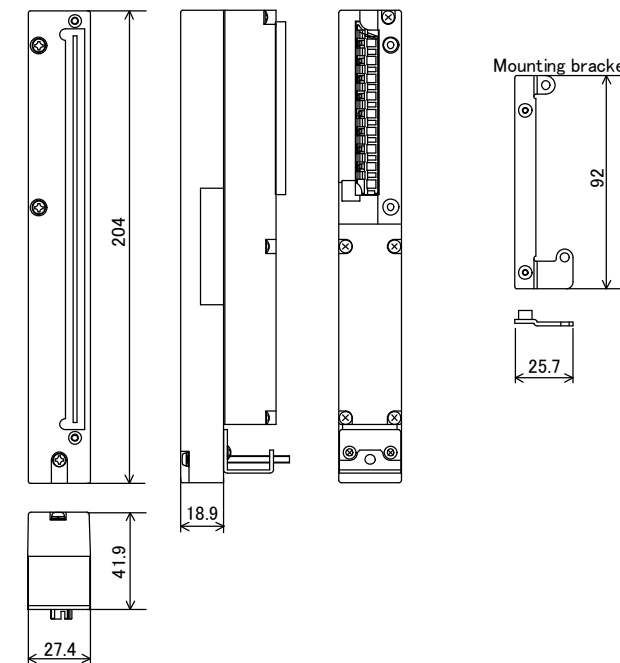
6.2 Tightening Torque

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 (M3.5 screw)	0.68 to 0.92 N·m
Conversion adapter bottom installation screw (M3 screw)	0.43 to 0.57 N·m
Conversion adapter installation screw (M3 screw)	1.02 to 1.38 N·m

7. External Dimensions

Unit: mm



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 is a registered trademark of Mitsubishi Electric 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 June 2018. Specifications are subject to change without notice.