Mitsubishi General-Purpose Programmable Controller Renewal Tool

Conversion Adapter

Model

ERNT-ASQTB20

User's Manual

50CM-D180201-A(1509)

MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED

HEAD OFFICE: Hulic KUDAN BLDG.1-13-5, KUDANKITA CHIYODA-KU, TOKYO 102-0073, JAPAN

NAGOYA ENGINEERING OFFICE:139 SHIMOYASHIKICHO-SHIMOYASHIKI, KASUGAI, AICHI 486-0906, JAPAN

● 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 the user's manual of the MELSEC-Q series CPU module to be used.

In this manual, the safety precautions are ranked as "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 medium or minor injury and/or property damage.

Note that failure to observe the ⚠ 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 user.

[Precautions before using]

⚠ CAUTION

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

[Installation Precautions]

⚠ CAUTION

- Use the Conversion Adapter in the environmental conditions that are specified in the general specification. If the Products are used in any environment beyond the bounds of the general specification, electric shock, fire, malfunction, or damage to or degradation of the Products will result.
- Do not directly touch any conductive parts of Conversion Adapter. 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, Conversion Adapter, Mounting Bracket, or MELSEC-Q Series Module, possibly causing the dropping, shorting, and malfunction thereof.
- When installing the Conversion Adapter, take care not to get your hand snagged on the Mounting Bracket or the like. Injury may result.
- When installing or removing the MELSEC-Q Series Module complete with a Converter Adapter, be sure to hold it with both hands. Dropping may lead to breakage.

[Wiring Precautions]

⚠ WARNING

- 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.
- 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

- Carry out wiring for the Conversion Adapter correctly after checking the specification and terminal arrangement for the module used. Connecting a power supply with a different voltage rating or incorrect wiring may cause a fire or 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.

[Wiring Precautions]

⚠ CAUTION

- Use care to prevent foreign materials including cuttings and wiring debris from entering the Conversion Adapter or the MELSEC-Q Series Module. These will be cause for fire, failure or malfunction.

[Startup and Maintenance Precautions]

⚠ WARNING

- Do not touch live terminals. There is a danger of electric shock or malfunction.
- Shut off the external power supply for the system in all phases before cleaning or retightening the terminal screws. Failure to do so may result in electric shock or cause the MELSEC-Q Series module to fail or malfunction. Loose screws can lead to dropping, shorting, and malfunction. Excessive tightness of the screws can lead to breakage of the screws, Conversion Adapter, Mounting Bracket, or MELSEC-Q Series Module, possibly causing the dropping, shorting, and malfunction thereof.

⚠ CAUTION

- Do not modify the Conversion Adapter or take it apart. Doing so will cause failure, malfunction, personal injury, or fire.
- Do not drop the Conversion Adapter and Mounting Bracket or do not give a strong impact to it. This will cause 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 BV

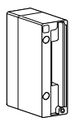
Address: Gothaer strasse 8, 40880 Ratingen, Germany

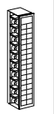
1. Overview

This manual describes specifications, handling and other information about the Conversion Adapter "ERNT-ASQTB20" available as Renewal Tools for the Mitsubishi General-Purpose Programmable Controller.

Before attempting to make a switch to MELSEC-Q 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.

Product	Shape	Quantity
Conversion Adapter		1
Mounting bracket		1

Product	Shape	Quantity
Mounting bracket fixing screws (M3.5 x 6)		2
Terminal block		1
This manual	—	1

2. General Specifications

Item	Specifications					
Operating ambient temperature	0 to 55℃(Maximum surrounding air temperature 55℃)					
Storage ambient temperature	-25 to 75℃					
Operating ambient humidity	5 to 95%RH, non-condensing					
Storage ambient humidity						
Vibration resistance	Compliant with JIS B 3502 and IEC 61131-2		Frequency	Constant acceleration	Half amplitude	Sweep count
		Under intermittent vibration	5 to 8.4Hz	—	3.5mm	10 times each in X, Y, Z directions
			8.4 to 150Hz	9.8m/s^2	—	
		Under continuous vibration	5 to 8.4Hz	—	1.75mm	—
			8.4 to 150Hz	4.9m/s^2	—	
Shock resistance	Compliant with JIS B 3502 and IEC 61131-2 (147 m/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					
Overvoltage category *2	II or less					
Pollution degree *3	2					

*1 : Do not use or store under pressure higher than the atmospheric pressure of altitude 0m.

*2 : 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.

*3 : 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 expected occasionally.

3. Product Specifications

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

(1) MELSEC-Q Series module

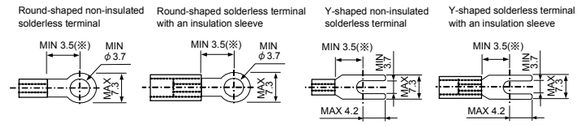
The conversion adapter can be used in combination with the following MELSEC-Q series modules.

Input/Output	MELSEC-Q Series module model					
Input	QX10	QX28	QX40	QX40-S1	QX40H	QX50
	QX70	QX70H	QX80	QX80H	QX90H	
Output	QY10	QY18A	QY22	QY40P	QY50	QY68A
	QY70	QY80				
I/O Combined	QX48Y57					

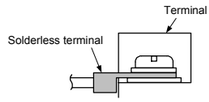
(2) Specifications of the terminal block (conversion adapter accessory)

●Applicable solderless terminal

Unit:mm

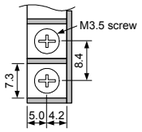


※The minimum length is 5.0 mm when the solderless terminal is attached up side down as shown below.

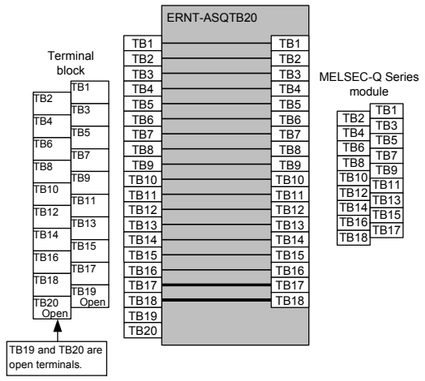


●Terminal block shape

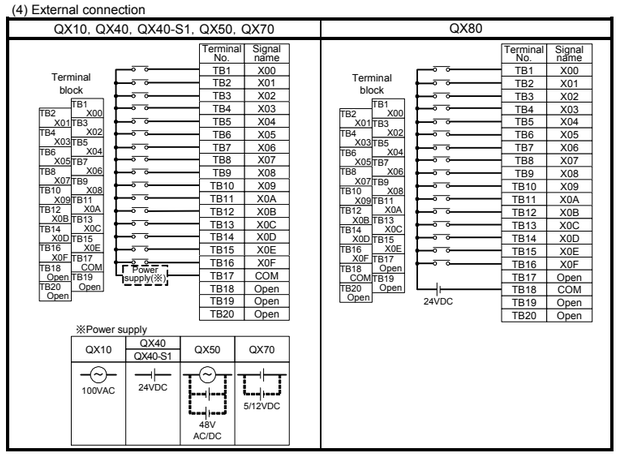
Unit:mm

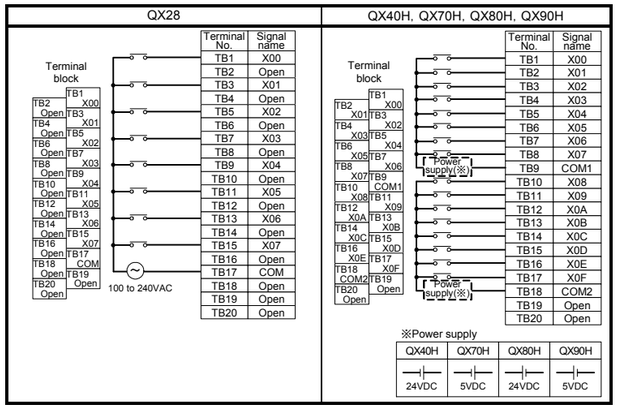


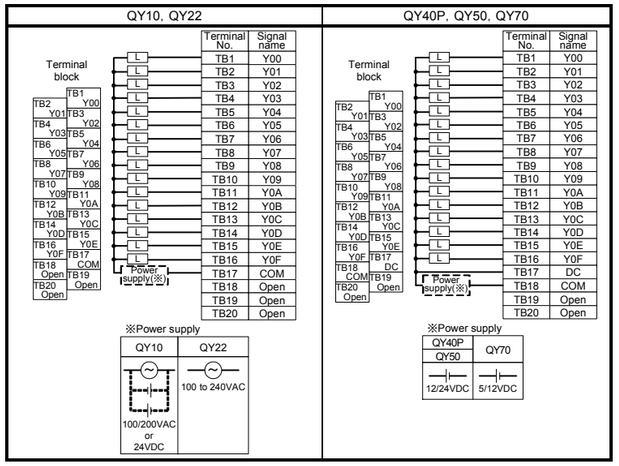
(3) Internal connection

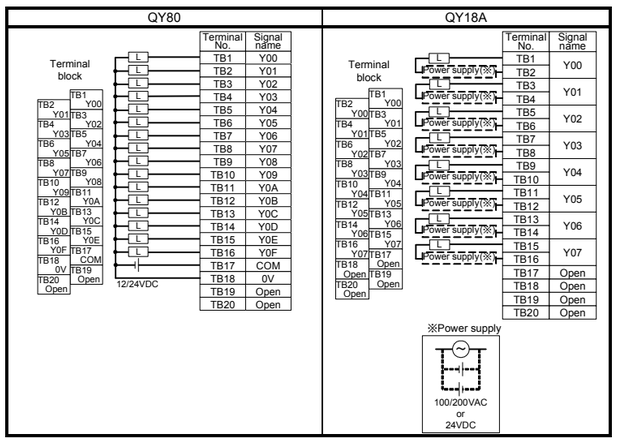


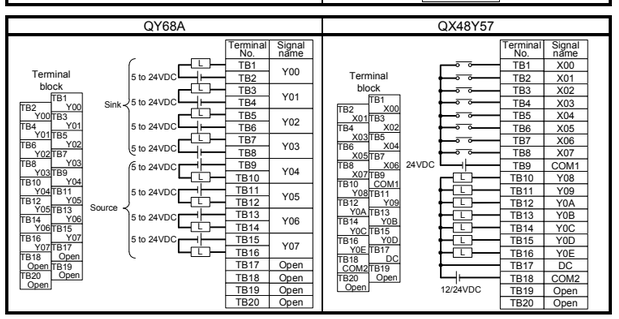
(4) External connection











(5) MELSEC-Q Series module specification

①Input module

Specification \ Model		QX10	QX28
Number of input points		16 points	8 points
Isolation method		Photocoupler isolation	Photocoupler isolation
Rated input voltage		100 to 120VAC(+10/-15%) 50/60Hz(±3Hz)	100 to 240VAC (+10/-15%) 50/60Hz(±3Hz)
Rated input current		Approx. 8mA(100VAC,60Hz) Approx. 7mA(100VAC,50Hz)	Approx.17mA(200VAC,60Hz) Approx.14mA(200VAV,50Hz) Approx.8mA(100VAC,60Hz) Approx.7mA(100VAC,50Hz)
Inrush current		Max. 200mA within 1ms (132VAC)	Max. 950mA within 1ms (264VAC)
ON voltage/ON current		80VAC or higher/5mA or higher(50Hz,60Hz)	80VAC or higher/5mA or higher(50Hz,60Hz)
OFF voltage/OFF current		30VAC or lower/1.7mA or lower(50Hz,60Hz)	30VAC or lower/1.7mA or lower(50Hz,60Hz)
Input impedance		Approx. 12kΩ(60Hz) Approx. 15kΩ(50Hz)	Approx. 12kΩ(60Hz) Approx. 15kΩ(50Hz)
Response time	OFF to ON	15ms or less (100VAC 50Hz,60Hz)	10ms or less (100VAC 50Hz,60Hz)
	ON to OFF	20ms or less (100VAC 50Hz,60Hz)	15ms or less (100VAC 50Hz,60Hz)
Internal current consumption		50mA(TYP. All points ON)	50mA(TYP. All points ON)
Common terminal arrangement		16 points/common	8 points/common

Specification \ Model		QX40 (Positive common)	QX40-S1 (Positive common)	QX50 (Positive/Negative shared common, AC)	
Number of input points		16 points	16 points	16 points	
Isolation method		Photocoupler isolation	Photocoupler isolation	Photocoupler isolation	
Rated input voltage		24VDC (+20/-15%)	24VDC (+20/-15%)	48VDC (+20/-15%)	48VAC (+10/-15%) 50/60Hz(±3Hz)
Rated input current		Approx. 4mA	Approx. 6mA	Approx. 4mA	
ON voltage/ON current		19V or higher/3mA or higher	19V or higher/4.0mA or higher	28V or higher/2.5mA or higher	
OFF voltage/OFF current		11V or lower/1.7mA or lower	11V or lower/1.7mA or lower	10V or lower/1.0mA or lower	
Input resistance		Approx. 5.6kΩ	Approx. 3.9kΩ	Approx. 11.2kΩ	
Response time	OFF to ON	1/5/10/20/70ms or less	0.1/0.2/0.4/0.6/1ms or less	5ms or less	15ms or less
	ON to OFF	1/5/10/20/70ms or less	0.1/0.2/0.4/0.6/1ms or less	20ms or less	20ms or less
Internal current consumption		50mA(TYP. all points ON)	60mA(TYP. all points ON)	50mA(TYP. all points ON)	
Common terminal arrangement		16 points/common	16 points/common	16 points/common	

Specification \ Model		QX70 (Positive/Negative shared common)		QX80 (Negative common)	QX40H (Positive common)
Number of input points		16 points		16 points	16 points
Isolation method		Photocoupler isolation		Photocoupler isolation	Photocoupler isolation
Rated input voltage		5VDC(+20/-10%)	12VDC(+20/-15%)	24VDC (+20/-15%)	24VDC (+20/-15%)
Rated input current		Approx. 1.2mA	Approx. 3.3mA	Approx. 4mA	Approx. 6mA
ON voltage/ON current		3.5V or higher/1mA or higher		19V or higher/3mA or higher	13V or higher/3mA or higher
OFF voltage/OFF current		1V or lower/0.1mA or lower		11V or lower/1.7mA or lower	8V or lower/1.6mA or lower
Input resistance		Approx. 3.3kΩ		Approx. 5.6kΩ	Approx. 3.9kΩ
Response time	OFF to ON	1/5/10/20/70ms or less		1/5/10/20/70ms or less	0.1/0.2/0.4/0.6/1ms or less
	ON to OFF	1/5/10/20/70ms or less		1/5/10/20/70ms or less	0.1/0.2/0.4/0.6/1ms or less
Internal current consumption		55mA(TYP. all points ON)		50mA(TYP. all points ON)	80mA(TYP. all points ON)
Common terminal arrangement		16 points/common		16 points/common	8 points/common

Specification \ Model		QX70H (Positive common)	QX80H (Negative common)	QX90H (Negative common)
Number of input points		16 points	16 points	16 points
Isolation method		Photocoupler isolation	Photocoupler isolation	Photocoupler isolation
Rated input voltage		5VDC(+20/-15%)	24VDC(+20/-15%)	5VDC(+20/-15%)
Rated input current		Approx. 6mA	Approx. 6mA	Approx. 6mA
ON voltage/ON current		3.5V or higher/3mA or higher	13V or higher/3mA or higher	3.5V or higher/3mA or higher
OFF voltage/OFF current		1V or lower/1mA or lower	8V or lower/1.6mA or lower	1V or lower/1mA or lower
Input resistance		Approx. 470Ω	Approx. 3.9kΩ	Approx. 470Ω
Response time	OFF to ON	0.1/0.2/0.4/0.6/1ms or less	0.1/0.2/0.4/0.6/1ms or less	0.1/0.2/0.4/0.6/1ms or less
	ON to OFF	0.1/0.2/0.4/0.6/1ms or less	0.1/0.2/0.4/0.6/1ms or less	0.1/0.2/0.4/0.6/1ms or less
Internal current consumption		80mA(TYP. all points ON)	80mA(TYP. all points ON)	80mA(TYP. all points ON)
Common terminal arrangement		8 points/common	8 points/common	8 points/common

②Output module

Specification \ Model		QY10	QY18A
Number of output points		16 points	8 points
Isolation method		Relay isolation	Relay isolation
Rated switching voltage, current		24VDC 2A(resistive load)/point 240VAC 2A(COSΦ=1)/point 8A/common	24VDC 2A(resistive load)/point 240VAC 2A(COSΦ=1)/point 8A/module
Minimum switching load		5VDC 1mA	5VDC 1mA
Maximum switching load		264VAC 125VDC	264VAC 125VDC
Response time	OFF to ON	10ms or less	10ms or less
	ON to OFF	12ms or less	12ms or less
Surge suppressor		No	No
Fuse		No	No
Internal current consumption		430mA(TYP. all points ON)	240mA(TYP. all points ON)
Common terminal arrangement		16 points/common	All points independent

Specification \ Model		QY22
Number of output points		16 points
Isolation method		Photocoupler isolation
Rated load voltage		100 to 240VAC 50/60Hz±5%
Maximum load current		0.6A/point, 4.8A/common
Maximum inrush current		20A cycle or less
Leaked current at OFF		3mA or lower (240V 60Hz) 1.5mA or lower (120V 60Hz)
Maximum voltage drop at ON		1.5V or lower
Response time	OFF to ON	1ms + 0.5 cycles or less
	ON to OFF	1ms + 0.5 cycles or less (rated load, resistive load)
Surge suppressor		CR absorber
Fuse		No
Internal current consumption		250mA(MAX. all points ON)
Common terminal arrangement		16 points/common

Specification \ Model		QY40P (Sink type)	QY50 (Sink type)	QY70 (Sink type)
Number of output points		16 points	16 points	16 points
Isolation method		Photocoupler isolation	Photocoupler isolation	Photocoupler isolation
Rated load voltage		12 to 24VDC (+20/-15%)	12 to 24VDC (+20/-15%)	5 to 12VDC (+25/-10%)
Maximum load current		0.1A/point, 1.6A/common	0.5A/point, 4A/common	16mA/point, 256mA/common
Maximum inrush current		0.7A 10ms or less	4A 10ms or less	40mA 10ms or less
Leaked current at OFF		0.1mA or less	0.1mA or less	V_{OH}:3.5VDC (Vcc=5VDC, I_{OH}=0.4mA)
Maximum voltage drop at ON		0.1VDC(TYP.)0.1A 0.2VDC(MAX.)0.1A	0.2VDC(TYP.)0.5A 0.3VDC(MAX.)0.5A	V_{OL}:0.3VDC
Response time	OFF to ON	1ms or less	1msㅂ下	0.5msㅂ下
	ON to OFF	1ms or less (rated load, resistive load)	1ms or less (rated load, resistive load)	0.5ms or less (resistive load)
Surge suppressor		Zener diode	Zener diode	No
Fuse		No	6.7A(unchangeable) (fuse capacity:50A)	1.6A(unchangeable) (fuse capacity:50A)
Protection function		Yes(overload protection, overheat protection)	No	No
Internal current consumption		65mA(TYP. all points ON)	80mA(TYP. all points ON)	95mA(TYP. all points ON)
Common terminal arrangement		16 points/common	16 points/common	16 points/common

Specification \ Model		QY68A (Sink/Source type)	QY80 (Source type)
Number of output points		8 points	16 points
Isolation method		Photocoupler isolation	Photocoupler isolation
Rated load voltage		5 to 24VDC (+20/-10%)	12 to 24VDC(+20/-15%)
Maximum load current		2A/point, 8A/module	0.5A/point, 4A/common
Maximum inrush current		8A 10ms or less	4A 10ms or less
Leaked current at OFF		0.1mA or less	0.1mA or less
Maximum voltage drop at ON		0.3VDC (MAX.)2A	0.2VDC (TYP.)0.5A 0.3VDC (MAX.)0.5A
Response time	OFF to ON	3ms or less	1ms or less
	ON to OFF	10ms or less(resistive load)	1ms or less(rated load, resistive load)
Surge suppressor		Zener diode	Zener diode
Fuse		No	6.7A(unchangeable)(fuse capacity:50A)
Protection function		No	No
Internal current consumption		110mA(TYP. all points ON)	80mA(TYP. all points ON)
Common terminal arrangement		All points independent	16 points/common

③I/O Combined module

QX48Y57

<Input specification>

Specification \ Model		QX48Y57 (Positive common)
Number of input points		8 points
Isolation method		Photocoupler isolation
Rated input voltage		24VDC (+20/-15%)
Rated input current		Approx. 4mA
ON voltage/ON current		19V or higher/3mA or higher
OFF voltage/OFF current		11V or lower/1.7mA or lower
Input resistance		Approx. 5.6kΩ
Response time	OFF to ON	1/5/10/20/70ms or less
	ON to OFF	1/5/10/20/70ms or less
Internal current consumption		80mA(TYP. all points ON)
Common terminal arrangement		8 points/common

<Output specification>

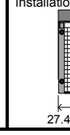
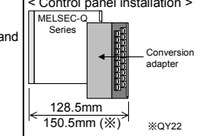
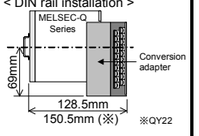
Specification \ Model		QX48Y57 (Sink type)
Number of output points		7 points
Isolation method		Photocoupler isolation
Rated load voltage		12 to 24VDC (+20/-15%)
Maximum load current		0.5A/point, 2A/common
Maximum inrush current		4A 10ms or less
Leaked current at OFF		0.1mA or less
Maximum voltage drop at ON		0.2VDC(TYP.)0.5A 0.3VDC(MAX.)0.5A
Response time	OFF to ON	1ms or less
	ON to OFF	1ms or less(rated load, resistive load)
Surge suppressor		Zener diode
Fuse		4A(unchangeable)(fuse capacity:50A)
Protection function		No
Common terminal arrangement		7 points/common

4. Mounting and Installation

4.1 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 Adaptor directly. Contact will cause malfunction or failure in the system.
(5) 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 Adaptor, Mounting bracket, or MELSEC-Q Series Module, possibly causing the dropping, shorting, and malfunction thereof.
(6) Use care to prevent foreign materials including cuttings and wiring debris from entering the Conversion Adapter or the MELSEC-Q Series Module. These will be cause for fire, failure or malfunction.
(7) Do not drop the Conversion Adapter and Mounting Bracket or do not give a strong impact to it. This will cause damage.

4.2 Use Precautions

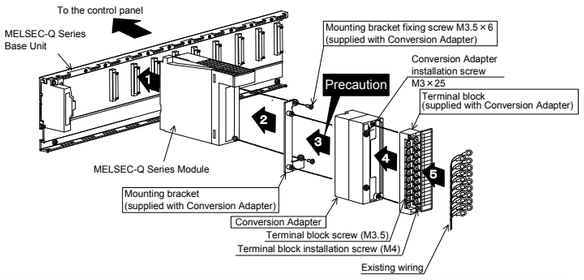
Item	Width dimension of module	Depth dimension
Use Precautions	The module width dimension is 27.4 mm. Check the conditions for wiring space and installation. 	The depth required for installation is 128.5 mm (150.5 mm for QY22). Check the installation condition. < Control panel installation >  < DIN rail installation > 

4.3 Installation Environment

The installation environment is the same as MELSEC-Q series CPU Module to use. Refer to the user's manual of the MELSEC-Q Series CPU Module to be used.

5. Part Names and Installation Method

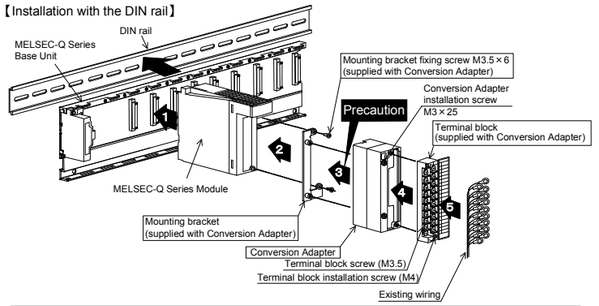
【Installation with the Control panel】



For using the conversion adapter with a fixture and the disconnection detector connector conversion cable for the temperature control module on the same base unit, use a separately-sold base adapter (ERNT-ASQBN). Refer to the user's manual of the base adapter for information on how to install the base adapter.

<Conversion Adapters with a fixture> <Disconnection detector connector conversion cable>
・ERNT-ASQT68AD-G ・ERNT-ASQT64TCTTBW
・ERNT-ASQT68TD-H01 ・ERNT-ASQT64TCRTBW
・ERNT-ASQT68TD-H02 ・ERNT-ASQT62TCTTBW
・ERNT-ASQTD61 ・ERNT-ASQT62TCRTBW
・ERNT-ASQTD62
・ERNT-ASQTD62D

【Installation with the DIN rail】



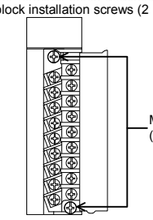
For using the conversion adapter with a fixture and the disconnection detector connector conversion cable for the temperature control module on the same base unit, use a separately-sold conversion adapter DIN rail mounting bracket (ERNT-ASQDIN). Refer to the user's manual of the conversion adapter DIN rail mounting bracket for information on how to install the bracket.

<Conversion Adapters with a fixture> <Disconnection detector connector conversion cable>
・ERNT-ASQT68AD-G ・ERNT-ASQT64TCTTBW
・ERNT-ASQT68TD-H01 ・ERNT-ASQT64TCRTBW
・ERNT-ASQT68TD-H02 ・ERNT-ASQT62TCTTBW
・ERNT-ASQTD61 ・ERNT-ASQT62TCRTBW
・ERNT-ASQTD62
・ERNT-ASQTD62D

5.1 Installation Method

Installation with the Control panel	Installation with the DIN rail
Mount the MELSEC-Q Series Base Unit to the control panel. Refer to the QCPU user's manual for how to install them to the control panel.	Mount the DIN rail mounting adapter manufactured by Mitsubishi Electric to the MELSEC-Q Series Base Unit. For how to install the adapter to the MELSEC-Q Series Base Unit, refer to the QCPU user's manual.

1 Install the MELSEC-Q Series module to the MELSEC-Q Series Base Unit. In addition, remove the terminal block attached with the MELSEC-Q Series module after loosening the terminal block installation screws (2 places up and down).



2 Secure the mounting bracket to the MELSEC-Q Series module using the mounting bracket fixing screws (M3.5 × 6). (2 places)

3 Install the Conversion Adapter to the mounting bracket, and secure it using the Conversion Adapter installation screws (M3 × 25). (2 places)

Precaution
Before tightening the installation screws, check that the Conversion Adapter has been securely installed on the MELSEC-Q Series module. Tightening the screws in floating-off state or tilting state will damage the Conversion Adapter installation screws and the mounting bracket.

4 Secure the terminal block to the Conversion Adapter with the supplied terminal block installation screw (M4). (2 places, top and bottom.)

5 Connect the existing wiring to the terminal block.
When any wires are left unconnected, connect them to open terminals or insulate them.

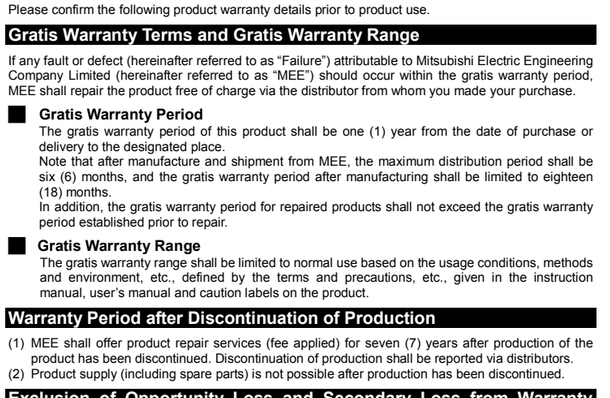
5.2 Tightening Torque

Tighten the 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 (M3.5×6)	0.68 to 0.92N·m
Conversion Adapter installation screw (M3×25)	0.43 to 0.57N·m
Terminal block installation screw (M4 screw)	1.02 to 1.38N·m
Terminal block screw (M3.5 screw)	0.59 to 0.88N·m

6. External Dimensions

Unit:mm



Weight:140g

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.
©2015 MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED ALL RIGHTS RESERVED

MELSEC is a registered trademark of Mitsubishi Electric Corporation.

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

(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 September 2015. Specifications are subject to change without notice.

Developed September 2015
50CM-D180201-A