

# Mitsubishi Electric Programmable Controller

## Upgrade Tool

### Base Adapter

Model

**ERNT-CQB081N**

**ERNT-CQB051N**

**ERNT-CQB031N**



### User's Manual

50CM-D180422-B(1904)

## MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED

HEAD OFFICE: HUIIC KUDAN BLDG.1-13-5, KUDANKITA CHIYODA-KU, TOKYO 102-0073, JAPAN  
 NAGOYA ENGINEERING OFFICE: 139 SHIMOYASHIKI-CHO-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 following manuals.

- MELSEC-Q series: QCPU User's Manual (SH-080483ENG)
- MELSEC iQ-R series: Safety Guidelines (IB-0800525E)

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."



Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



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.

### [Installation Precautions]



**WARNING**

- Be sure to shut off all phases of the external power supply before performing installation work. Failure to do so could result in electric shock or product damage.



**CAUTION**

- Use the base adapter in the environmental conditions that are specified in the general specification in the following manuals. Failure to do so could lead to electric shock, fire, malfunction or product failure or deterioration.

- MELSEC-Q series: QCPU User's Manual (SH-080483ENG)
- MELSEC iQ-R series: Safety Guidelines (IB-0800525E)

- Fully secure the base adapter, Programmable Controller base unit (MELSEC-Q Series, MELSEC iQ-R Series), 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 product to fall, resulting in damage.

### [Startup and Maintenance Precautions]



**WARNING**

- Be sure to shut off all phases of the external power supply before cleaning and retightening the installation screws. Failure to do so could lead to electric shock. Excessively tightened screws could result in damage, causing the product to fall, a short circuit or product malfunction.

### [Disposal Precautions]



**CAUTION**

- When disposing of the product, treat it as industrial waste.

### ● 安全注意事项 ●

(使用前请务必阅读)

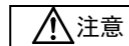
使用本产品时, 请仔细阅读本手册, 并充分注意安全, 正确地使用产品。本手册中标注的注意事项仅记载了与本产品相关的内容。关于可编程控制器系统的安全注意事项, 请参阅下述手册。

- MELSEC-Q series: QCPU User's Manual (SH-080483ENG)
- MELSEC iQ-R series: Safety Guidelines (IB-0800525E)

在本●安全注意事项●中, 安全注意事项的等级分为「警告」和「注意」。



**警告** 表示错误操作可能造成危险后果, 引起死亡或重伤事故。



**注意** 表示错误操作可能造成危险后果, 引起中度伤害, 轻伤及财产损失。

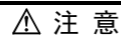
另外, 根据情况不同, 即使是注意中记载的事项, 也可能引发严重后果。不管哪个记载的都是非常重要的内容, 请务必遵守。请妥善保管本手册, 以便需要时取阅, 并将本手册交给最终用户。

#### 【安装注意事项】



**警告**

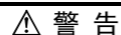
- 必须将外部供应全相断开后再进行安装作业等。如果未全相断开, 可能会导致触电或产品损坏。



**注意**

- 基板适配器被要求在下面手册里所记载的一般规格环境下使用。如果在一般规格范围以外的环境中使用, 可能导致触电、火灾、误动作、产品的损坏或劣化。  
 • MELSEC-Q series: QCPU User's Manual (SH-080483ENG)  
 • MELSEC iQ-R series: Safety Guidelines (IB-0800525E)
- 基板适配器及所使用的可编程控制器模块基板 (MELSEC-Q 系列, MELSEC iQ-R 系列) 应通过安装螺钉切实加以固定, 安装螺钉应在规定的扭矩范围内切实地拧紧。可能因掉落而导致破损。

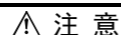
#### 【启动和维护注意事项】



**警告**

- 在清扫或重新紧固端子螺栓时, 必须将外部供应全相断开后再进行。如果未全相断开, 可能会导致触电。如果螺栓拧得过紧, 可能会导致转换适配器或输入/输出模块的破损从而导致掉落、短路或误动作。

#### 【废弃注意事项】



**注意**

- 废弃时请将本产品作为工业废弃物处理。

## 1. Overview

This manual describes the Mitsubishi Electric Programmable Controller Upgrade tool base adapter (ERNT-CQB031N, ERNT-CQB051N, ERNT-CQB081N).

The base adapter is a product that enables MELSEC-Q series or MELSEC iQ-R series installation using the SYSMAC C series installation holes. (Additional hole machining not required)

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

Product	Shape	Qty
Base adapter		1
Base unit installation screws (M4 x 8)		4
This manual	-	1

## 2. Product Specifications

### (1) SYSMAC C Series → MELSEC-Q Series

Base adapter Model	Specifications			Weight (g)
	SYSMAC C Series Compatible Module	MELSEC-Q Series Compatible Module	Installable Conversion Adapter Anchor Base	
ERNT-CQB081N	C500-BC081/082 C500-BC091 C2000-BC061	Q312B	ERNT-QF12 ERNT-QF8	905
		Q38B	ERNT-QF8	
	C500-BI081 C2000-BI083	Q612B Q68B	ERNT-QF12 ERNT-QF8 ERNT-QF8	
ERNT-CQB051N	C500-BC051/052 C500-BC061	Q38B	ERNT-QF8 ERNT-QF5	735
		Q35B	ERNT-QF5	
	C500-BI051	Q68B	ERNT-QF8 ERNT-QF5	
		Q65B Q55B	ERNT-QF5	
		Q35B Q33B	ERNT-QF5	
ERNT-CQB031N	C500-BC031	Q35B Q33B	ERNT-QF5	560

### (2) SYSMAC C Series → MELSEC iQ-R Series

Base adapter Model	Specifications			Weight (g)
	SYSMAC C Series Compatible Module	MELSEC iQ-R Series Compatible Module	Installable Conversion Adapter Anchor Base	
ERNT-CQB081N	C500-BC081/082 C500-BC091 C2000-BC061	R312B	ERNT-1CR12F ERNT-1CR8F	905
		R38B R310B-HT	ERNT-1CR8F ERNT-1CR10F	
	C500-BI081 C2000-BI083	R612B R68B R610B-HT	ERNT-1CR12F ERNT-1CR8F ERNT-1CR10F	
ERNT-CQB051N	C500-BC051/052 C500-BC061	R38B	ERNT-1CR8F ERNT-1AR5F	735
		R35B	ERNT-1AR5F	
	C500-BI051	R68B R65B	ERNT-1CR8F ERNT-1AR5F	
ERNT-CQB031N	C500-BC031	R35B R33B	ERNT-1AR5F	560

## 3. Mounting and Installation

### 3.1 Handling Precautions

- (1) Do not drop or apply heavy impact to the base adapter. Doing so could result in damage.
- (2) Fully secure the MELSEC-Q Series or MELSEC iQ-R Series base unit and conversion adapter anchor base using the installation screws, and securely tighten the screws within the specified torque range. Loose screws could cause a short circuit, fire or malfunction.

Screw Location	Tightening Torque Range
Base unit installation screw (M4 screw)	1.39 to 1.89N·m
Conversion adapter anchor base installation screw (M4 screw)	

### 3.2 Installation Environment

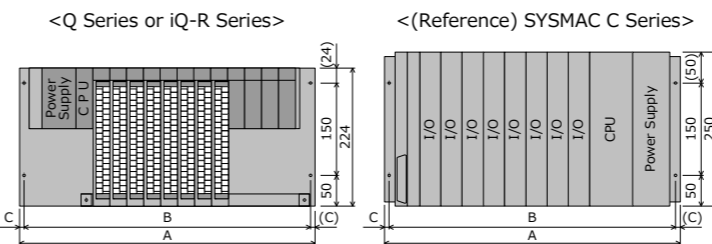
Refer to the manual supplied with the MELSEC-Q Series or MELSEC iQ-R Series module you use.

- MELSEC-Q series: QCPU User's Manual (SH-080483ENG)

- MELSEC iQ-R series: Safety Guidelines (IB-0800525E)

## 4. Installation Dimensions

- (1) The width dimension is smaller than that of the SYSMAC C series.
- (2) The base adapter installation holes (4 locations) have the same installation dimensions as those of the SYSMAC C series base unit. There is no need for additional screw hole machining on the control panel.



Base Adapter Model	A	B	C	SYSMAC C Series Base Model			
				A	B	C	
ERNT-CQB081N	480	465	7.5	C500-BC081/082	480	465	7.5
				C500-BC091	486	465	10.5
				C500-BI081	480	465	7.5
				C2000-BC061	480	465	7.5
ERNT-CQB051N	375	360	7.5	C500-BC051/052	375	360	7.5
				C500-BI051	375	360	7.5
ERNT-CQB031N	276	255	10.5	C500-BC061	381	360	10.5
				C500-BC031	276	255	7.5

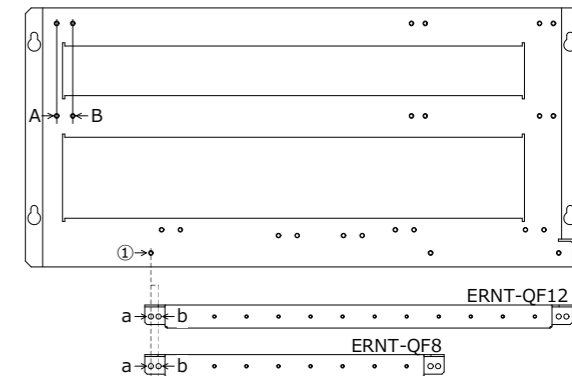
### Installation Precautions

Check the installation locations of the base unit and conversion adapter anchor base and install them in the correct locations. Failure to do so could cause damage on the Conversion Adapters and modules.

## 5. Base Unit and Conversion Adapter Anchor Base Installation Locations

### 5.1 ERNT-CQB081N

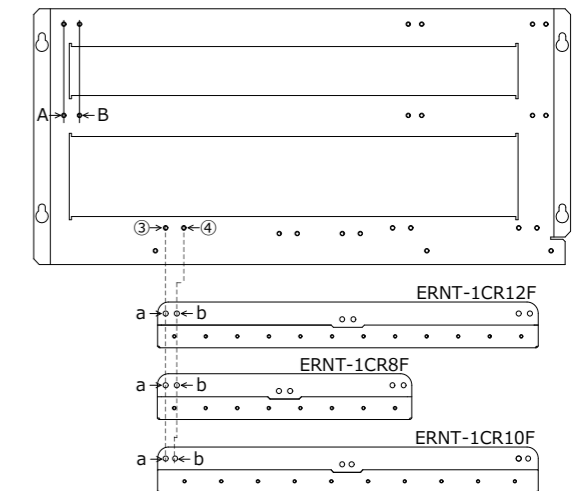
(1) When installing the MELSEC-Q Series Base unit



Base Unit	Conversion Adapter Anchor Base	
	ERNT-QF12	ERNT-QF8
Q312B	A ① b	A ① b
Q38B	-	A ① b
Q612B	B ① a	B ① a
Q68B	-	B ① a

Upper stage: MELSEC-Q Base unit installation location  
 Intermediate state: Conversion adapter anchor base installation location  
 Lower stage: Conversion adapter anchor base screw tightening location  
 - : Combination not possible

(2) When installing the MELSEC iQ-R Series Base unit

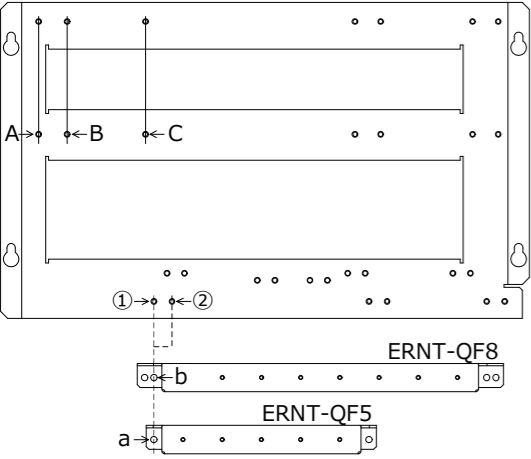


Base Unit	Conversion Adapter Anchor Base		
	ERNT-1CR12F	ERNT-1CR8F	ERNT-1CR10F
R312B	A ③ a	A ③ a	-
R38B	-	A ③ a	-
R310B-HT	-	-	A ③ a
R612B	B ④ b	B ④ b	-
R68B	-	B ④ b	-
R610B-HT	-	-	B ④ b

Upper stage: MELSEC iQ-R Base unit installation location  
 Intermediate state: Conversion adapter anchor base installation location  
 Lower stage: Conversion adapter anchor base screw tightening location  
 - : Combination not possible

### 5.2 ERNT-CQB051N

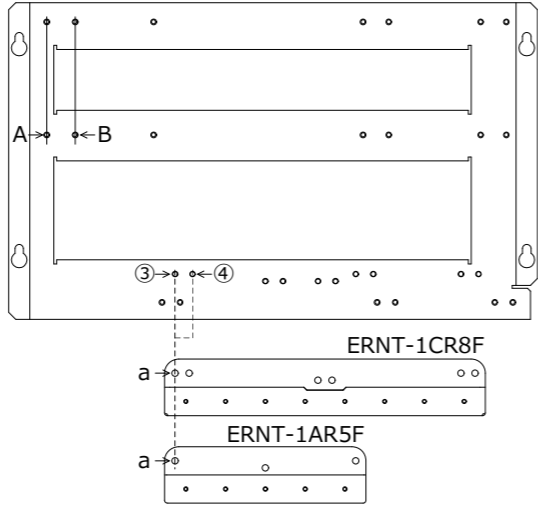
(1) When installing the MELSEC-Q Series Base unit



Base Unit	Conversion Adapter Anchor Base	
	ERNT-QF8	ERNT-QF5
Q38B	A	A
	①	①
Q35B	-	A
	-	①
Q68B	B	B
	②	②
Q65B	-	B
	-	②
Q55B	-	C
	-	②

Upper stage: MELSEC-Q Base unit installation location  
 Intermediate state: Conversion adapter anchor base installation location  
 Lower stage: Conversion adapter anchor base screw tightening location  
 - : Combination not possible

(2) When installing the MELSEC iQ-R Series Base unit

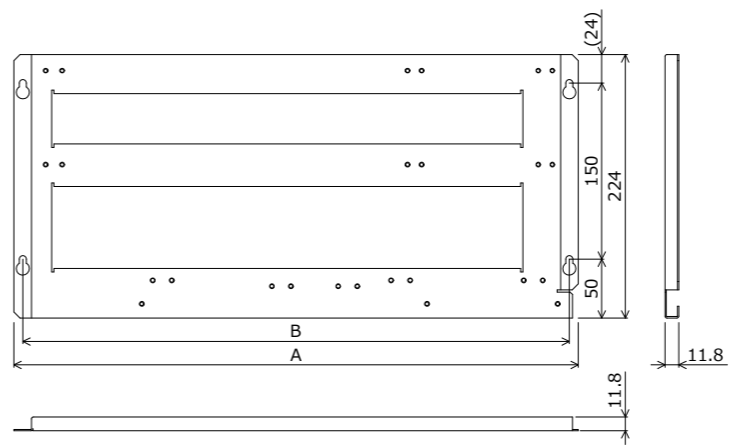


Base Unit	Conversion Adapter Anchor Base	
	ERNT-1CR8F	ERNT-1AR5F
R38B	A	A
	③	③
R35B	-	A
	-	③
R68B	B	B
	④	④
R65B	-	B
	-	④

Upper stage: MELSEC iQ-R Base unit installation location  
 Intermediate state: Conversion adapter anchor base installation location  
 Lower stage: Conversion adapter anchor base screw tightening location  
 - : Combination not possible

### 6. External Dimensions

Unit: mm



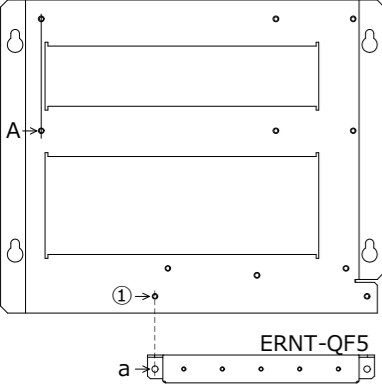
Base Adapter Model	A	B
ERNT-CQB081N	480	465
ERNT-CQB051N	375	360
ERNT-CQB031N	276	255

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### 5.3 ERNT-CQB031N

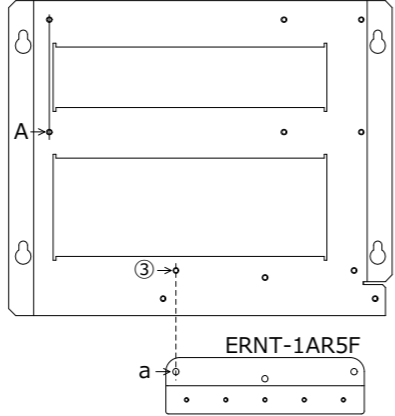
(1) When installing the MELSEC-Q Series Base unit



Base Unit	Conversion Adapter Anchor Base
	ERNT-QF5
Q35B	A
	①
Q33B	A
	①

Upper stage: MELSEC-Q Base unit installation location  
 Intermediate state: Conversion adapter anchor base installation location  
 Lower stage: Conversion adapter anchor base screw tightening location  
 - : Combination not possible

(2) When installing the MELSEC iQ-R Series Base unit



Base Unit	Conversion Adapter Anchor Base
	ERNT-1AR5F
R35B	A
	③
R33B	A
	③

Upper stage: MELSEC iQ-R Base unit installation location  
 Intermediate state: Conversion adapter anchor base installation location  
 Lower stage: Conversion adapter anchor base screw tightening location

#### 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 April 2019. Specifications are subject to change without notice.