BCN-P5999-1669-A(2306)MEE

R69P R69RP

Before Using the Product

Before using the product, please read this manual. Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

CONDITIONS OF USE FOR THE PRODUCT

(1) MELSEC programmable controller ("the PRODUCT") shall be used in conditions;
i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.
MITSUBISHI ELECTRIC SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI ELECTRIC USER'S, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.
("Prohibited Application")
Prohibited Applications include, but not limited to, the use of the PRODUCT in;
- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above restrictions, Mitsubishi Electric may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi Electric and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTs are required. For details, please contact the Mitsubishi Electric representative in your region.

(3) Mitsubishi Electric shall have no responsibility or liability for any problems involving programmable controller trouble and system trouble caused by DoS attacks, unauthorized access, computer viruses, and other cyberattacks.

1. Relevant manuals

This manual describes the part names, installation, and wiring of the power supply module, based on the excerpts from the MELSEC iQ-R Module Configuration Manual. Before using the product, please read the MELSEC iQ-R Module Configuration Manual and the Safety Guidelines included with the main base unit used, especially the following sections.
- SAFETY PRECAUTIONS
- EMC AND LOW VOLTAGE DIRECTIVES
- WARRANTY

The product details are described in the following manual.
Please develop familiarity with the functions and performance of the product to handle the product correctly. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- MELSEC iQ-R Module Configuration Manual
  SH-081262ENG
- Safety Guidelines
  IB-0800525

2. Packing list

Check that the following items are included in the package of the product.

Item	Quantity
Module	1
Before Using the Product (this manual)	1

3. Mounting a module

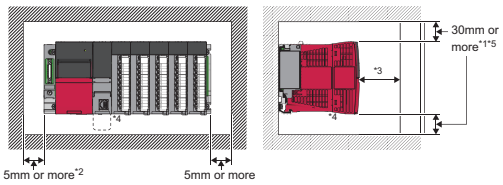
When installing the product in a control panel, fully consider its operability, maintainability, and environmental resistance. Use a clean and dry cloth to wipe off dirt on the module. Securely mount all the MELSEC iQ-R series modules used on the base unit. Mount a power supply module on the power supply slot located on the left end of a main base unit, and mount a CPU module on the CPU slot located on the right side of the power supply slot. For modules other than the power supply module, mount them on the slots located on the right side of the CPU slot. For details on the mounting method, refer to the MELSEC iQ-R Module Configuration Manual as well.

Precautions

Beware that the module could be very hot while power is on and immediately after power-off.

Installation position

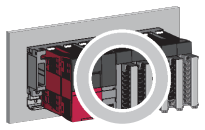
To ensure good ventilation and ease module change, provide clearance between the module top/bottom and structures/parts as shown below.



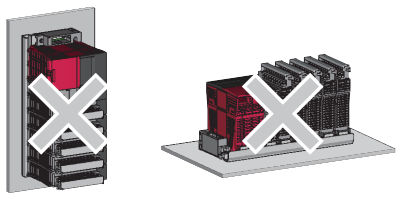
A shaded area shows the ceiling of a control panel, wiring duct, or parts.
*1 Provide clearance of 30mm or more when the height of a wiring duct is 50mm or less. In other cases, provide clearance of 40mm or more.
*2 Provide clearance of 20mm or more when an extension cable is connected/removed without removing a power supply module.
*3 Provide clearance of 20mm or more for a power supply module, 80mm or more for a module using a connector for external devices, and 90mm for a MELSECWinCPU module. Since MELSECWinCPU modules have a depth of 131mm, use a control panel with a depth of 221mm or more.
*4 Provide clearance of 50mm or more when the Q7BATN is installed, and 45mm or more when the Q7BAT is installed.
*5 Secure adequate space for wiring when connecting Ethernet cables to an R00CPU, R01CPU, and R02CPU or when connecting an RS-232 connection cable to a MELSECWinCPU module.

Module mounting orientation

To ensure good ventilation for heat dispassion, install the programmable controller in the orientation as shown below.



Do not mount the programmable controller in the orientations as shown below.



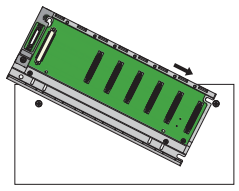
4. Base unit installation

4.1 Installing a base unit to the control panel

Install a main base unit, (by screwing) in the following procedure.

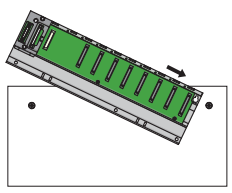
1. Fix two mounting screws for the upper side of the base unit to the control panel.

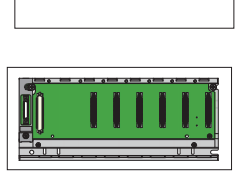
- Main base unit, extension base unit



2. Place the notch on the right side of the base unit to a screw on the right side of the control panel. When the RQ extension base unit is used, place the bell-shaped hole on the right side of the base unit to the screw on the right side of the control panel.

- RQ extension base unit





3. Place the bell-shaped hole on the left side of the base unit to a screw on the left side of the control panel.
4. Fix the mounting screws into the holes at the bottom of the base unit, and retighten all the mounting screws.

Point

When the base unit mounted modules is installed on the control panel, install the base unit, without a module on the right end slot, on the control panel. The removal method is the same.
Installing the main base unit, without the power supply module on the left end slot, on the control panel is recommended. The mounting screws can be tightened by inserting a screwdriver acock. The removal method is the same.

4.2 Mounting a base unit on a DIN rail

Note the following when mounting a DIN rail.
Mounting a DIN rail needs special adaptors (optional), which are user-prepared.

Applicable adaptor types

■ **Main base unit, extension base unit**
- For R3□B, R3□B-HT, R6□B, R6□B-HT, R3□RB, R3□RB-HT, R6□RB, R6□RB-HT, R6□WRB, R6□WRB-HT: R6DIN1

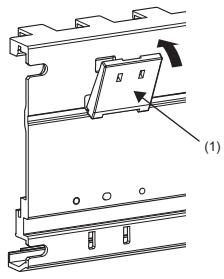
Model	Pieces				
	Hook A	Hook B-C (with two mounting screws)	Stopper	Square washer	Mounting screw (M5×10)
R6DIN1	2	2	2	3	3

■ **RQ extension base unit**
Use the MELSEC-Q series DIN rail adapter for the RQ extension base unit.
- For RQ68B, RQ612B: Q6DIN1
- For RQ65B: Q6DIN2

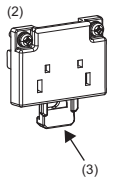
Model	Pieces				
	Adapter (larger)	Adapter (smaller)	Stopper	Square washer	Mounting screw (M5×10)
Q6DIN1	2	4	2	3	3
Q6DIN2	2	3	2	2	2

Adaptor installation method

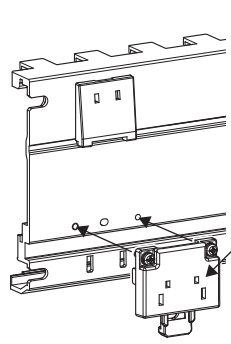
■ **Main base unit, extension base unit**
Use the hook As, hook B-Cs, and stoppers included with the MELSEC iQ-R series DIN rail adapter for the main base unit and extension base unit.



1. Insert the hook A (1) to the lower square hole of two square holes at the upper part of the base unit and push the upper part of the hook until it clicks. (two spots)



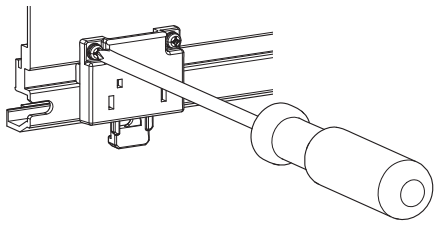
2. Project the hook B (3) of the hook B-C (2) on the downside shown the left figure.



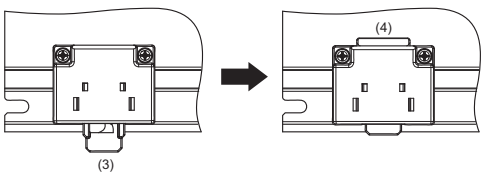
3. Push the tab of the hook B-C into two square holes at the lower part of the base unit until it clicks. (two spots)

---

4. Tighten the mounting screws (M3×10) of thehook B-C with a screwdriver and fix the hook B-C. (total four spots (two mounting screws per one hook B-C), tightening torque: 0.37 to 0.48N·m)



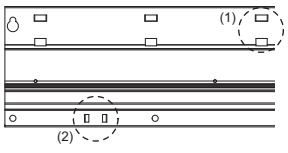
5. Project the tab (4) of the hook B-C on the upside by pushing up the hook B (3).

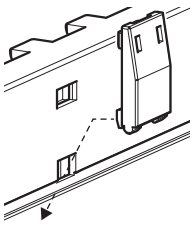


6. Hitch the upper part of the base unit to the DIN rail and push the lower part of the base unit until it clicks.
7. Fix the stopper of the DIN rail.

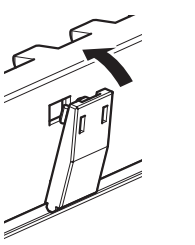
■ **RQ extension base unit**
Use the adapters (larger), adapters (smaller), and stoppers included with the MELSEC-Q series DIN rail adapter for the RQ extension base unit.

(1) Spot for the hook of the adapter (smaller)
(2) Spot for the hook of the adapter (larger)

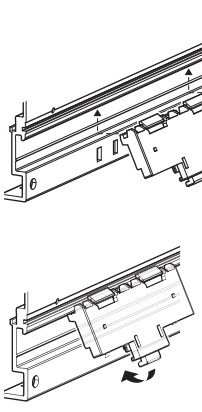




1. Insert the hook of the adapter (smaller) into the lower square hole of two square holes at the upper part of the base unit and push the upper part of the adapter until it clicks.



2. Insert the adapter (larger) into the groove of the base unit from below. As the adapter is inserted into the groove, push the lower part of the adapter (larger) into two square holes at the lower part of the base unit until it clicks.
3. Mount the base unit installed the DIN rail adapter on the DIN rail.
4. Fix the stopper of the DIN rail.

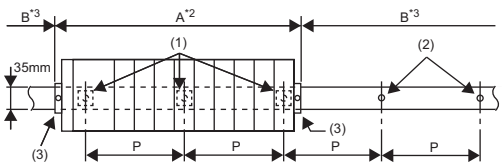


Applicable DIN rail types (IEC 60715/JIS C 2812)

- TH35-7.5Fe
- TH35-7.5Al
- TH35-15Fe

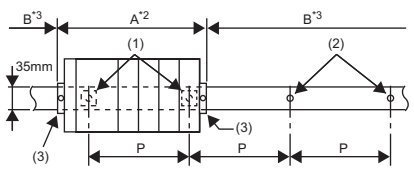
Distance between DIN rail mounting screws

When a DIN rail is used, tighten DIN rail mounting screws in interval of 200mm or less to ensure the sufficient strength of the rail. Tighten the DIN rail by using the mounting screws and square washers included with the DIN rail adapter. When the TH35- 15Fe is used, the square washers are not required.
- When the base unit which has eight slots or more is used, screw three spots as below.



(1) Mounting screws (included with the DIN rail adapter), (2) Mounting screws (sold separately), (3) Stoppers

- When the base unit which has five slots or less is used, screw two spots as below.

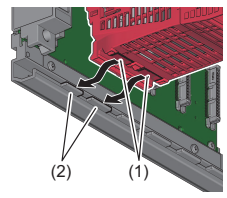


(1) Mounting screws (included with the DIN rail adapter), (2) Mounting screws (sold separately), (3) Stoppers

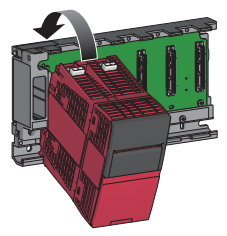
5. Mounting/removing a power supply module

The following describes how to mount/remove a module on/from the R3□B, R3□RB, R3□B-HT, R3□RBHT, R6□B, R6□RB, R6□B-HT, R6□RB-HT.

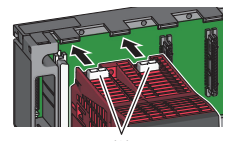
Mounting a module on a base unit



1. When a cap is attached to the module connector of the base unit, remove it.
2. Place the concave part (1) of a module onto the guide (2) of the base unit.



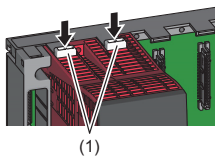
3. Push in the module until the module fixing hook (3) snaps into place.
4. Check that the module fixing hook (3) hangs the base unit and the module is mounted on the base unit securely.



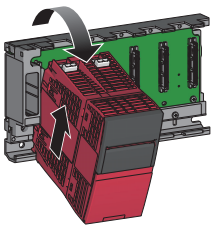
Point

When using the programmable controllers in environments in which they are subject to strong vibrations and shocks, take the following measures:
- Fix the modules to the base unit using screws. (Module fixing screw: M3×12 (sold separately))
- Place the cables connected to the modules in a duct or clump them to prevent the weight of the cables from putting stress on the modules.

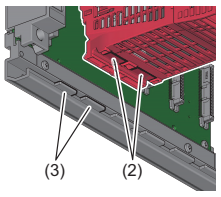
Removing a module from a base unit



1. Support the module with both hands and securely press the module fixing hook (1) with your finger.



2. Pull the module straight supporting it at its bottom while pressing the module fixing hook (1).
3. While lifting the module, remove the concave part (2) from the guide (3) of the base unit.



Point

- When module fixing screws are used, remove the screws first and module from the base unit. Failure to do so may damage the module.
- The module surface temperature may be high immediately after power-off. When the module is removed, pay attention to the burn injury.

6. General Specifications

This section provides specifications common to the relevant modules.

Item	Specifications					
Operating ambient temperature *Température ambiante de fonctionnement*	0 to 55℃ (when an extended temperature range base unit*5 is not used) *0 à 55℃ (quand une unité de base à gamme de température élargie*6 *n'est pas utilisée)* 0 to 60℃*7 (when an extended temperature range base unit*5 is used) *0 à 60 ℃*8 *(quand une unité de base à gamme de température élargie*6 *est utilisée)*					
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/s²	—	
		Under continuous vibration	5 to 8.4Hz	—	1.75mm	—
			8.4 to 150Hz	4.9m/s²	—	
Shock resistance	Compliant with JIS B 3502 and IEC 61131-2 (147 m/s², 3 times each in X, Y, and Z bidirections)					
Operating atmosphere	No corrosive gases, flammable gases, less conductive dust					
Operating altitude*1	0 to 2000m*4					
Installation location	Inside a control panel (Indoor use)					
Overvoltage category*2	Ⅱ or less					
Pollution degree*3	2 or less					

*1 Do not use or store the programmable controller under pressure higher than the atmospheric pressure of altitude 0m. Doing so may cause malfunction. When using the programmable controller under pressure, please consult your local Mitsubishi representative.

*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. The surge voltage withstand level for up to the rated voltage of 300V is 2500V.

*3 This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used. Pollution degree 2 is when only non-conductive pollution occurs. A temporary conductivity caused by condensing must be expected occasionally.

*4 When the programmable controller is used at altitude above 2000m, the withstand voltage performance and the upper limit of the operating ambient temperature decrease. Please consult your local Mitsubishi representative.

*5 The models of the main base unit supporting extended temperature range are the R310B-HT and R38RB-HT.

*6 *Les modèles de l'unité de base principale prenant en charge la gamme de température élargie sont le R310BHT et le R38RB-HT.*

*7 All modules mounted on the extended temperature range base unit provide the same performance as the modules used in an operating ambient temperature of 0 to 55℃, even though they are used in an operating ambient temperature of 0 to 60℃. When using the modules in the environment of the temperature exceeding 60℃, please consult your local Mitsubishi representative.

*8 *Tous les modules montés sur l'unité de base à plage de température étendue offrent les mêmes performances que les modules utilisés à température ambiante de fonctionnement de 0 à 55℃, bien qu'ils soient utilisés dans une température ambiante de fonctionnement de 0 à 60℃. En cas d'utilisation des modules dans un environnement de température dépassant 60℃, consulter votre représentant local Mitsubishi.*

Control panel

■ Protection against electric shock

Handle the control panel as follows to protect a person who does not have adequate knowledge of electrical installation from an electric shock.

- Lock the control panel so that only a person who is trained and has acquired enough knowledge of electrical installation can open the panel.
- Design the control panel so that the power supply is automatically shut off when the panel is opened.
- Use a control panel with a protection degree of IP20 or higher.

■ Protection from dust and water

The control panel needs to be dustproof and waterproof.
Insufficient dustproof and waterproof lower the dielectric withstand of the control panel, possibly causing dielectric breakdown.
For protection against dust and water splashes, install the module inside a control panel with a protection degree of IP54 or equivalent.

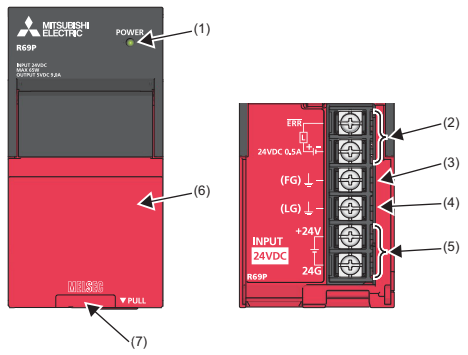
7. Performance specifications

Item		Performance specifications	
		R69P	R69RP
Input power supply		24VDC	
Input voltage fluctuation range		-20%/+30%	
Max. input power		65W	
Rated output current	5VDC	9.0A	

For a power supply to supply 24VDC, use a power supply (SELV power supply) that does not exceed 30VAC (effective value), 42.4V (peak value), or 60VDC. Also, use a power supply which is applied to "limited-energy circuit" specified in IEC61010-1.

8. Part Names

This section describes the part names of the power supply module. (The R69P is used as an example.)



No.	Name	Application
(1)	POWER LED	Indicates the operating status of the power supply module. On: Normal operation Off: Power-off, power failure, or hardware failure (MELSEC iQ-R CPU Module User's Manual (Application))
(2)	ERR. terminal*2	■When mounting the module on the main base unit The contact turns on when the entire system operates normally. (M4 screw) This contact turns off (opens) in the following cases: • When the power supply module fails • When the power is not supplied • When a stop error (including reset) occurs in the CPU module • When the fuse is blown In a multiple CPU system, the contact turns off when a stop error occurs in any of the CPU modules. When the remote head module is mounted, this contact turns off when moderate or major error (including reset) occurs. ■When mounting the module on the extension base unit The contact is off at all times. When the module is mounted on a redundant power supply extension base unit, the following operation is performed: • The contact turns on when the power supply module operates normally. (M4 screw) • This contact turns off (opens) when the power supply module fails, the power is not supplied, or the fuse is blown.
(3)	FG terminal*1	A functional ground terminal connected to the shield pattern of the printed circuit board (M4 screw)
(4)	LG terminal*1	A functional ground terminal for the power supply input filter. For AC input, the terminal has one-half the potential of the input voltage. (M4 screw)
(5)	Power input terminal	A power input terminal for the power supply module. The power supply to be connected differs depending on a power supply module. (M4 screw)
(6)	Terminal cover	A protective cover for the terminal block
(7)	Production information marking	Shows the production information (16 digits) of the module.

*1 Individually ground the FG and LG terminals with a ground resistance of 100 ohms or less.

*2 Place the cables for the ERR contact output in the control panel and keep the length to 30m or less.

■ Applicable solderless terminals

The table below shows applicable solderless terminals connected to the terminal block. When wiring, use applicable wires and an appropriate tightening torque. Use UL listed solderless terminals and, for processing, use a tool recommended by their manufacturer.

Terminal screw size	Solderless terminal			
	Terminal manufacturer	Model	Applicable cable	Tightening torque
M4	J.S.T.MFG.CO., LTD.	V1.25-M4	18 to 16 AWG	1.02 to 1.38N·m
		V2-M4	16 to 14 AWG	

Solderless terminal		Wire			
Certification	Crimping tool	Diameter	Type	Material	Temperature rating
UL Listed	YA-1 (J.S.T.MFG.CO., LTD.)	18 to 14 AWG	Stranded	Copper	75℃ or more

■ *Bornes sans soudure à utiliser*

Le tableau ci-dessous indique quelles bornes sans soudure on doit utiliser pour les raccordements sur la plaque à bornes. Pour le câblage, utiliser les fils et couples de serrage prescrits. Utiliser les bornes sans soudure répertoriées par UL et, pour le montage, utiliser l'outil recommandé par le fabricant de ces bornes.

Taille des vis de borne	*Bornes sans soudure*			
	Fabricant de la borne	*Modèle*	*Câble à utiliser*	*Couple de serrage*
M4	*J.S.T.MFG.CO., LTD.*	*V1.25-M4*	*18 à 16 AWG*	*1.02 à 1.38N·m*
		V2-M4	*16 à 14 AWG*	

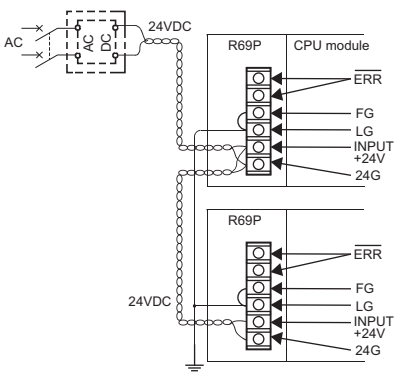
Bornes sans soudure		*Fil*			
Certification	*Outil de sertissage*	*Diamètre*	*Type*	*Matériau*	*Gamme de température*
Répertorié par UL	*YA-1 (J.S.T.MFG.CO., LTD.)*	*18 à 14 AWG*	*Torsadé*	*Cuivre*	*75℃ ou plus*

9. Wiring to the power supply module

Câblage de module d'alimentation

The following figures show wiring examples of cables such as power cables and ground wires to the power supply module. Prepare for short of the external wiring, take safety measures, such as inserting a breaker between the external power supply and the power supply module.
Les figures ci-dessous sont des exemples de câblage pour illustrer la façon de disposer les câbles d'alimentation et les conducteurs de terre au niveau du module d'alimentation. Anticipez un éventuel court-circuit du câblage externe et prenez des mesures de sécurité, par exemple en insérant un disjoncteur entre l'alimentation externe et le module d'alimentation.

- Single power supply system
- *Système à alimentation unique*



*1 For a power supply to supply 24VDC, use a power supply (SELV power supply) that does not exceed 30VAC (effective value), 42.4V (peak value), or 60VDC. Also, use a power supply which is applied to "limited-energy circuit" specified in IEC61010-1.

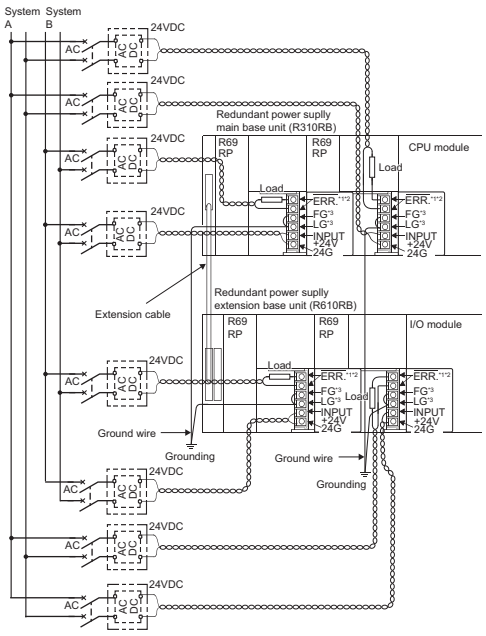
*1 *Pour une alimentation de 24 VCC, utilisez une alimentation (SELV) qui ne dépasse pas 30 VCA (valeur effective), 42,4 V (valeur maximale) ou 60 VCC. Utilisez également une alimentation appliquée à un « circuit à énergie limitée » tel que défini dans la norme IEC61010-1.*

*2 Ground the LG and FG terminals by using a ground wire as thick and short as possible (2mm in diameter).

*2 *Mettre à la terre les bornes LG et FG en utilisant un gros fil de terre (section 2mm) le plus court possible..*

English	*French*
100/200VAC	*100/200V ca*
Fuse	*Fusible*
24VDC	*24 Vcc*
Ground wire	*Fil de terre*
Grounding	*Mise à la terre*
Load	*Charge*
Extension cable	*Câble de rallonge*

- Redundant power supply system
- *Système d'alimentation redondante*



*1 For a power supply to supply 24VDC, use a power supply (SELV power supply) that does not exceed 30VAC (effective value), 42.4V (peak value), or 60VDC. Also, use a power supply which is applied to "limited-energy circuit" specified in IEC61010-1.

*1 *Pour une alimentation de 24 VCC, utilisez une alimentation (SELV) qui ne dépasse pas 30 VCA (valeur effective), 42,4 V (valeur maximale) ou 60 VCC. Utilisez également une alimentation appliquée à un « circuit à énergie limitée » tel que défini dans la norme IEC61010-1.*

*2 When input power is supplied to the redundant power supply module mounted on the redundant power main base unit and the redundant power supply module mounted on the redundant power extension base unit simultaneously, the ON (short) timing of the ERR terminal on the redundant power main base unit is later than that of the ERR terminal on the redundant power extension base unit by the initial processing time of the CPU module.

*2 *Quand les modules d'alimentation montés sur les unités de base principale et d'extension à alimentation redondante sont tous deux sous tension, la borne ERR de l'unité de base principale à alimentation redondante est définie sur ON (court) après la borne ERR de l'unité de base d'extension à alimentation redondante, avec un décalage de temps correspondant à la durée d'initialisation du module CPU.*

*3 Ground the LG and FG terminals by using a ground wire as thick and short as possible (2mm in diameter).

*3 *Mettre à la terre les bornes LG et FG en utilisant un gros fil de terre (section 2mm) le plus court possible.*

English	*French*
Fuse	*Fusible*
24VDC	*24 Vcc*
Ground wire	*Fil de terre*
Grounding	*Mise à la terre*
Load	*Charge*
Extension cable	*Câble de rallonge*

10. Information and services

For further information and services, please consult your local Mitsubishi representative.

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS: 1-14, YADA-MINAMI 5-CHOME, HIGASHI-KU, NAGOYA 461-8670, JAPAN