

MITSUBISHI

Q2A(S1)/Q3A/Q4ACPU User's Manual (Hardware)

Mitsubishi Programmable Controller User's Manual (Hardware)

Thank you for purchasing the Mitsubishi programmable controller MELSEC-QnA series.

Prior to use, please read both this and relevant manuals thoroughly to fully understand the product.



MODEL	QNACPU-U(H/W)-E
MODEL CODE	13J820
IB-66607-H(0705)MEE	

● SAFETY PRECAUTIONS ●

(Be sure to read these instructions before use.)

Before using the product, read this and relevant manuals carefully and handle the product correctly with full attention to safety.

In this manual, ● SAFETY PRECAUTIONS ● are classified into 2 levels: "DANGER" and "CAUTION".




DANGER

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 minor or moderate injury and/or property damage.

Under some circumstances, failure to observe the  **CAUTION** level instructions may also lead to serious results.

Be sure to observe the instructions of both levels to ensure the safety.

Please keep this manual in a safe place for future reference and also pass this manual on to the end user.

[DESIGN PRECAUTIONS]



DANGER

- Create a safety circuit outside the PLC to ensure the whole system will operate safely even if an external power failure or a PLC failure occurs. Otherwise, incorrect output or malfunction may cause an accident.
 - (1) For an emergency stop circuit, protection circuit and interlock circuit that is designed for incompatible actions such as forward/reverse rotation or for damage prevention such as the upper/lower limit setting in positioning, any of them must be created outside the PLC.
 - (2) When the PLC detects the following error conditions, it stops the operation and turn off all the outputs.
 - The overcurrent protection device or overvoltage protection device of the power supply module is activated.
 - The PLC CPU detects an error such as a watchdog timer error by the self-diagnostics function.

In the case of an error of a part such as an I/O control part that cannot be detected by the PLC CPU, all the outputs may turn on. In order to make all machines operate safely in such a case, set up a fail-safe circuit or a specific mechanism outside the PLC.

Refer to "LOADING AND INSTALLATION" in this manual for example fail safe circuits.

[DESIGN PRECAUTIONS]

DANGER

(3) Depending on the failure of the output module's relay or transistor, the output status may remain ON or OFF incorrectly. For output signals that may lead to a serious accident, create an external monitoring circuit.

- If load current more than the rating or overcurrent due to a short circuit in the load has flowed in the output module for a long time, it may cause a fire and smoke. Provide an external safety device such as a fuse.
- Design a circuit so that the external power will be supplied after power-up of the PLC.

Activating the external power supply prior to the PLC may result in an accident due to incorrect output or malfunction.

- For the operation status of each station at a communication error in data link, refer to the respective data link manual.

The communication error may result in an accident due to incorrect output or malfunction.

- When controlling a running PLC (data modification) by connecting a peripheral device to the CPU module or a PC to a special function module, create an interlock circuit on sequence programs so that the whole system functions safely all the time.

Also, before performing any other controls (e.g. program modification, operating status change (status control)), read the manual carefully and ensure the safety.

In these controls, especially the one from an external device to a PLC in a remote location, some PLC side problem may not be resolved immediately due to failure of data communications.

To prevent this, create an interlock circuit on sequence programs and establish corrective procedures for communication failure between the external device and the PLC CPU.

- When setting up the system, do not allow any empty slot on the base unit. If any slot is left empty, be sure to use a blank cover (AG60) or a dummy module (AG62) for it.

When using the extension base unit, A52B, A55B or A58B, attach the included dustproof cover to the module in slot 0.

Otherwise, internal parts of the module may be flied in the short circuit test or when an overcurrent or overvoltage is accidentally applied to external I/O section.

CAUTION

- Do not install the control lines or communication cables together with the main circuit or power lines, or bring them close to each other. Keep a distance of 100mm (3.94inch) or more between them. Failure to do so may cause malfunctions due to noise.

[DESIGN PRECAUTIONS]

CAUTION

- If having read register R outside the allowable range with the MOV instruction, the file register data will be FFFFH. Using this as it is may cause malfunctions. Pay attention not to use any out-of-range file register when designing sequence programs. For instruction details, refer to the programming manual.
- When an output module is used to control the lamp load, heater, solenoid valve, etc., a large current (ten times larger than the normal one) may flow at the time that the output status changes from OFF to ON. Take some preventive measures such as replacing the output module with the one of a suitable current rating.

[INSTALLATION PRECAUTIONS]

CAUTION

- Use the PLC under the environment specified in the user's manual. Otherwise, it may cause electric shocks, fires, malfunctions, product deterioration or damage.
- Hold down the module loading lever at the module bottom, and securely insert the module fixing latch into the fixing hole in the base unit. Incorrect loading of the module can cause a malfunction, failure or drop. When using the PLC in the environment of much vibration, tighten the module with a screw. Tighten the screw in the specified torque range. Undertightening can cause a drop, short circuit or malfunction. Overtightening can cause a drop, short circuit or malfunction due to damage to the screw or module.
- Connect the extension cable to the connector of the base unit or module. Check the cable for incomplete connection after connecting it. Poor electrical contact may cause incorrect inputs and/or outputs.
- Insert the memory card and fully press it to the memory card connector. Check for incomplete connection after installing it. Poor electrical contact may cause malfunctions.
- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the module. Failure to do so may damage the module.
- Do not directly touch the conductive part or electronic components of the module. Doing so may cause malfunctions or a failure of the module.

[WIRING PRECAUTIONS]

DANGER

- Be sure to shut off all phases of the external power supply used by the system before wiring. Failure to do so may result in an electric shock or damage of the product.

[WIRING PRECAUTIONS]

DANGER

- Before energizing and operating the system after wiring, be sure to attach the terminal cover supplied with the product.
Failure to do so may cause an electric shock.

CAUTION

- Always ground the FG and LG terminals to the protective ground conductor.
Failure to do so may cause an electric shock or malfunctions.
- Wire the module correctly after confirming the rated voltage and terminal layout.
Connecting a power supply of a different voltage rating or incorrect wiring may cause a fire or failure.
- Do not connect multiple power supply modules to one module in parallel. The power supply modules may be heated, resulting in a fire or failure.
- Press, crimp or properly solder the connector for external connection with the specified tool.
Incomplete connection may cause a short circuit, fire or malfunctions.
- Tighten terminal screws within the specified torque range. If the screw is too loose, it may cause a short circuit, fire or malfunctions.
If too tight, it may damage the screw and/or the module, resulting in a short circuit or malfunctions.
- Carefully prevent foreign matter such as dust or wire chips from entering the module.
Failure to do so may cause a fire, failure or malfunctions.
- Install our PLC in a control panel for use.
Wire the main power supply to the power supply module installed in a control panel through a distribution terminal block.
Furthermore, the wiring and replacement of a power supply module have to be performed by a maintenance worker who acquainted with shock protection.
(For the wiring methods, refer to Q2ACPU(S1)/ Q3ACPU /Q4ACPU User's Manual)

[STARTUP AND MAINTENANCE PRECAUTIONS]

DANGER

- Do not touch any terminal during power distribution.
Doing so may cause an electric shock.
- Properly connect batteries. Do not charge, disassemble, heat or throw them into the fire and do not make them short-circuited and soldered. Incorrect battery handling may cause personal injuries or a fire due to exothermic heat, burst and/or ignition.

[STARTUP AND MAINTENANCE PRECAUTIONS]

DANGER

- Be sure to shut off all phases of the external power supply used by the system before cleaning or retightening the terminal screws or module mounting screws.
Failure to do so may result in an electric shock.
If they are too loose, it may cause a short circuit or malfunctions.
If too tight, it may cause damage to the screws and/or module, resulting in an accidental drop of the module, short circuit or malfunctions.

CAUTION

- When performing online operations (especially, program modification, forced output or operating status change) by connecting a peripheral device to the running CPU module, read the manual carefully and ensure the safety.
Incorrect operation will cause mechanical damage or accidents.
- Do not disassemble or modify each of modules.
Doing so may cause failure, malfunctions, personal injuries and/or a fire.
- When using a wireless communication device such as a mobile phone, keep a distance of 25cm (9.84inch) or more from the PLC in all directions.
Failure to do so may cause malfunctions.
- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the module.
Failure to do so may result in failure or malfunctions of the module.
- When replacing the fuse, use a fuse specified by the manufacturer.
Using the one for the high-rated current or an electric wire may cause a fire.
- Do not drop or apply any impact to the battery.
Doing so may damage the battery, resulting in electrolyte spillage inside the battery.
If any impact has been applied, discard the battery and never use it.
- Before handling modules, touch a grounded metal object to discharge the static electricity from the human body.
Failure to do so may cause failure or malfunctions of the module.

[DISPOSAL PRECAUTIONS]

CAUTION

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

[TRANSPORTATION PRECAUTIONS]

CAUTION

- When transporting lithium batteries, make sure to treat them based on the transportation regulations. (Refer to Chapter 7 for details of the relevant models.)

REVISIONS

*The manual number is given on the bottom right of the front cover.

Print Date	*Manual Number	Revision
Jun., 1996	IB(NA) 66607-A	First edition
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This manual describes the operating precautions, input/output connections, and error codes relevant to Q2ACPU, Q2ACPU-S1, Q3ACPU, and Q4ACPU (hereafter, all are referred to simply as "QnACPU") operations.

Manuals :

The following table lists the manuals relevant to this product.

Please order it as necessary.

Detailed manuals

Manual Name	Manual No.
Q2ACPU(S1)/Q3ACPU/Q4ACPU User's Manual Discusses QnACPU performance, functions, and operation, and contains the specifications for the power supply, memory card, and base unit. (sold separately)	IB-66608 (13J821)

Related manuals

Manual Name	Manual No.
QnACPU Guidebook This manual is designed for first-time users of the QnACPU. It explains the procedures for all operations from program creation, to program writing to the CPU, and program debugging. It also explains how to use the QnACPU special features. (sold separately)	IB-66606 (13JF10)
QnACPU Programming Manual (Fundamentals) This manual explains the programming procedures required for program creation. It also explains the device names, parameters, and program types. (sold separately)	IB-66614 (13JF46)
QCPU(Q mode)/QnACPU Programming Manual (Common Instructions) This manual explains how to use the sequence instructions, basic instructions, and application instructions. (sold separately)	SH-080039 (13JF58)
QnACPU Programming Manual (Special Function Module) This manual explains the dedicated instructions used with special function modules. (sold separately)	SH-4013 (13JF56)
QnACPU Programming Manual (AD57 Instructions) This manual explains the dedicated instructions used to operate the AD57(S1) CRT controller module. (sold separately)	IB-66617 (13JF49)
QCPU(Q mode)/QnACPU Programming Manual (PID Control Instructions) This manual explains the dedicated instructions used to execute PID control. (sold separately)	SH-080040 (13JF59)
QCPU(Q mode)/QnACPU Programming module (SFC) This manual explains the system configuration, performance specifications, functions, programming, debugging error codes and others of MELSAP3. (sold separately)	SH-080041 (13JF60)
I/O module type Building block User's Manual This manual gives the specifications for building-block type I/O modules. (sold separately)	IB-66140 (13J643)

1. SPECIFICATIONS

1.1 SPECIFICATIONS

Table 1.1 General specification

Item	Specifications					
Ambient operating temperature	0 to 55 °C					
Ambient storage temperature	-20 to 75 °C					
Ambient operating humidity	10 to 90 % RH, No-condensing					
Ambient storage humidity	10 to 90 % RH, No-condensing					
Vibration resistance	Conforming to JIS B 3502, IEC 61131-2		Frequency	Acceleration	Amplitude	No. of sweeps
		Under intermittent vibration	10 to 57Hz	—	0.075mm (0.003in.)	10 times each in X, Y, Z directions (for 80min.)
			57 to 150Hz	9.8m/s ²	—	
		Under continuous vibration	10 to 57Hz	—	0.035mm (0.001in.)	
57 to 150Hz	4.9m/s ²		—			
Shock resistance	Conforming to JIS B 3502, IEC 61131-2 (147 m/s ² , 3 times in each of 3 directions X, Y, Z)					
Operating ambience	No corrosive gases					
Operating elevation *3	2000m (6562ft.) max.					
Installation location	Control panel					
Over voltage category *1	II max.					
Pollution level *2	2 max.					
Equipment category	Class I					

- *1: 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 300 V is 2500 V.
- *2: 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: Do not use or store the PLC in the environment when the pressure is higher than the atmospheric pressure at sea level. Otherwise, malfunction may result. To use the PLC in high-pressure environment, contact your nearest Mitsubishi representative.

2. PERFORMANCE SPECIFICATIONS

2.1 QnACPU Module Performance Specifications

This section gives the Performance specifications of the QnACPU.

Table 2.1 Performance Specifications

Item		Model Name				Remark
		Q2ACPU	Q2ACPU-S1	Q3ACPU	Q4ACPU	
Control system		Repeated operation (using stored program)				
I/O control method		Refresh mode				Direct input using device names possible
Programming language		Language dedicated to sequence control				
		Relay symbol language, logic symbolic language, MELSAP-3 (SFC)				
Processing speed (sequence instruction)	LD	0.2 μ s/step		0.15 μ s/step	0.075 μ s/step	
	MOV	0.6 μ s/step		0.45 μ s/step	0.225 μ s/step	
Constant scan (program started at fixed time Intervals)		5 to 2000 ms (can be set in 5 ms units)				Set by parameter
Memory capacity		Capacity of the installed memory card (max. 2036 k bytes)				
Program capacity	Number of steps	Max. 28 k steps	Max. 60 k steps	Max. 92 k steps	Max. 124 k steps	
	Number of files	28 files	60 files	92 files	124 files	
Number of I/O device points		8192 points (X/Y0 to 1FFF)				Number of points that can be used in programs
Number of I/O points		512 points (X/Y0 to 1FF)	1024 points (X/Y0 to 3FF)	2048 points (X/Y0 to 7FF)	4096 points (X/Y0 to FFF)	Number of points actually accessible with I/O modules
Clock function		Year, month, date, hour, minute, second, day of week (automatic recognition of leap years) Accuracy -2.3 to +4.4 s (TYP. +1.8 s)/d at 0 °C Accuracy -1.1 to +4.4 s (TYP. +2.2 s)/d at 25°C Accuracy -9.6 to +2.7 s (TYP. -2.4 s)/d at 55 °C				
Allowable momentary power interruption time		Depends on the power supply module				

Table 2.1 Performance Specifications (Continued)

Item	Model Name				Remark
	Q2ACPU	Q2ACPU-S1	Q3ACPU	Q4ACPU	
Internal current consumption for 5 VDC	0.3 (0.4) A	0.3 (0.4) A	0.3 (0.4) A	0.6 (0.9) A	The numerical value in parentheses represents a function version "B" or later unit.
Weight	0.8 kg	0.8 kg	0.8 kg	0.8 kg	
External dimensions	250(H) (9.84) × 79.5(W) (3.13) × 121(D) (4.76) mm (inch)				

REMARK

Please check the rating plate of the CPU module for the function version "B".

<QnACPU>



Manufacturing date Function Version

3.1.1 EMC standards

When the PLC is installed following the directions given in this manual its EMC performance is compliant to the following standards and levels as required by the EMC directive.

Specifications	Test Item	Test Description	Standard Values
EN61000-6-4 (2001)	EN55011 *2 Radiated noise	Measure the emission released by the product.	30M-230 M Hz QP: 30dB μ V/m (30m measurement) *1 230M-1000MHz QP: 37dB μ V/m (30m measurement) *1
	EN55011 *2 Conduction noise	Measure the emission released by the product to the power line.	150k-500kHz QP: 79dB, Mean: 66dB*1 500k-30MHz QP: 73dB, Mean: 60dB *1
EN61131-2/A12 (2000)	EN61000-4-2 *2 Static electricity immunity	Immunity test by applying static electricity to the module enclosure.	4kV contact discharge 8kV air discharge
	EN61000-4-4 *2 First transient burst noise	Immunity test by applying burst noise to the power line and signal line.	2kV Power line 1kv Signal line
	EN61000-4-12 *2 Damped oscillatory wave	Immunity test in which a damped oscillatory wave is superimposed on the power line.	1kv
	EN61000-4-3 *2 Radiated electromagnetic field	Immunity test by applying a radiated electric field to the product.	10V/m, 26-1000MHz
EN61000-6-2 (2001)	EN61000-4-6 *2 Conduction noise	Immunity test by inducing an electromagnetic field in the power line signal line.	10 V/ms, 0.15-80MHZ, 80% AM modulation@1kHz

*1: QP: Quasi-peak value, Mean: Average value

*2: The PLC is an open type device (device installed to another device) and must be installed in a conductive control panel.

The tests for the corresponding items were performed while the PLC was installed inside the control panel.

3.1.2 Installation instructions for EMC Directive

The PLC is open equipment and must be installed within a control cabinet for use.* This not only ensures safety but also ensures effective shielding of PLC-generated electromagnetic noise.

* : Also, each network remote station needs to be installed inside the control panel.

However, the waterproof type remote station can be installed outside the control panel.

(1) Control cabinet

- (a) Use a conductive control cabinet.
- (b) When attaching the control cabinet's top plate or base plate, mask painting and weld so that good surface contact can be made between the cabinet and plate.
- (c) To ensure good electrical contact with the control cabinet, mask the paint on the installation bolts of the inner plate in the control cabinet so that contact between surfaces can be ensured over the widest possible area.
- (d) Earth the control cabinet with a thick wire so that a low impedance connection to ground can be ensured even at high frequencies.
- (e) Holes made in the control cabinet must be 10 cm (3.94 in.) diameter or less. If the holes are 10 cm (3.94 in.) or larger, radio frequency noise may be emitted.

In addition, because radio waves leak through a clearance between the control panel door and the main unit, reduce the clearance as much as practicable.

The leakage of radio waves can be suppressed by the direct application of an EMI gasket on the paint surface.

Our tests have been carried out on a panel having the damping characteristics of 37 dB max. and 30 dB mean (measured by 3 m method with 30 to 300 MHz).

(2) Connection of power and earth wires

Earthing and power supply wires for the PLC system must be connected as described below.

- (a) Provide an earthing point near the power supply module. Earth the power supply's LG and FG terminals (LG : Line Ground, FG : Frame Ground) with the thickest and shortest wire possible. (The wire length must be 30 cm (11.18 in.) or shorter.) The LG and FG terminals function is to pass the noise generated in the PLC system to the ground, so an impedance that is as low as possible must be ensured. In addition, make sure to wire the ground cable short as the wires are used to relieve the noise, the wire itself carries large noise content and thus short wiring means that the wire is prevented from acting as an antenna.
- (b) The earth wire led from the earthing point must be twisted with the power supply wires. By twisting with the earthing wire, noise flowing from the power supply wires can be relieved to the earthing. However, if a filter is installed on the power supply wires, the wires and the earthing wire may not need to be twisted.

3.1.3 Cables

The cables pulled out of the control panel contain a high frequency noise component. On the outside of the control panel, therefore, they serve as antennas to emit noise.

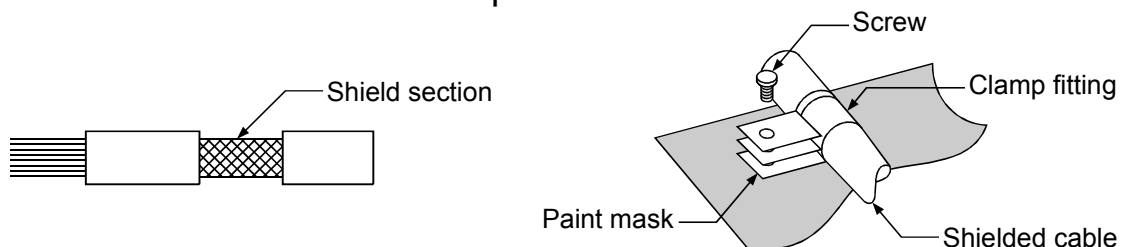
Ensure to use shielded cables for the cables, which are connected to the I/O modules, special modules and those pulled out to outside of the control panel. Mounting ferrite core is not required except some types of CPU however, noise emanated via the cable can be restrained using it.

The use of a shielded cable also increases noise resistance. The signal lines (including common line) connected to the PLC input/output modules and intelligent modules use shielded cables to assure noise resistance, as a condition, standardized on EN61131-2/A12 (2000).

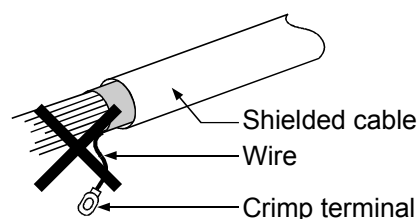
If a shielded cable is not used or not earthed correctly, the noise resistance will be less than the rated value

(1) Earthing of shielded of cables

- (a) Earth the shield of the shielded cable as near the unit as possible taking care so that the earthed cables are not induced electromagnetically by the cable to be earthed.
- (b) Take appropriate measures so that the shield section of the shielded cable from which the outer cover was partly removed for exposure is earthed to the control panel on an increased contact surface. A clamp may also be used as shown in the figure below. In this case, however, apply a cover to the painted inner wall surface of the control panel which comes in contact with the clamp.

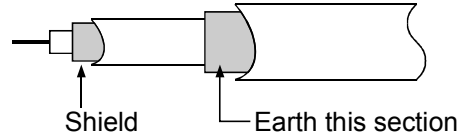


Note) The method of earthing by soldering a wire onto the shield section of the shielded cable as shown below is not recommended. The high frequency impedance will increase and the shield will be ineffective.



(2) MELSECNET (II) and MELSECNET/10 units

- (a) Use a double-shielded coaxial cable for the MELSECNET unit which uses coaxial cables. Noise in the range of 30 MHz or higher in radiation noise can be suppressed by the use of double-shielded coaxial cables (Mitsubishi Cable: 5C-2V-CCY). Earth the outer shield to the ground. The precautions on shielding to be followed are the same as those stated in item (1) above.

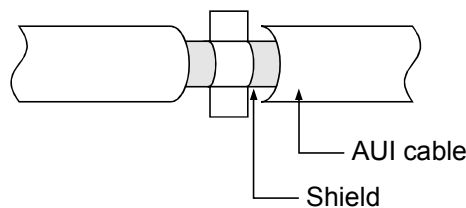


- (b) Ensure to attach a ferrite core to the double-shielded coaxial cable connected to the MELSECNET unit. In addition, position the ferrite core on each cable near the outlet of the control panel. TDK-make ZCAT3035 ferrite core is recommended.

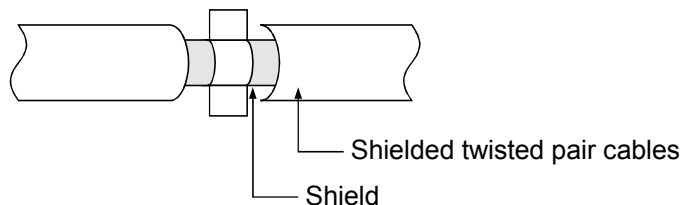
(3) Ethernet module

Precautions to be followed when AUI cables and coaxial cables are used are described below.

- (a) Ensure to earth also the AUI cables connected to the 10BASE5 connectors of the AJ71QE71-B5. Because the AUI cable is of the shielded type, as shown in the figure below, partly remove the outer cover of it, and earth the exposed shield section to the ground on the widest contact surface.



- (b) Use shielded twisted pair cables as the twisted pair cables*1 connected to the 10BASE-T connectors. For the shielded twisted pair cables, strip part of the outer cover and earth the exposed shield section to the ground on the widest contact surface as shown below.

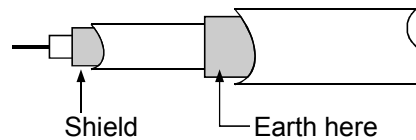


Refer to (1) for the earthing of the shield.

*1: Make sure to install a ferrite core for the cable.

As a ferrite core, ZCAT2035 manufactured by TDK is recommended.

- (c) Always use double-shielded coaxial cables as the coaxial cables*2 connected to the 10BASE2 connectors. Earth the double-shielded coaxial cable by connecting its outer shield to the ground.



Refer to (1) for the earthing of the shield.

*2: Make sure to install a ferrite core for the cable.

As a ferrite core, ZCAT2035 manufactured by TDK is recommended.

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(4) I/O and other communication cables

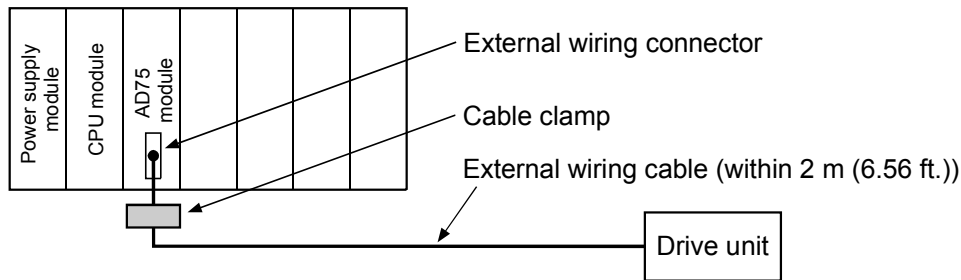
For the I/O signal lines (including common line) and other communication cables (RS-232, RS-422, etc), if extracted to the outside of the control panel, also ensure to earth the shield section of these lines and cables in the same manner as in item (1) above.

(5) Positioning Modules

Precautions to be followed when the machinery conforming to the EMC Directive is configured using the AD75P□-S3 are described below.

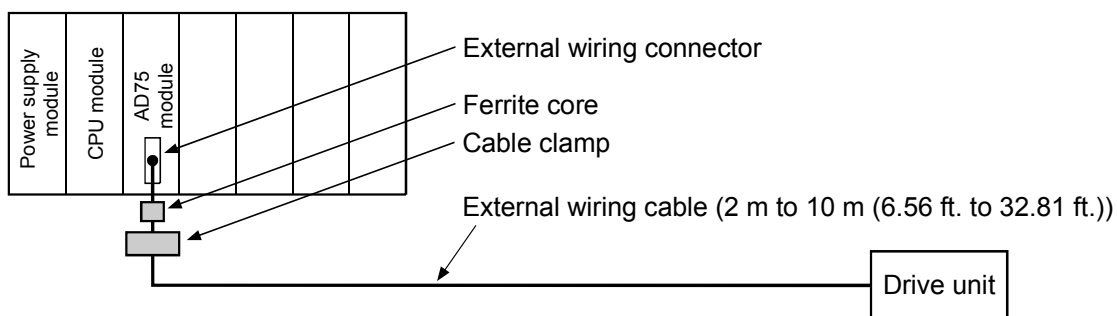
(a) When wiring with a 2 m (6.56 ft.) or less cable

- Ground the shield section of the external wiring cable with the cable clamp.
(Ground the shield at the closest location to the AD75 external wiring connector.)
- Wire the external wiring cable to the drive unit and external device with the shortest practicable length of cable.
- Install the drive unit in the same panel.



(b) When wiring with cable that exceeds 2 m (6.56 ft.), but is 10 m (32.81 ft.) or less

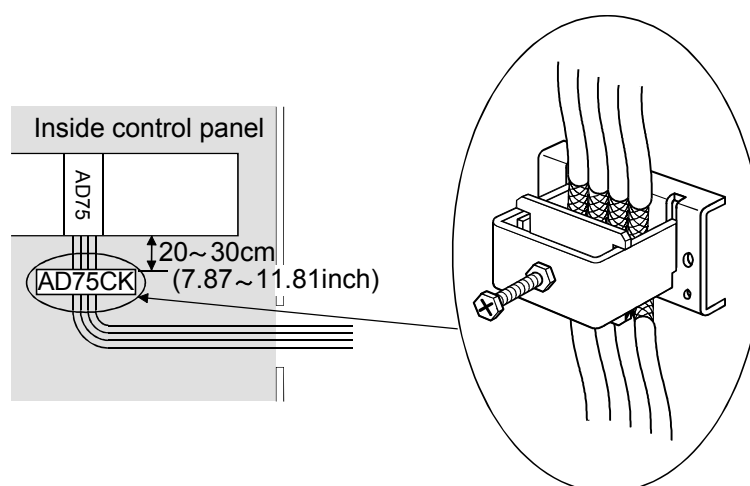
- Ground the shield section of the external wiring cable with the cable clamp.
(Ground the shield at the closest location to the AD75 external wiring connector.)
- Install a ferrite core.
- Wire the external wiring cable to the drive unit and external device with the shortest practicable length of cable.



(c) Ferrite core and cable clamp types and required quantities

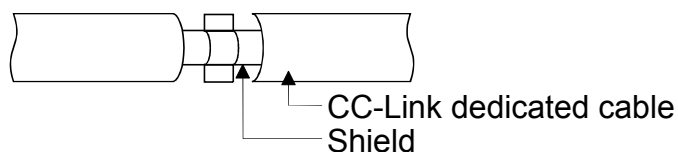
- Cable clamp
Type : AD75CK (Mitsubishi Electric)
- Ferrite core
Type : ZCAT3035-1330 (TDK ferrite core)
- Required quantity

Cable length	Prepared part	Required Qty		
		1 axis	2 axes	3 axes
Within 2 m (6.56 ft.)	AD75CK	1	1	1
2 m (6.56 ft.) to 10m (32.81 ft.)	AD75CK	1	1	1
	ZCAT3035-1330	1	2	3



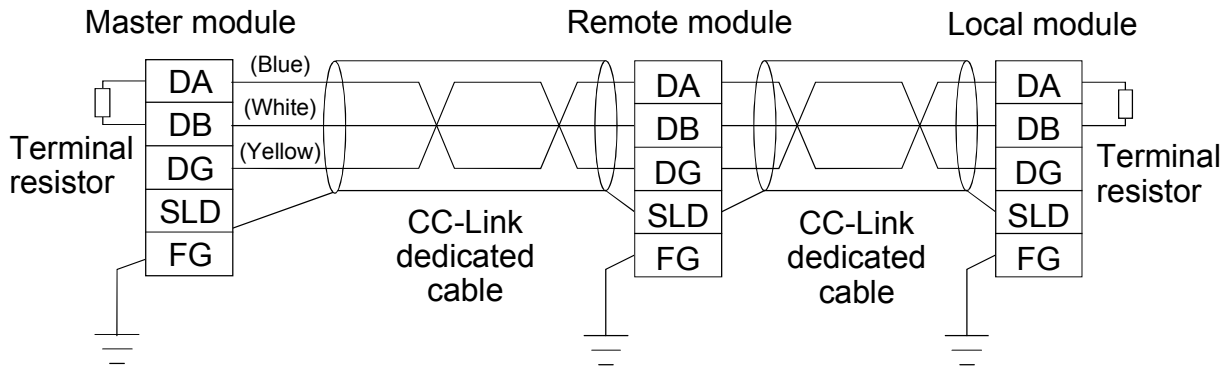
(6) CC-Link Module

- (a) Be sure to ground the cable shield that is connected to the CC-Link module close to the exit of control panel or to any of the CC-Link stations within 30 cm (11.81 in.) from the module or stations. The CC-Link dedicated cable is a shielded cable. As shown in the illustration below, remove a portion of the outer covering and ground as large a surface area of the exposed shield part as possible.



- (b) Always use the specified CC-Link dedicated cable.
- (c) The CC-Link module, the CC-Link stations and the FG line inside the control panel should be connected at the FG terminal as shown in the diagram below.

[Simplified diagram]



- (d) Power line connecting to the external power supply terminal (compliant with I/O power port of CE standard) should be 30m (98.43 ft.) or less. Power line connecting to module power supply terminal (compliant with main power port of CE standard) should be 10m (32.81 ft.) or less.
- (e) A power line connecting to the analog input of the following modules should be 30cm or less.
- AJ65BT-64RD3
 - AJ65BT-64RD4
 - AJ65BT-68TD

3.1.4 Power supply module

The precautions required for each power supply module are described below. Always observe the items noted as precautions.

Model	Precautions
A61P, A61PN, A62P	Use not allowed
A63P	Use a CE-compliant 24VDC power supply in the control panel.
A61PEU, A62PEU	Make sure to short and ground the LG and FG terminals.

3.1.5 Base unit

The following table shows models of base units that are compatible with EMC instructions.

Type	Model name	Applicability
Main base unit	A38HBEU	Applicable
	A3□B, A38HB	Not applicable
Extension base unit	A5□B, A6□B	Applicable

3.1.6 Ferrite core

Use of ferrite cores is effective in reducing the conduction noise in the band of about 10 MHz and radiated noise in 30 to 100 MHz band.

It is recommended to attach ferrite cores when the shield of the shielded cable coming out of control panel does not work effectively, or when emission of the conduction noise from the power line has to be suppressed.*1 The ferrite cores used in our tests are TDK's ZCAT3035.

It should be noted that the ferrite cores should be fitted to the cables in the position immediately before they are pulled out of the enclosure. If the fitting position is improper, the ferrite will not produce any effect.

*1:To response with CE(EN61131-2/A12), make sure to mount 2 or more ferrite cores onto the power supply line. The mounting position should be as near the power supply module as possible.

Ferrite core

Type: ZCAT2235-1030A (TDK ferrite core)

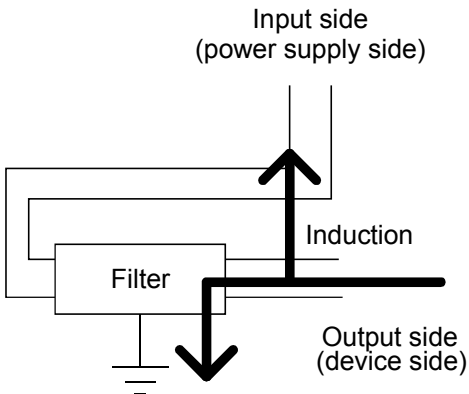
3.1.7 Noise filter (power supply line filter)

A noise filter is a component which has an effect on conducted noise. With the exception of some models, it is not required to fit the noise filter to the power supply line, but fitting it can further suppress noise. (The noise filter has the effect of reducing conducted noise of 10 M Hz or less.) Use any of the following noise filters (double π type filters) or equivalent.

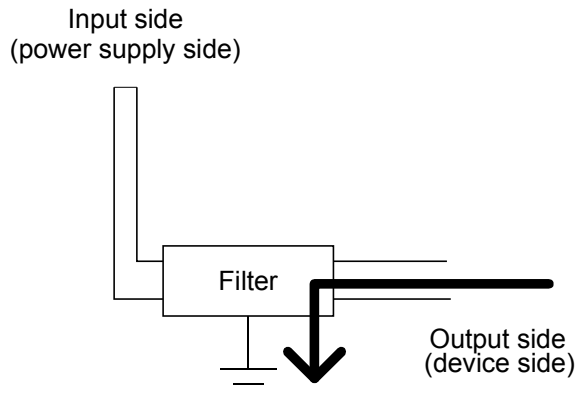
Model name	FN343-3/01	FN660-6/06	ZHC2203-11
Manufacturer	SCHAFFNER	SCHAFFNER	TDK
Rated current	3 A	6 A	3 A
Rated voltage	250 V		

The precautions required when installing a noise filter are described below.

- (1) Do not bundle the wires on the input side and output side of the noise filter. When bundled, the output side noise will be induced into the input side wires from which the noise was filtered.



- (a) The noise will be included when the input and output wires are bundled.



- (b) Separate and lay the input and output wires.

- (2) Earth the noise filter earthing terminal to the control cabinet with the shortest wire possible (approx. 10 cm (3.94 in.)).

3.2 Requirements for Compliance with Low Voltage Directives

The Low Voltage Directives apply to the electrical equipment operating from 50 to 1000VAC or 75 to 1500VDC; the manufacturer must ensure the adequate safety of the equipment.

Guidelines for installation and wiring of MELSEC-QnA series PLC are provided in Section 3.2.1 to 3.2.7 for the purpose of compliance with the EMC Directives. The guidelines are created based on the requirements of the regulations and relevant standards, however, they do not guarantee that the machinery constructed according to them will comply with the Directives.

Therefore, the manufacturer of the machinery must finally determine how to make it comply with the EMC Directives: if it is actually compliant with the EMC Directives.

3.2.1 Standard applied for MELSEC-QnA series PLC

The standard applied for MELSEC-QnA series PLC series is EN61010-1 safety of devices used in measurement rooms, control rooms, or laboratories.

For the modules which operate with the rated voltage of 50 VAC/75 VDC or above, we have developed new models that conform to the above standard. For the modules which operate with the rated voltage under 50 VAC/75 VDC, the conventional models can be used, because they are out of the low voltage directive application range.

3.2.2 Precautions when using the MELSEC-QnA series PLC

Module selection

(1) Power module

For a power module with rated input voltage of 100/200 VAC, select a model in which the internal part between the first order and second order is intensively insulated, because it generates hazardous voltage (voltage of 42.4 V or more at the peak) area.

For a power module with 24 VDC rated input, a conventional model can be used.

(2) I/O module

For I/O module with rated input voltage of 100/200 VAC, select a model in which the internal area between the first order and second order is intensively insulated, because it has hazardous voltage area.

For I/O module with 24 VDC rated input, a conventional model can be used.

(3) CPU module, memory cassette, base unit

Conventional models can be used for these modules, because they only have a 5 VDC circuit inside.

(4) Special function module

Conventional models can be used for the special modules including analog module, network module, and positioning module, because the rated voltage is 24 VDC or smaller.

(5) Display device

Use the CE-marked product.

3.2.3 Power supply

The insulation specification of the power module was designed assuming installation category II. Be sure to use the installation category II power supply to the PLC. The installation category indicates the durability level against surge voltage generated by a thunderbolt. Category I has the lowest durability; category IV has the highest durability.

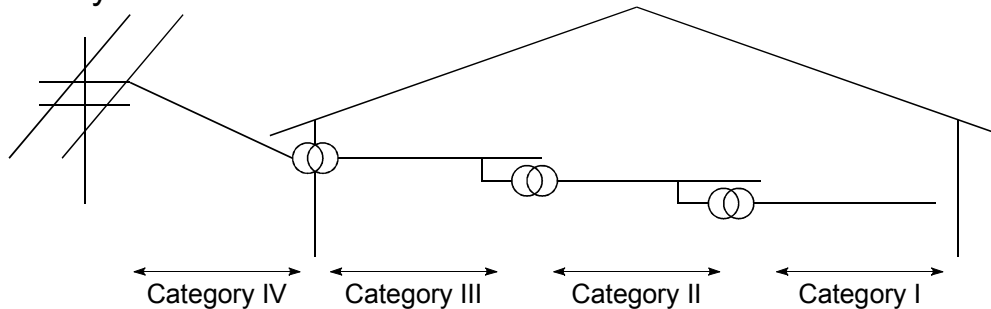


Figure 1. : Installation Category

Category II indicates a power supply whose voltage has been reduced by two or more levels of isolating transformers from the public power distribution.

3.2.4 Control panel

Because the PLC is an open device (a device designed to be stored within another module), be sure to use it after storing in the control panel.

(1) Electrical shock prevention

In order to prevent persons who are not familiar with the electric facility such as the operators from electric shocks, the control panel must have the following functions :

- The control panel must be equipped with a lock so that only the personnel who has studied about the electric facility and have enough knowledge can open it.
- The control panel must have a structure which automatically stops the power supply when the box is opened.
- For electric shock protection, use IP20 or greater control panel.

(2) Dustproof and waterproof features

The control panel also has the dustproof and waterproof functions. Insufficient dustproof and waterproof features lower the insulation withstand voltage, resulting in insulation destruction. The insulation in our PLC is designed to cope with the pollution level 2, so use in an environment with pollution level 2 or below.

Pollution level 1 : An environment where the air is dry and conductive dust does not exist.

Pollution level 2 : An environment where conductive dust does not usually exist, but occasional temporary conductivity occurs due to the accumulated dust. Generally, this is the level for inside the control panel equivalent to IP54 in a control room or on the floor of a typical factory.

Pollution level 3 : An environment where conductive dust exists and conductivity may be generated due to the accumulated dust.
An environment for a typical factory floor.

Pollution level 4 : Continuous conductivity may occur due to rain, snow, etc. An outdoor environment.

As shown above, the PLC can realize the pollution level 2 when stored in a control panel equivalent to IP54.

3.2.5 Module installation


(1) Installing modules contiguously

In Q2AS series PLCs, the left side of each I/O module is left open. When installing an I/O module to the base, do not make any open slots between any two modules. If there is an open slot on the left side of a module with 100/200 VAC rating, the printed board which contains the hazardous voltage circuit becomes bare. When it is unavoidable to make an open slot, be sure to install the blank module (AG60).

3.2.6 Grounding

There are two kinds of grounding terminals as shown below. Either grounding terminal must be used grounded.

Be sure to ground the protective grounding for the safety reasons.

Protective grounding  : Maintains the safety of the PLC and improves the noise resistance.

Functional grounding  : Improves the noise resistance.

3.2.7 External wiring

(1) Module power supply and external power supply

For the remote module which requires 24VDC as module power supply, the 5/12/24/48VDC I/O module, and the intelligent function module (special function module) which requires the external power supply, use the 5/12/24/48VDC circuit which is doubly insulated from the hazardous voltage circuit or use the power supply whose insulation is reinforced.

(2) External devices

When a device with a hazardous voltage circuit is externally connected to the PLC, use a model whose circuit section of the interface to the PLC is intensively insulated from the hazardous voltage circuit.

(3) Intensive insulation

Intensive insulation refers to the insulation with the dielectric withstand voltage shown in Table 1.

Table 1 :Intensive Insulation Withstand Voltage
(Installation Category II, source: IEC664)

Rated voltage of hazardous voltage area	Surge withstand voltage (1.2/50 μ s)
150 VAC or below	2500 V
300 VAC or below	4000 V

4. LOADING AND INSTALLATION

4.1 Installing modules

4.1.1 Precautions for handling of modules

This section describes the precautions that must be taken when handling the CPU, I/O modules, special function modules, power supply module, base units, etc.

- (1) Module enclosure, memory cassette, terminal block connectors and pin connectors are made of resin; do not drop them or subject them to strong impact.
- (2) Do not remove module's printed circuit boards from the plastic casing.
- (3) During wiring, take care to ensure that wiring off cuts, etc. do not get inside the case.
If anything does get inside the case, remove it.
- (4) Tighten the module mounting (unnecessary in normal operating condition) and terminal block screws as indicated below.

Screw	Tightening Torque N · cm
Module mounting screws (M4 screw) (optional)	78 to 118
Terminal block screws	98 to 137

- (5) To install a module, push it firmly into the base unit so that the latch engages properly. To remove a module, press the latch to disengage it from the base unit, then pull the module out (for details, refer to the relevant PLC CPU User's Manual).

4.1.2 Installation environment

The CPU system should not be installed under the following environmental conditions:

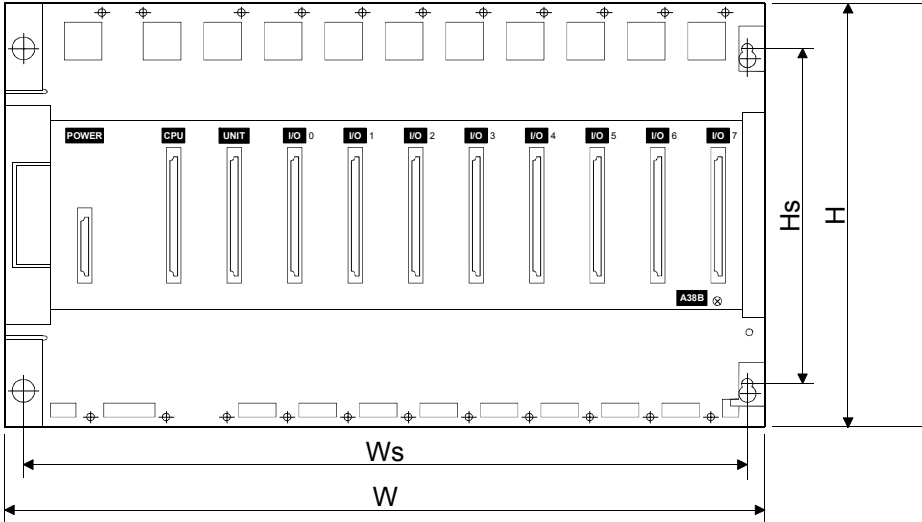
- (1) Places where ambient temperature is outside of 0 to 55°C range.
- (2) Places where ambient humidity is outside of 10 to 90%RH range.
- (3) Places where dewing (condensation) occurs due to sudden temperature changes.
- (4) Places where corrosive or inflammable gas exists.
- (5) Places where a large amount of dust, iron powder and other conductive powder, oil mist, salt or organic solvent exists.
- (6) places exposed to direct sunlight.
- (7) Places where a strong electric or magnetic field exists.
- (8) Places where mechanical vibrations or impacts are transmitted directly to the module body.

4.1.3 Precautions relating to the installation of the unit

The following precautions must be observed when installing a PLC to an operation panel or other bases considering fully the operability, maintainability, and resistance to the environment.

(1) Mounting dimension

Mounting dimensions of each base unit are as follows.

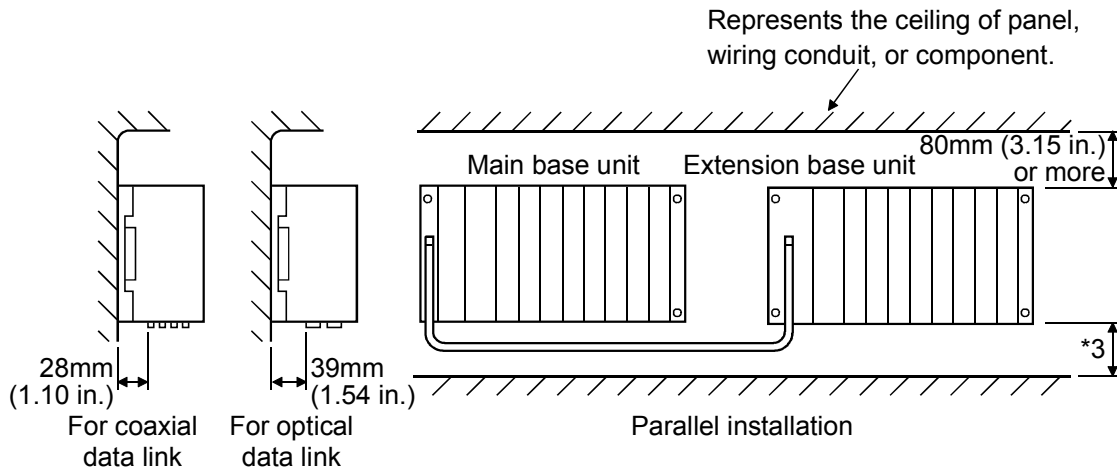


	A32B	A32B-S1	A35B	A38B A38HB A38HBEU	A62B	A65B	A68B	A52B	A55B	A58B
W	247 (9.72)	268 (10.55)	382 (15.03)	480 (18.9)	238 (9.37)	352 (13.86)	466 (18.35)	183 (7.2)	297 (11.69)	411 (16.18)
Ws	227 (8.93)	248 (9.76)	362 (14.25)	460 (18.11)	218 (8.58)	332 (13.07)	446 (17.6)	163 (6.42)	277 (10.9)	391 (15.4)
H	250 (9.84)									
Hs	200 (7.87)									

Dimensions: mm (inch)

(2) Unit mounting position

To ensure proper ventilation and make module replacement easy, provide a clearance of 80 mm (3.15 in.) or more between the top of the unit and any surrounding structure or equipment.



(3) A wiring conduit should be provided if required.

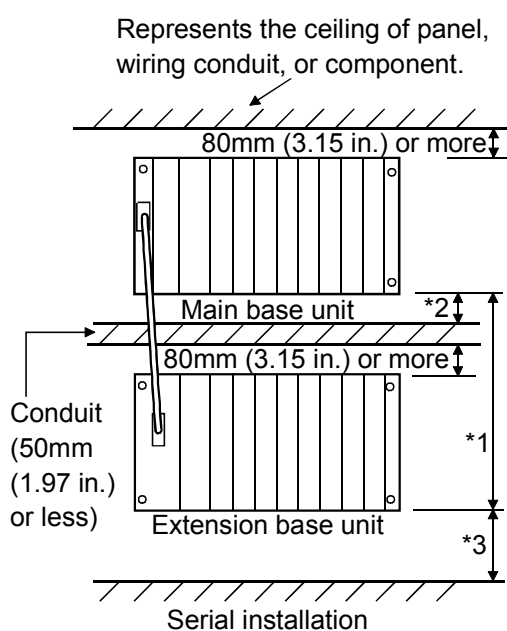
If its clearance above or below the programmable controller is less than indicated in the figure above, observe the following points:

- (a) If the wiring conduit is installed above the programmable controller, its height must be no greater than 50 mm (1.97 in.) to ensure good ventilation.

In addition, there should be adequate space between the programmable controller and the wiring conduit to allow module latches to be pressed.

It will not be possible to replace modules if their latches cannot be pressed.

- (b) If the wiring conduit is installed below the programmable controller, it should be installed so as to allow connection of the optical fiber cable or coaxial cable, taking the minimum bending radius of the cable into consideration.



*1: These dimensions vary depending on the length of the extension cable as follows:

- AC06B cable..... 450mm (17.71 in.) or less
- AC12B cable..... 1050mm (41.34 in.) or less
- AC30B cable..... 2850mm (112.20 in.) or less

*2: When a link module is not used

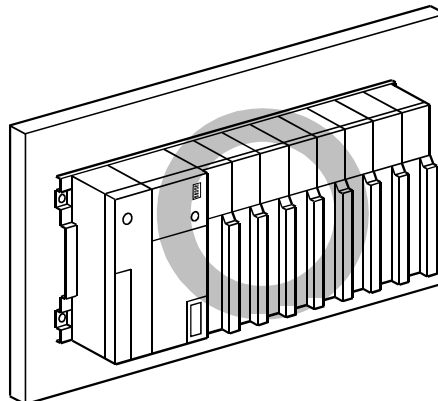
- 50mm (1.97 in.) or more
- When using ϕ 4.5mm optical fiber cable, or coaxial cable..... 100mm (3.94 in.) or more
- When using ϕ 8.5mm optical fiber cable..... 130mm (5.12 in.) or more

*3: When a link module is not used

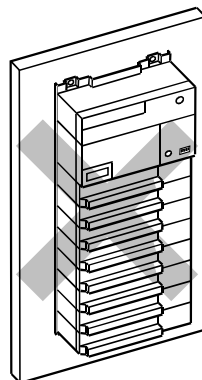
- 50mm (1.97 in.) or more
- When using ϕ 4.5mm optical fiber cable, or coaxial cable..... 100mm (3.94 in.) or more
- When using ϕ 8.5mm optical fiber cable..... 130mm (5.12 in.) or more

(4) Unit mounting orientation

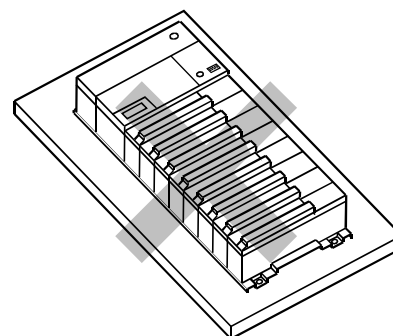
(a) Since the PLC generates heat, mount it in a well-ventilated location and in the orientation shown below.



(b) Do not mount it in either of the orientations shown below.



Vertical

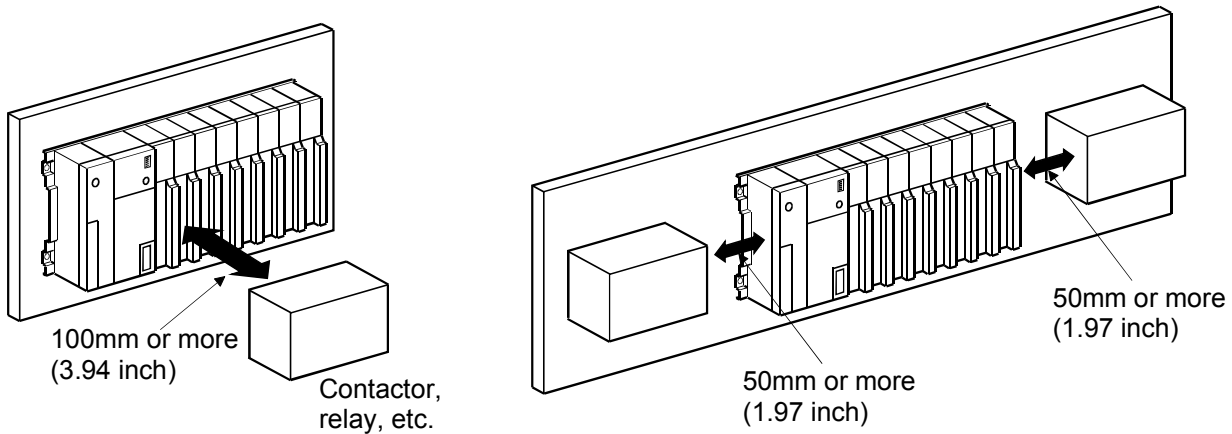


Flat

(5) Mount base unit on a flat surface.

If the mounting surface is uneven, this may strain the printed circuit boards and cause malfunctions.

- (6) Avoid mounting the base unit in proximity to vibration sources such as large magnetic contractors and no-fuse circuit breakers; mount these on a separate panel or at a distance.
- (7) In order to avoid the effects of radiated noise and heat, provide the clearances indicated below between the PLC and devices that generate noise or heat (contactors and relays).
- Required clearance in front of 100mm or more (3.94inch)
 - Required clearance on the right and left of.... 50mm or more (1.97inch)



4.2 Fail-Safe Circuit Concept

When the PLC is powered ON and then OFF, improper outputs may be generated temporarily depending on the delay time and start-up time differences between the PLC power supply and the external power supply for the control target (especially, DC).

For example, if the external power supply for the control target is powered ON and then the PLC is powered ON, the DC output module may generate incorrect outputs temporarily upon the PLC power-ON. Therefore, it is required to build the circuit that energizes the PLC by priority.

The external power failure or PLC failure may lead to the system error. In order to eliminate the possibility of the system error and ensure fail-safe operation, build the following circuit outside the PLC: emergency circuit, protection circuit and interlock circuit, as they could cause machine damages and accidents due to the abovementioned failures.

An example of system design, which is based on fail-safe concept, is provided on the next page.



DANGER

- Create a safety circuit outside the PLC to ensure the whole system will operate safely even if an external power failure or a PLC failure occurs.

Otherwise, incorrect output or malfunction may cause an accident.

(1) For an emergency stop circuit, protection circuit and interlock circuit that is designed for incompatible actions such as forward/reverse rotation or for damage prevention such as the upper/lower limit setting in positioning, any of them must be created outside the PLC.

(2) When the PLC detects the following error conditions, it stops the operation and turn off all the outputs.

- The overcurrent protection device or overvoltage protection device of the power supply module is activated.
- The PLC CPU detects an error such as a watchdog timer error by the self-diagnostics function.

In the case of an error of a part such as an I/O control part that cannot be detected by the PLC CPU, all the outputs may turn on. In order to make all machines operate safely in such a case, set up a fail-safe circuit or a specific mechanism outside the PLC.


Refer to "LOADING AND INSTALLATION" in this manual for example fail safe circuits.


(3) Depending on the failure of the output module's relay or transistor, the output status may remain ON or OFF incorrectly. For output signals that may lead to a serious accident, create an external monitoring circuit.

- If load current more than the rating or overcurrent due to a short circuit in the load has flowed in the output module for a long time, it may cause a fire and smoke. Provide an external safety device such as a fuse.
- Design a circuit so that the external power will be supplied after power-up of the PLC.

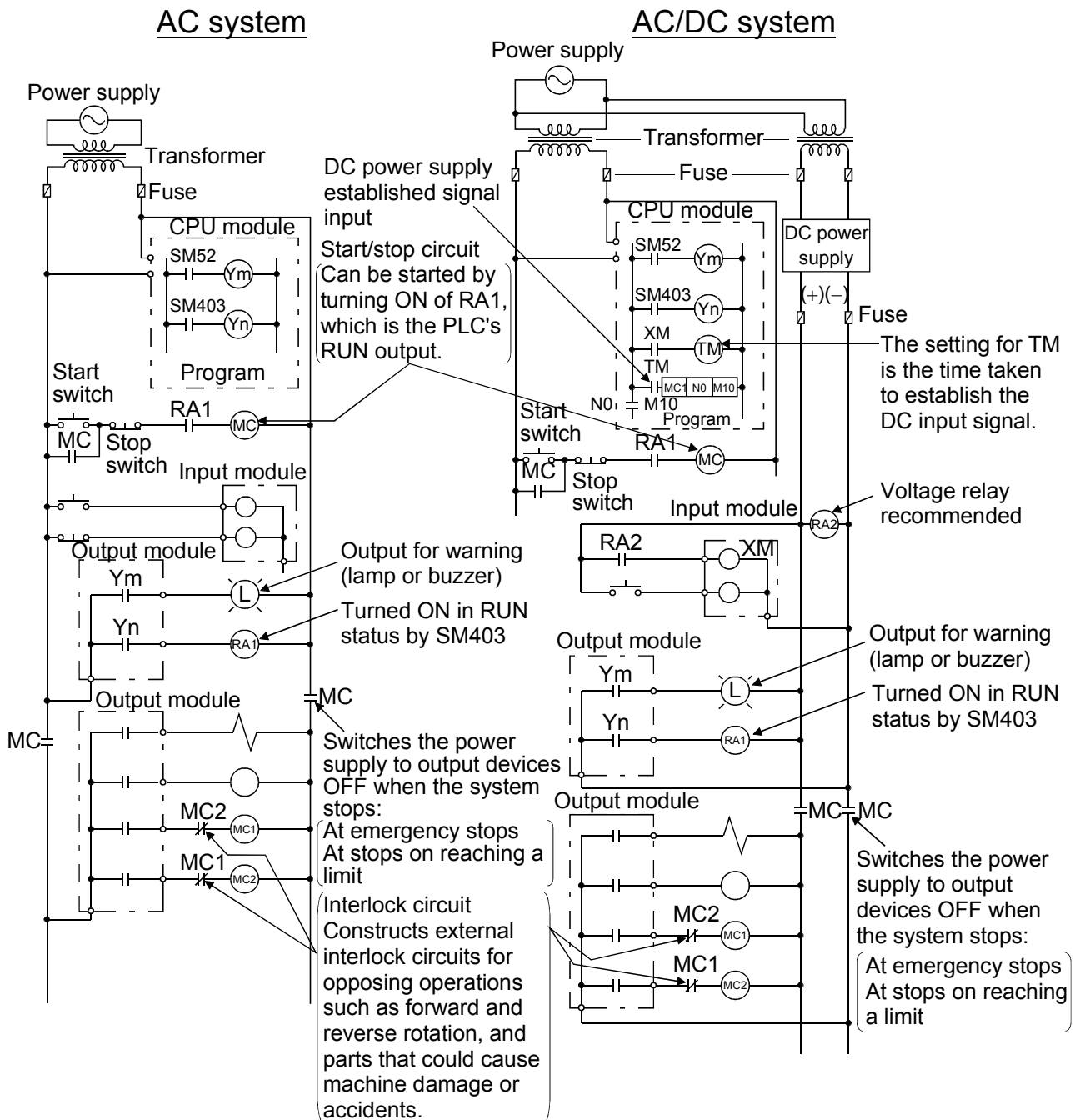
Activating the external power supply prior to the PLC may result in an accident due to incorrect output or malfunction.

- For the operation status of each station at a communication error in data link, refer to the respective data link manual. The communication error may result in an accident due to incorrect output or malfunction.

-  **DANGER** ● When controlling a running PLC (data modification) by connecting a peripheral device to the CPU module or a PC to a special function module, create an interlock circuit on sequence programs so that the whole system functions safely all the time.
- Also, before performing any other controls (e.g. program modification, operating status change (status control)), read the manual carefully and ensure the safety.
- In these controls, especially the one from an external device to a PLC in a remote location, some PLC side problem may not be resolved immediately due to failure of data communications.
- To prevent this, create an interlock circuit on sequence programs and establish corrective procedures for communication failure between the external device and the PLC CPU.
- When setting up the system, do not allow any empty slot on the base unit.
If any slot is left empty, be sure to use a blank cover (AG60) or a dummy module (AG62) for it.
When using the extension base unit, A52B, A55B or A58B, attach the included dustproof cover to the module in slot 0. Otherwise, internal parts of the module may be fried in the short circuit test or when an overcurrent or overvoltage is accidentally applied to external I/O section.

-  **CAUTION** ● Do not install the control lines or communication cables together with the main circuit or power lines, or bring them close to each other.
- Keep a distance of 100mm (3.94inch) or more between them.
- Failure to do so may cause malfunctions due to noise.
- If having read register R outside the allowable range with the MOV instruction, the file register data will be FFFFH. Using this as it is may cause malfunctions. Pay attention not to use any out-of-range file register when designing sequence programs. For instruction details, refer to the programming manual.
 - When an output module is used to control the lamp load, heater, solenoid valve, etc., a large current (ten times larger than the normal one) may flow at the time that the output status changes from OFF to ON. Take some preventive measures such as replacing the output module with the one of a suitable current rating.

(1) System design circuit example



The procedures used to switch on the power supply are indicated below.

- AC system**
- [1] Switch the power supply ON.
 - [2] Set the CPU module to RUN.
 - [3] Switch the start switch ON.
 - [4] The output devices are driven in accordance with program when the magnetic contactor (MC) turns ON.

- AC/DC system**
- [1] Switch the power supply ON.
 - [2] Set the CPU module to RUN.
 - [3] Switch RA2 ON when the DC power supply starts.
 - [4] Switch the timer (TM) ON when the DC power supply reaches working voltage. (The set value for TM must be the time it takes for 100% establishment of the DC power after RA2 is switched ON. Make this set value 0.5 seconds.)
 - [5] Switch the start switch ON.
 - [6] The output devices are driven in accordance with the program when the magnetic contactor (MC) comes ON. (If a voltage relay is used at RA2, no timer (TM) is necessary in the program.)

(2) Fail-safe measures to cover the possibility of PLC failure

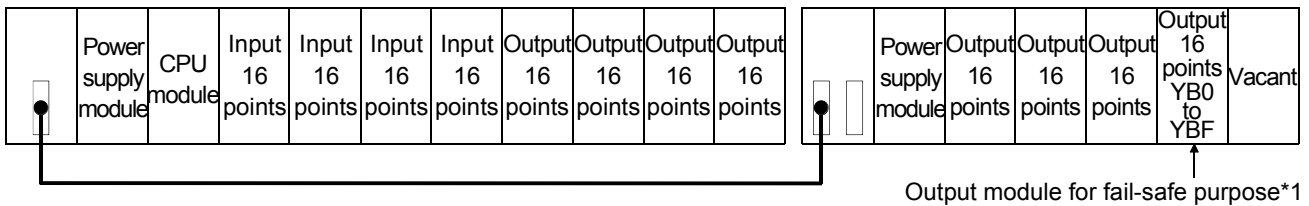
Problems with a CPU module and memory can be detected by the self diagnostics function. However, problems with I/O control area may not be detected by the CPU module.

In such cases, all I/O points turn ON or OFF depending on the problem, and normal operation and safety cannot be maintained.

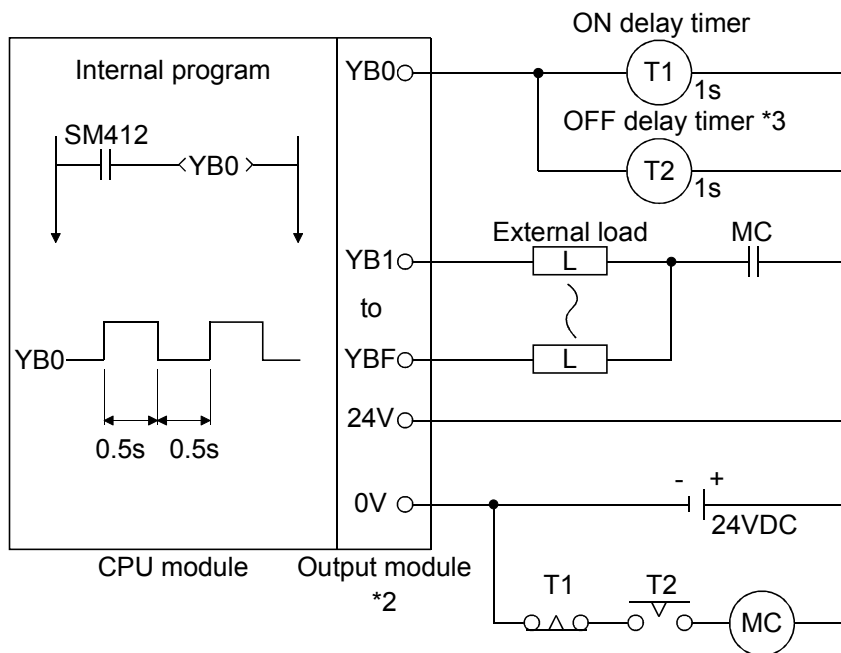
Though Mitsubishi PLCs are manufactured under strict quality control, they may fail or malfunction due to unspecified reasons. To prevent the whole system failure, machine breakdown, and accidents, build a fail-safe circuit outside the PLC.

Examples of a system and its fail-safe circuitry are described below:

<System example>



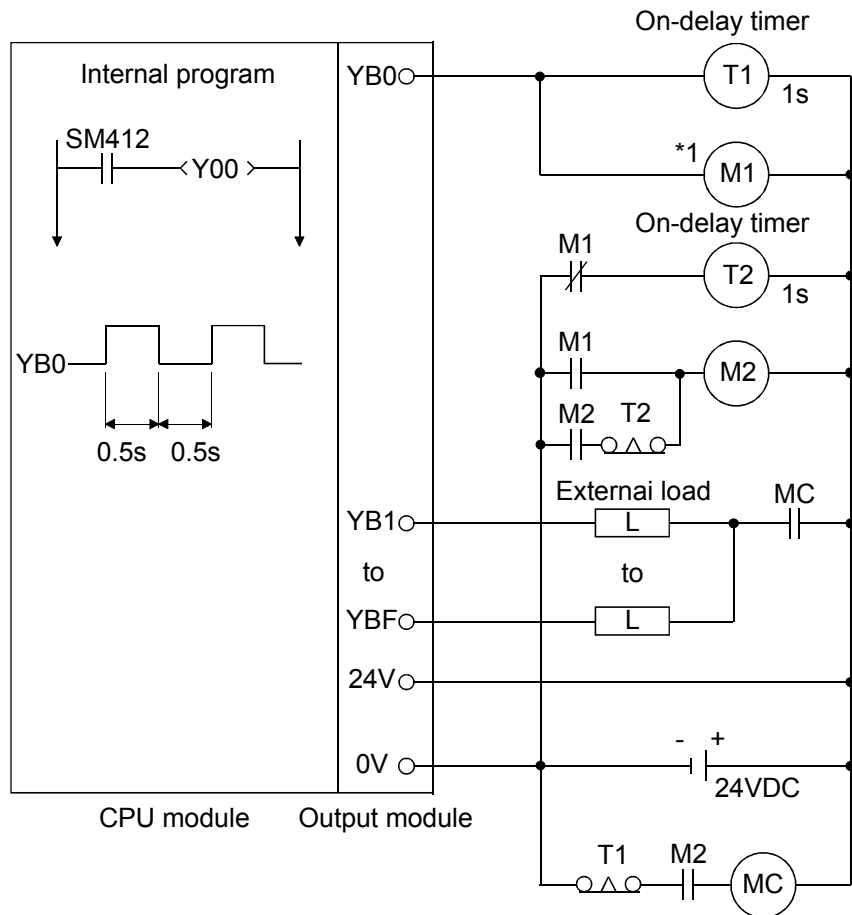
*1: The output module for fail-safe purpose should be mounted on the last slot of the system. (YB0 to YBF in the above system.)



*2: Since YB0 turns ON and OFF alternatively at 0.5 second intervals, use a contactless output module (a transistor is used in the above example).

*3: If an offdelay timer (especially miniature timer) is not available, construct the failsafe circuit using an ondelay timer shown on the next page.

When constructing a failsafe circuit using ondelay timers only



*1: Use a solid state relay for the M1 relay.

4.3 Power supply connection

4.3.1 Performance Specifications for Power Supply Modules

(1) Standard power supply module

Table 4.1 Power Supply Module Specifications

Item		Specifications						
		A61P	A61PN	A62P	A63P	A65P	A66P	A67P
Base unit position		Power supply module slot					I/O module slot	Power supply module slot
Input voltage		100 to 120 VAC ^{+10%} _{-15%} (85 to 132 VAC)		24VDC ^{+30%} _{-35%} (15.6 to 31.2 VDC)	100 to 120 VAC ^{+10%} _{-15%} (85 to 132 VAC)		110 VDC (85 to 140 VDC)	
		200 to 240 VAC ^{+10%} _{-15%} (170 to 264 VAC)			200 to 240 VAC ^{+10%} _{-15%} (170 to 264 VAC)			
Input frequency		50/60 Hz $\pm 5\%$		—	50/60 Hz $\pm 5\%$		—	
Input voltage distortion factor.		Within 5% (Refer to Section 4.4)		—	Within 5% (Refer to Section 4.4)		—	
Max. input apparent power		160 VA	155 VA	65 W	110 VA	95 VA	65 W	
Inrush current		20 A, within 8 ms *4		100 A, within 1 ms	20 A, within 8 ms *4		20 A, within 8 ms	
Rated output current	5 VDC	8 A	5 A	8 A	2 A	—	8 A	
	24 VDC	—	0.8 A	—	1.5 A	1.2 A	—	
*1 Overcurrent protection	5 VDC	8.8 A or higher	5.5 A or higher	8.5 A or higher	2.2 A or higher	—	8.5 A or higher	
	24 VDC	—	1.2 A or higher	—	2.3 A or higher	1.7 A or higher	—	
*2 Overvoltage protection	5 VDC	5.5 to 6.5 V	5.5 to 6.5 V	5.5 to 6.5 V	5.5 to 6.5 V	—	5.5 to 6.5 V	
	24 VDC	—						
Efficiency		65 % or higher						
Withstanding voltage		1500 VAC for 1 minute between all AC external terminals together and ground 500 VAC for 1 minute between all DC external terminals together and ground						
Noise durability		Noise voltage 1500 V _{P-P} Noise width 1 μ s, Noise frequency 25 to 60 Hz (noise simulator condition)		Noise voltage 500 V _{P-P} Noise width 1 μ s, Noise frequency 25 to 60 Hz (noise simulator condition)	Noise voltage 1500 V _{P-P} Noise width 1 μ s, Noise frequency 25 to 60 Hz (noise simulator condition)			
Insulation resistance		10 M Ω or higher, measured with a 500 VDC insulation resistance tester						
Power indicator		Power LED display						
Terminal screw size		M4 \times 0.7 \times 6				M3 \times 0.5 \times 6	M4 \times 0.7 \times 6	

Table 4.1 Power Supply Module Specifications

Item	Specifications						
	A61P	A61PN	A62P	A63P	A65P	A66P	A67P
Applicable wire size	0.75 to 2 mm ²						
Applicable solderless terminal	R1.25-4, R2-4, RAV1.25, RAV2-4					R1.25-3, R2-3 RAV1.25-3, RAV2-3	R1.25-4, R2-4 RAV1.25-4, RAV2-4
Applicable tightening torque	78 to 118 N · cm					39 to 59 N · cm	78 to 118 N · cm
External dimensions	250 (H) × 55 (W) × 121 (D) (9.8 × 2.1 × 4.7) mm (inch)					250 (H) × 37.5 (W) × 121 (D) (9.8 × 1.5 × 4.7)	250 (H) × 55 (W) × 121 (D) (9.8 × 2.1 × 4.7)
Weight	0.98 kg	0.75 kg	0.94 kg	0.8 kg	0.94 kg	0.75 kg	0.8 kg
Allowable momentary power interruption time *3	Less than 20ms			Less than 1ms	Less than 20ms	—	Less than 20ms (at 100 VDC)

REMARK

The A66P module occupies 1 slot

(2) CE marked power supply module

Table 4.2 Power Supply Module Specifications

Item		Specifications	
		A61PEU	A62PEU
Base unit loading position		Power supply module slot	
Input voltage		100 to 120 / 200 to 240 VAC ^{+10%} _{-15%}	
Input frequency		50/60 Hz $\pm 5\%$	
Input voltage distortion factor		Within 5% (Refer to Section 4.4)	
Max. input apparent power		130 VA	155 VA
Inrush current		20 A, within 8 ms *4	
Rated output current	5 VDC	8 A	5 A
	24 VDC	—	0.8 A
Overcurrent protection *1	5 VDC	8.8 A or higher	5.5 A or higher
	24 VDC	—	1.2 A or higher
Overvoltage protection *2	5 VDC	5.5 to 6.5 V	—
	24 VDC	—	—
Efficiency		65 % or higher	
Dielectric withstand voltage	Acrosis primary circuit and FG	2830VAC rms/3 cycles (2000m (6562 ft.))	
Noise durability		Noise voltage IEC801-4; 2kV, 1500 V _{P-P} Noise width 1 μ s, Noise frequency 25 to 60 Hz (noise simulator condition)	
Insulation resistance		10 M Ω or higher, measured with a 500 VDC insulation resistance tester	
Power indicator		Power LED display	
Terminal screw size		M4 \times 0.7 \times 6	
Applicable wire size		0.75 to 2 mm ²	
Applicable solderless terminal		RAV1.25-4, RAV2-4	
Applicable tightening torque		98 to 137 N \cdot cm	
External dimensions		250 (H) \times 55 (W) \times 121 (D) (9.8 \times 2.1 \times 4.7) mm (inch)	
Weight		0.8 kg	0.9 kg
Allowable momentary power interruption time *3		Less than 20ms	

POINT

*1: Overcurrent protection

(a) The overcurrent protection device shuts off the 5VDC and/or 24VDC circuit(s) and stops the system if the current exceeding the specified value flows in the circuit(s).

As this results in voltage drop, the power supply module LED turns OFF or is dimly lit.

(b) After that, eliminate the causes of overcurrent, e.g., insufficient current capacity and short circuit, and then start the system.

When the current has reached the normal value, the initial start up of the system will be performed.

*2: Overvoltage protection

The overvoltage protection shuts off the 5VDC circuit and stops the system if the overvoltage of 5.5 to 6.5V is applied to the circuit.

This results in the power supply module LED turning OFF.

When restarting the system, power OFF and ON the input power supply, and the initial start up of the system will be performed.

If the system is not booted and the LED remains off, this means that the power supply module has to be replaced.

*3: Allowable momentary power failure period

The PLC CPU allowable momentary power failure period varies with the power supply module used.

In case of the A63P power supply module, the allowable momentary power failure period is defined as the time from when the primary side of the stabilized power supply for supplying 24VDC to the A63P is turned OFF until when the voltage (secondary side) has dropped from 24VDC to the specified value (15.6VDC) or less.

*4: Inrush current

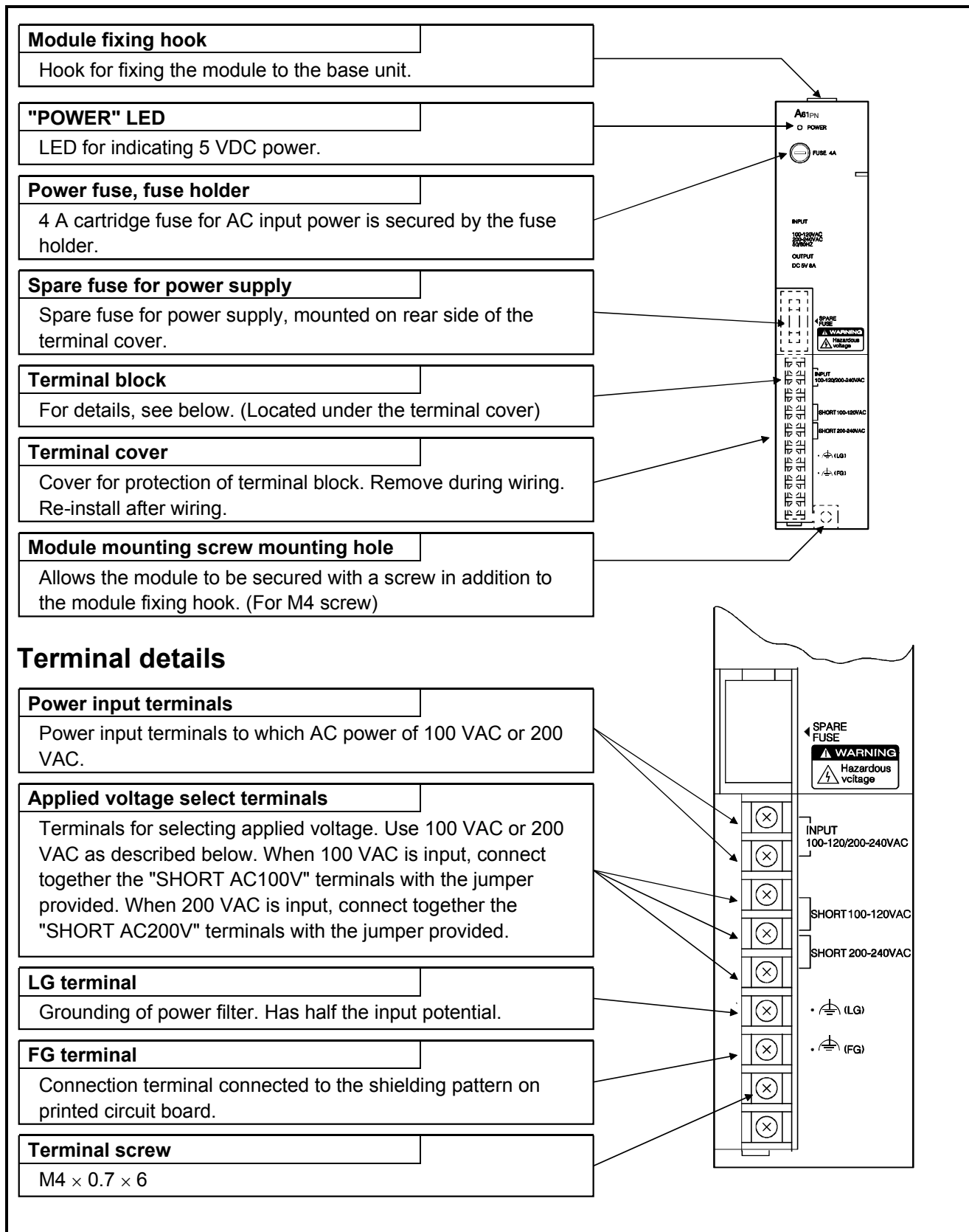
If the power supply module is re-powered ON right after powered OFF (within 5seconds), the inrush current exceeding the specified value (2ms or less) may be generated. Therefore, make sure to re-power ON the module 5seconds after power off.

When selecting a fuse or breaker for external circuit, consider the above point as well as meltdown and detection characteristics.

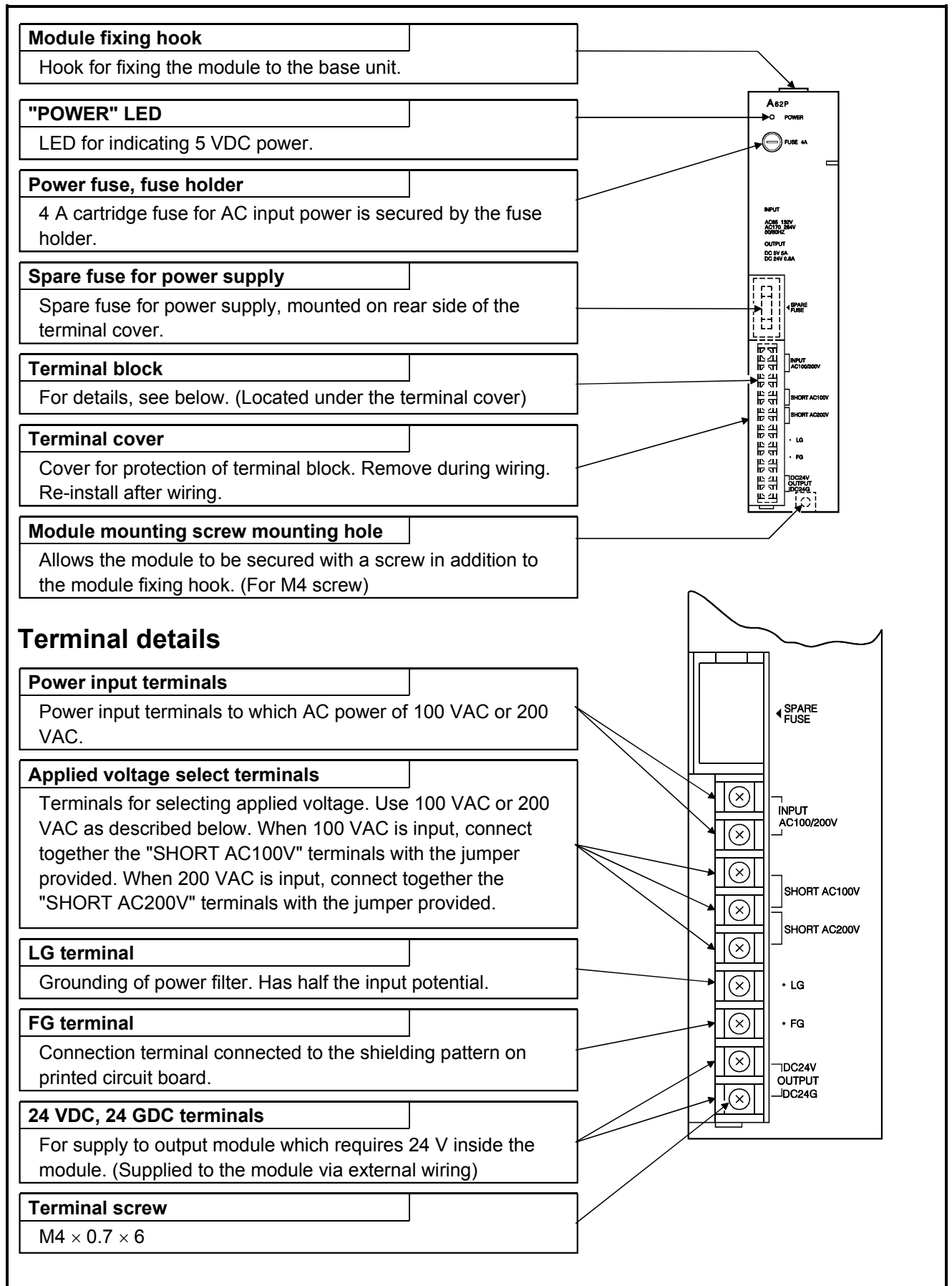
4.3.2 Part names and settings of Power Supply Module

The parts of the power supply modules are explained belows.

(1) Parts of the A61P, A61PN, A61PEU modules



(2) Parts of the A62P, A62PEU and A65P modules



(3) Parts of the A63P and A67P modules

Module fixing hook

Hook for fixing the module to the base unit.

"POWER" LED

LED for indicating 5 VDC power.

Power fuse, fuse holder

Cartridge fuse for DC input power is fixed by the fuse holder.
The rating for the fuses are as follows.
A63P: 6.3 A (SM6.3 A or FGTA 250V 6A)
A67P: 4 A (GTH4 or FGTA 250V 4A)

Spare fuse for power supply

Spare fuse for power supply, mounted on rear side of the terminal cover.

Terminal block

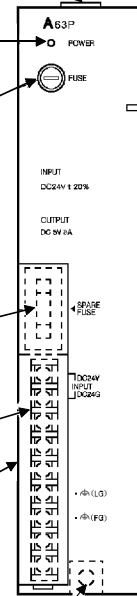
For details, see below. (Located under the terminal cover)

Terminal cover

Cover for protection of terminal block. Remove during wiring.
Re-install after wiring.

Module mounting screw mounting hole

Allows the module to be secured with a screw in addition to the module fixing hook. (For M4 screw)



Terminal details

Power input terminals

Power input terminals for A63P: 24 VDC, A67P: 100 VDC.
The power fuse will be blown if the 24 VDC connection is made with the wrong polarity.

LG terminal

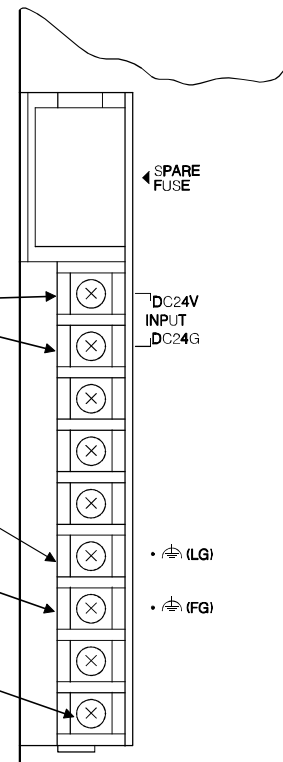
Grounding of power filter.

FG terminal

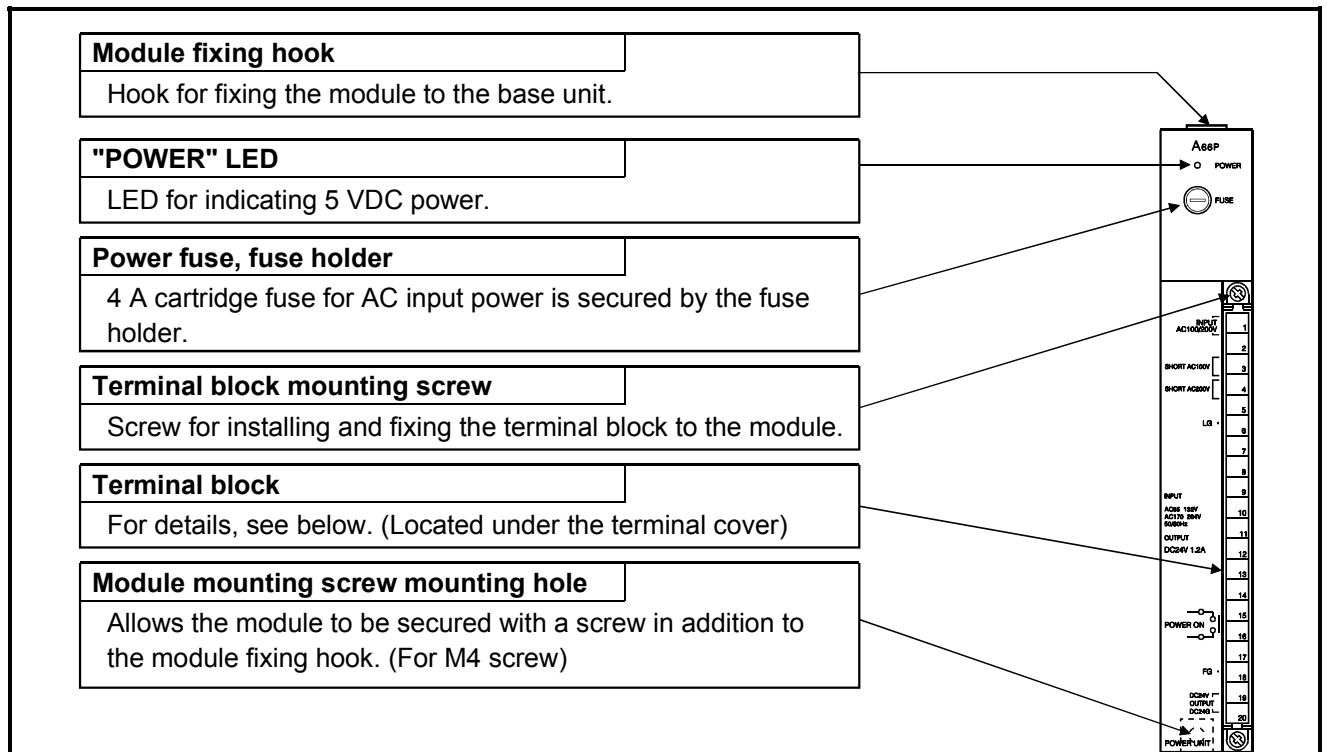
Connection terminal connected to the shielding pattern on printed circuit board.

Terminal screw

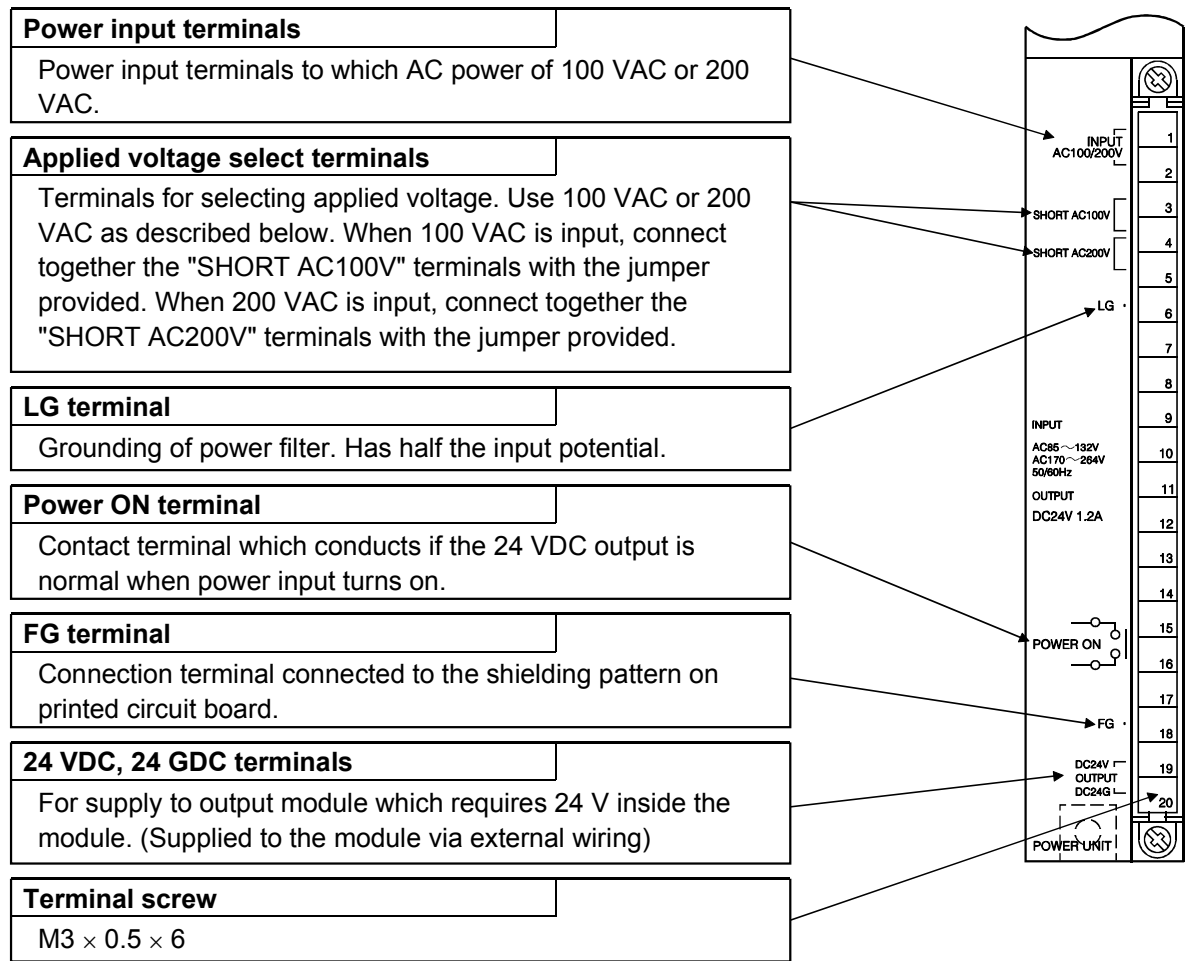
M4 × 0.7 × 6



(4) Parts of the A66P module

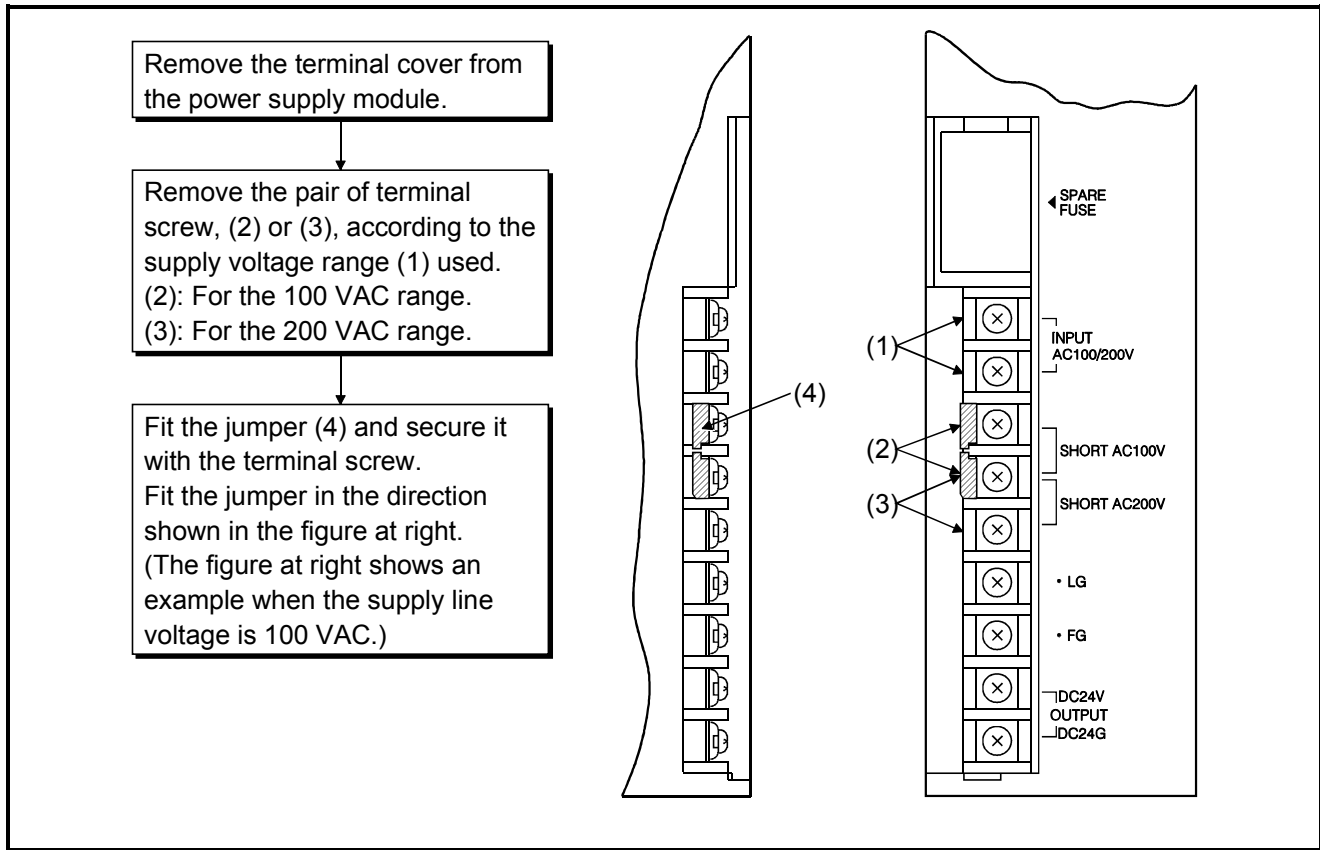


Terminal details



(5) Settings

For A61P(EU), A61PN, A62P(EU), A65P or A66P, the input voltage range, 100V or 200V, must be specified by placing a jumper (supplied) across two terminals as described below:



POINT

If the setting differs from the supply line voltage, the following occurs: do not mis-set.

	Supply Line Voltage	
	100VAC	200VAC
Setting to 100VAC (jumper fitted as indicated at (2))	—	The power supply module is damaged. (The CPU module is not damaged.)
Setting to 200VAC (jumper fitted as indicated at (3))	No error occurs in the module. However, the CPU module does not operate.	—
No setting (jumper not fitted)	No error occurs in the module. However, the CPU module does not operate.	

4.3.3 Wiring instructions

Instructions for wiring the power supply cable and I/O cable.



DANGER

- Be sure to shut off all phases of the external power supply used by the system before wiring.
Failure to do so may result in an electric shock or damage of the product.
- Before energizing and operating the system after wiring, be sure to attach the terminal cover supplied with the product.
Failure to do so may cause an electric shock.

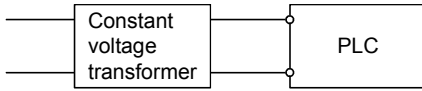


CAUTION

- Always ground the FG and LG terminals to the protective ground conductor.
Failure to do so may cause an electric shock or malfunctions.
- Wire the module correctly after confirming the rated voltage and terminal layout.
Connecting a power supply of a different voltage rating or incorrect wiring may cause a fire or failure.
- Do not connect multiple power supply modules to one module in parallel. The power supply modules may be heated, resulting in a fire or failure.
- Press, crimp or properly solder the connector for external connection with the specified tool.
Incomplete connection may cause a short circuit, fire or malfunctions.
- Tighten terminal screws within the specified torque range. If the screw is too loose, it may cause a short circuit, fire or malfunctions.
If too tight, it may damage the screw and/or the module, resulting in a short circuit or malfunctions.
- Carefully prevent foreign matter such as dust or wire chips from entering the module.
Failure to do so may cause a fire, failure or malfunctions.
- Install our PLC in a control panel for use.
Wire the main power supply to the power supply module installed in a control panel through a distribution terminal block.
Furthermore, the wiring and replacement of a power supply module have to be performed by a maintenance worker who acquainted with shock protection.
(For the wiring methods, refer to Q2ACPU(S1)/ Q3ACPU /Q4ACPU User's Manual)

(1) Power Supply Connection

- (a) When voltage fluctuations are larger than the specified value, connect a constant-voltage transformer.



- (b) Use a power supply which generates minimal noise between wires and between the PLC and ground. If excessive noise is generated, connect an insulating transformer.



- (c) When a power transformer or insulating transformer is employed to reduce the voltage from 200 VAC to 100 VAC, use one with a capacity greater than those indicated in the following table.

Power Supply Module	Transformer Capacity
A61P, A61PN	160VA × n
A62P	155VA × n
A65P	110VA × n
A66P	95VA × n

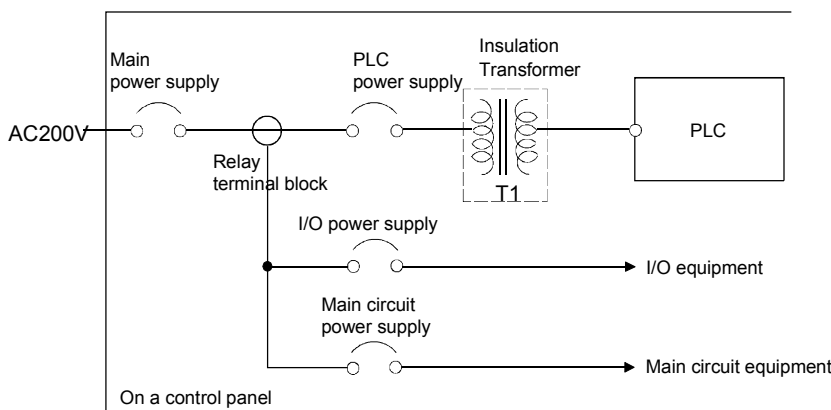
n: Stands for the number of power supply modules.

- (d) Provide separate wiring systems for the PLC power, I/O devices, and operating devices as shown below.

If the wiring is influenced by excessive noise, connect an isolation transformer.

- (e) Taking rated current or inrush current into consideration when wiring the power supply, be sure to connect a breaker or an external fuse that have proper blown and detection.

When using a single PLC, a 10A breaker or an external fuse are recommended for wiring protection.



REMARK

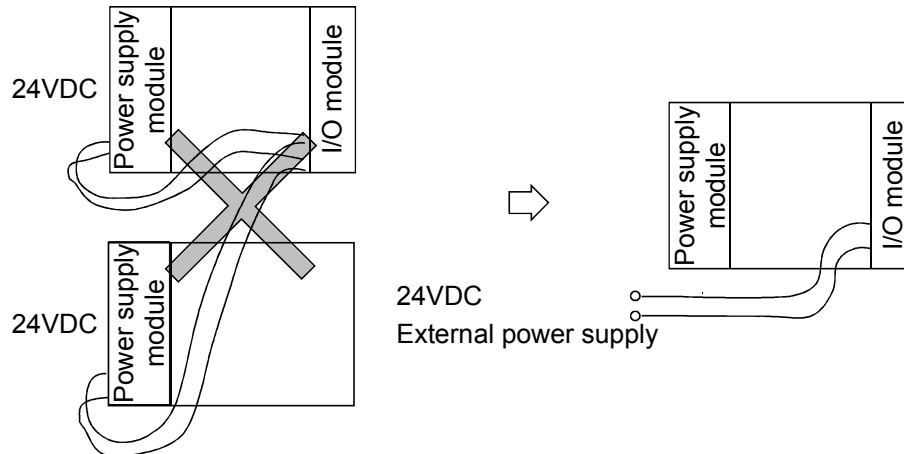
As safety measures, install a switch for use with "online I/O module change" only to each of the corresponding modules and equipment.

- (f) Note on using the 24 VDC output of the A62P, A65P and A66P power supply module.

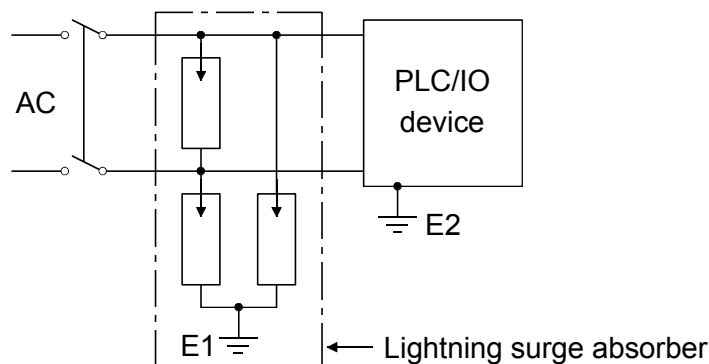


CAUTION • Do not connect multiple power supply modules to one module in parallel. The power supply modules may be heated, resulting in a fire or failure.

If the 24 VDC output capacity is insufficient for one power supply module, supply 24 VDC from the external 24 VDC power supply as shown below:



- (g) 100VAC, 200VAC, and 24VDC wires should be twisted as tightly as possible, and connect the modules at the shortest distance between them.
To minimize voltage drop, use thick wires (MAX. 2mm²) where possible.
- (h) Do not bind 100VAC and 24VDC wires together with main circuit (high tension and large current) wires or I/O signal lines (including common line) nor place them near each other. Provide 100mm (3.94 inch) clearance between the wires if possible.
- (i) As a measure against surges caused by lightning, insert a lightning surge absorber as shown below.



POINT

- (1) Provide separate grounding for the lightning surge absorber (E1) and the PLC (E2).
- (2) Select a lightning surge absorber whose maximum allowable circuit voltage is higher than the circuit voltage at the maximum power supply voltage.

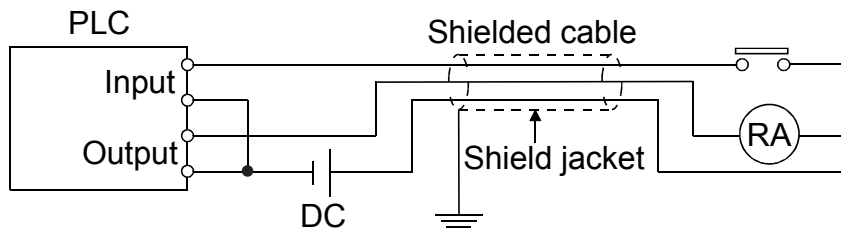
(2) Wiring to I/O device

- (a) The solderless terminal with insulation sleeve is inapplicable to a terminal block.

It is advisable to cover the wire connection part of a terminal with a mark tube or insulation tube.

- (b) Install wiring to a terminal block using the cable of core diameter 0.3 to 0.75mm², and outside diameter 2.8mm or less.
- (c) Run the I/O line and output line away from each other.
- (d) When the main circuit line and power line cannot be separated, use a shielding cable and ground it on the PLC side.

However, ground it on the opposite side in some cases.



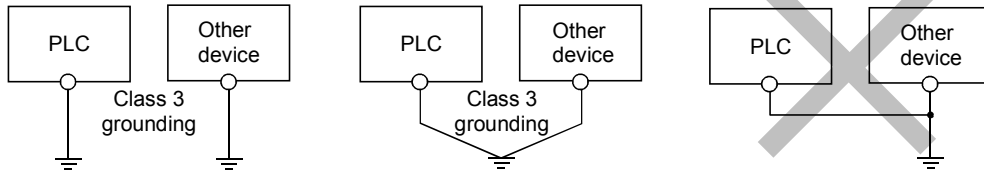
- (e) When cables are run through pipes, securely ground the pipes.
- (f) Run the 24VDC input line away from the 100VAC and 200 VAC lines.
- (g) The cabling of 200m (656.2ft.) or longer distance may produce leakage current depending on the capacity between lines and result in an accident.
- (h) As a countermeasure against the power surge due to lightning, separate the AC wiring and DC wiring and connect a surge absorber for lightning as shown in (i) of item (1). Failure to do so increases the risk of I/O device failure due to lightning.

(3) Grounding



CAUTION ● Be sure to ground the FG terminals and LG terminals to the protective ground conductor. Not doing so could result in electric shock or erroneous operation.

- (a) Carry out the independent grounding if possible. (Grounding resistance 100Ω or less.)
- (b) If the independent grounding is impossible, carry out the shared grounding (2) as shown below.

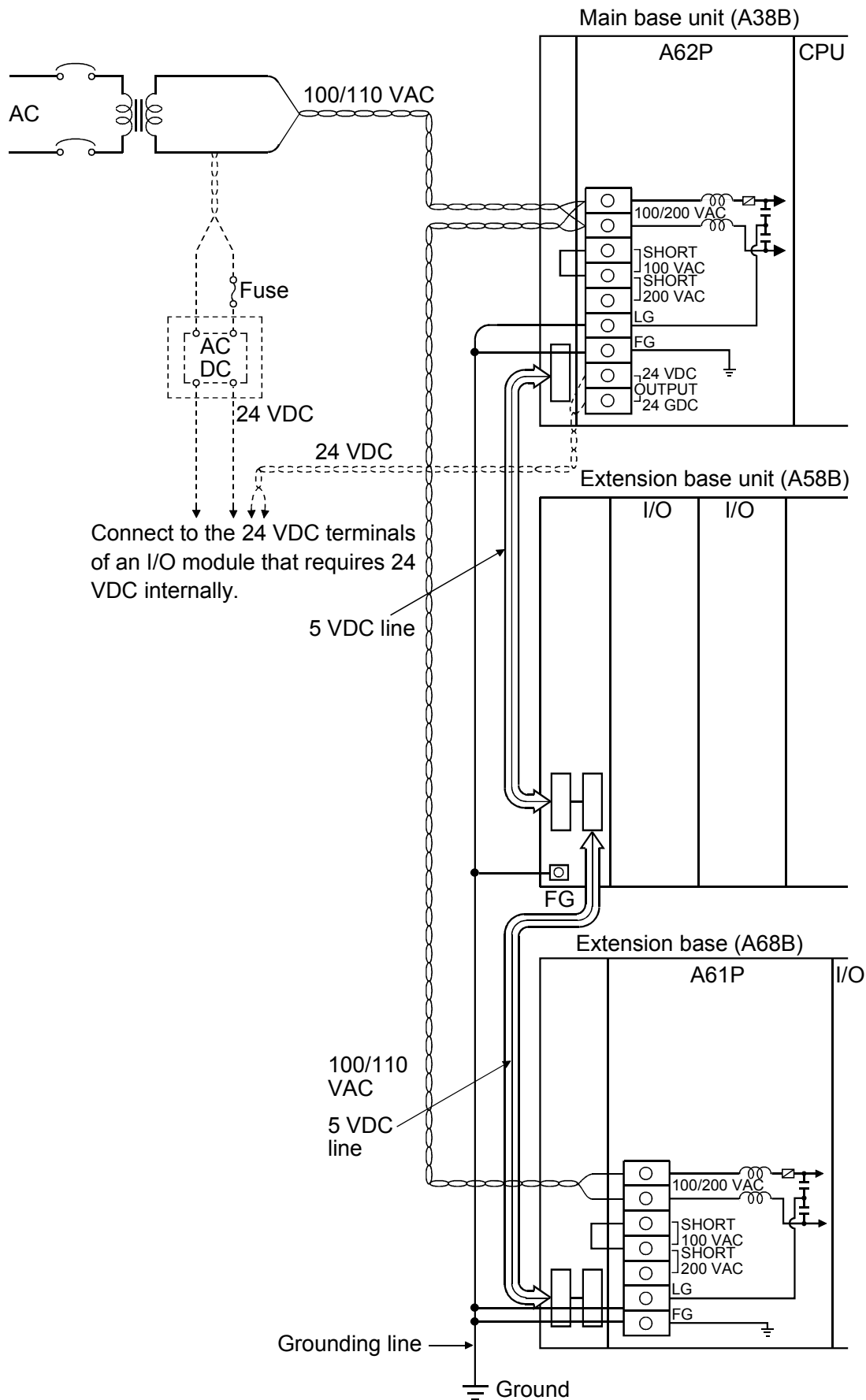


(1) Independent grounding.....Best (2) Shared grounding.....Good (3) Common grounding.....Not allowed

- (c) Use the cable of 2mm^2 or more for grounding.
Set the grounding point closer to the PLC to make the grounding cable short as possible.
- (d) If a malfunction occurs due to earthing, separate either LG or FG of the base module, the device combination, or all the connection from the earthing.

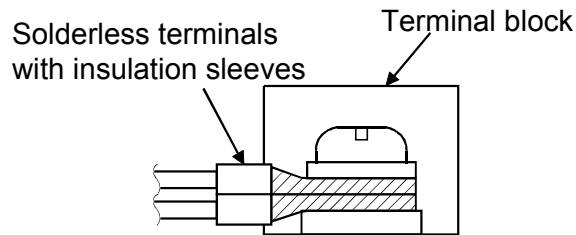
4.3.4 Wiring to module terminals

The following is an example of wiring of power supply and grounding wires to main base unit and extension base units.



POINT

- (1) Use the thickest possible (max. 2 mm² (14 AWG)) wires for the 100/200 VAC and 24 VDC power cables. Be sure to twist these wires starting at the connection terminals. For wiring a terminal block, be sure to use a solderless terminal. To prevent short-circuit due to loosening screws, use the solderless terminals with insulation sleeves of 0.8 mm (0.03 inch) or less thick. The number of the solderless terminals to be connected for one terminal block are limited to 2.



- (2) Be sure to ground the LG and FG terminals. Failure to do so may cause the PLC to be susceptible to noise. Note that LG terminals include the potential as half as that of input voltage; you might get an electric shock when you touch them.

4.4 Precaution when Connecting the Uninterruptible Power Supply (UPS)

Be sure of the following items when connecting the PLC system to the uninterruptible power supply (abbreviated as UPS hereafter):

As for UPS, use the online power system or online interactive system with a voltage distortion rate of 5% or less.

For the UPS of the commercial online power system, use Mitsubishi Electric's F Series UPS (serial number P or later) (Ex.: FW-F10-0.3K/0.5K).

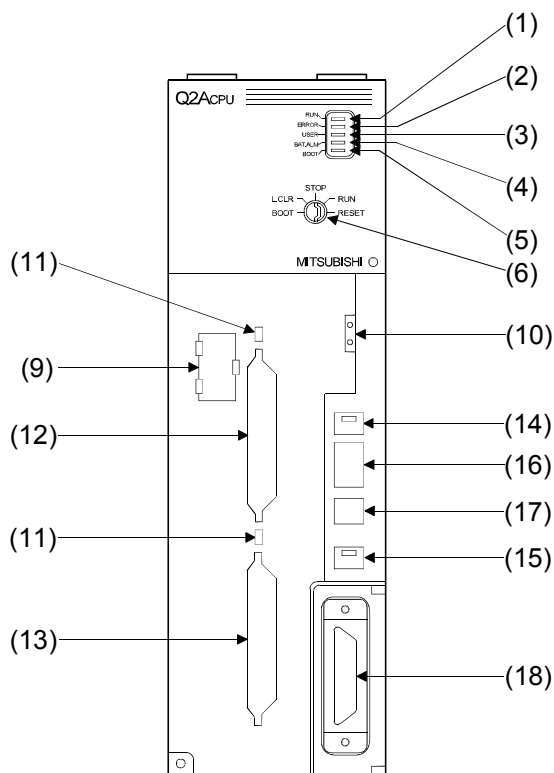
Do not use any UPS of the commercial online power system other than the F series mentioned above.

4.5 Part Names and Settings

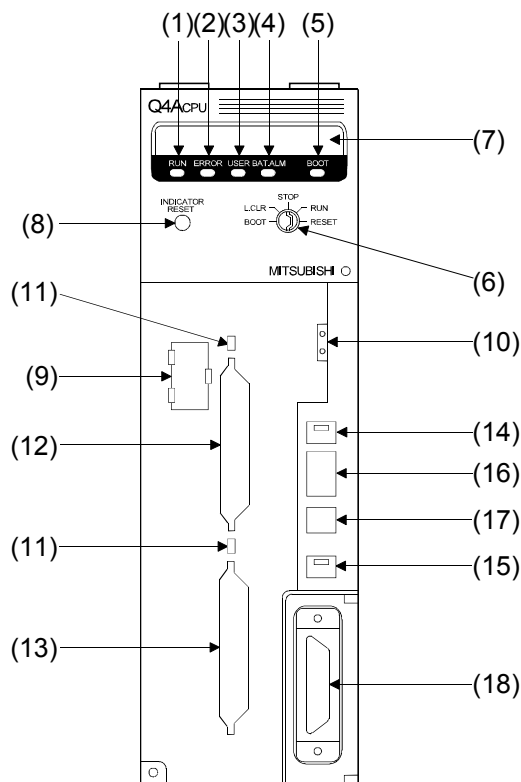
4.5.1 Part names and settings

The programmable controller nomenclature and settings are explained in this section.

(1) Q2ACPU, Q2ACPU-S1



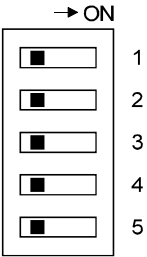
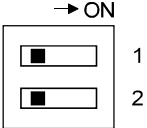
(2) Q3ACPU, Q4ACPU



Appearance with front cover open

No.	Name	Function
(1)	RUN LED	<p>Indicates the CPU module operating Status.</p> <p>Lamp ON :When RUN/STOP key switch is set to RUN or STEP-RUN, and operation is in progress.</p> <p>Lamp OFF :When RUN/STOP key switch is set to STOP, PAUSE or STEP-RUN and operation is stopped. Or, when an error that stops operation has been detected.</p> <p>Lamp flashing :When a program is written during STOP and the RUN/STOP key switch is moved from "STOP" to "RUN". The CPU module is not in the RUN status. To put the CPU module in the RUN status, move the RUN/STOP key switch from "RUN" to "STOP" to "RUN" again. Alternatively, perform reset operation with the RUN/STOP key switch. (The Q3ACPU or Q4ACPU shows the "PRG. CHECK!!" message on the display.)</p>
(2)	ERROR LED	<p>Lamp ON :When a self diagnostics error (excluding battery error) which does not stop operation has been detected. (When a "continue operation at error detection" parameter setting has been designated.)</p> <p>Lamp OFF :Normal</p> <p>Lamp flashing :When an error that stops operation has been detected.</p>

No.	Name	Function
(3)	USER LED	<p>Lamp ON :An error has been detected by the CHK instruction, or an annunciator F has come ON. (With Q3ACPU or Q4ACPU, a message or the comment for the annunciator is displayed on the LED indicator.)</p> <p>Lamp OFF :Normal</p> <p>Lamp flashing :Flashing when latch clear is performed. (With Q3ACPU or Q4ACPU, the message "L. CLR RDY" is displayed on the LED indicator.)</p>
(4)	BAT.ALARM LED	<p>Lamp ON :When a battery error is activated by a low voltage condition at the CPU module and memory card battery.</p> <p>Lamp OFF :Normal</p>
(5)	BOOT LED	<p>Lamp ON :When boot operation is completed.</p> <p>Lamp OFF :When boot operation is not being executed.</p>
(6)	RUN/STOP key switch	<p>RUN/STOP :Sequence program operation EXECUTE/STOP.</p> <p>L.CLR :Sets all data in the latch area (designated by parameter) to "OFF" or "0". Also clears sampling trace and status latch registrations.</p> <p>RESET :Executes a hardware reset for operation error, and to initialize operation, etc.</p>
(7)	LED display (Q3A and Q4ACPU only)	16-character display Display content includes comments for self diagnostics errors, comments for LED display instructions, clock data for SET SM212, and annunciator F-No. comments for SET F, etc.
(8)	Display RESET switch (Q3A and Q4ACPU only)	Clears the LED display content, displays the next data (when next data exists).
(9)	Battery (A6BAT)	Battery for internal memory and power failure backup.
(10)	Battery connector pin	For battery's lead wire connection. (To prevent wasted battery power consumption, the lead wire is disconnected from the connector when shipped from the factory.)
(11)	Memory card EJECT button	Ejects the memory card from the CPU module.
(12)	Memory card "A" installation connector	Connectors for installing memory cards in the CPU module.
(13)	Memory card "B" installation connector	
(14)	Memory card "A" in/out (with built in LED)	<p>This switch setting determines whether or not the memory card can be inserted and ejected while power is ON. Factory set to OFF.</p> <p>ON :Insertion/ejection prohibited (LED is ON)</p> <p>OFF :Insertion/ejection permitted (LED is OFF)</p>
(15)	Memory card "B" in/out switch (with built in LED)	

No.	Name	Function																													
(16)	Ejects the memory card from the CPU 	Designates settings required for CPU module operation. All switches are factory set to OFF.																													
		SW1 :Boot setting. Designates the memory used for operation. ON :Boot operation OFF :Boot operation is not performed.																													
		SW2 to SW4 : Parameter area. These switches designate the memory where parameters are stored.																													
		<table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Internal RAM</th> <th colspan="2">Memory card A</th> <th colspan="2">Memory card B</th> <th rowspan="6">*SW2 to 4 are valid if SW1 is OFF.</th> </tr> <tr> <th>RAM</th> <th>ROM</th> <th>RAM</th> <th>ROM</th> </tr> </thead> <tbody> <tr> <td>SW2</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>SW3</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>ON</td> <td>OFF</td> </tr> <tr> <td>SW4</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> </tbody> </table>		Internal RAM	Memory card A		Memory card B		*SW2 to 4 are valid if SW1 is OFF.	RAM	ROM	RAM	ROM	SW2	OFF	ON	OFF	ON	OFF	SW3	OFF	OFF	ON	ON	OFF	SW4	OFF	OFF	OFF	OFF	ON
					Internal RAM	Memory card A		Memory card B		*SW2 to 4 are valid if SW1 is OFF.																					
			RAM	ROM		RAM	ROM																								
SW2	OFF	ON	OFF	ON	OFF																										
SW3	OFF	OFF	ON	ON	OFF																										
SW4	OFF	OFF	OFF	OFF	ON																										
SW5 :System protect. Prevents all CPU module writing and control operations. ON :System protect ON OFF :System protect OFF																															
(17)	System setting switch 2 	Designates settings required for CPU module operation. All switches are factory set to OFF.																													
		SW1: For future expansion. Not used at present																													
		SW2 : Peripheral protocol. Designates the types of peripheral devices connected to the CPU module peripheral interface. (Set to ON if another ACPU station is to be accessed from a peripheral device. The ON or OFF setting becomes valid immediately upon switching.) ON : ACPU peripheral device 1: For future expansion. Not used at present OFF : QnACPU peripheral device																													
(18)	RS-422 connector	Connector for connection with peripheral devices.																													

4.5.2 Switch settings and corresponding LED displays

(1) Program writing when CPU module is stopped.

To execute program writing when the CPU module is stopped, follow the key switch setting procedure shown below.

- (a) RUN/STOP key switch :STOP
RUN LED :OFF
Q3ACPU, Q4ACPU display :OFF
.....CPU module STOP status → program write
- (b) RUN/STOP key switch :RESET
RUN LED :OFF
Q3ACPU, Q4ACPU display : "PRG.CHECK!" message is displayed
.....CPU module STOP status
- (c) RUN/STOP key switch :STOP → RUN
RUN LED :ON
Q3ACPU, Q4ACPU display :OFF
.....CPU module STOP status

POINT	
	<ul style="list-style-type: none">• After writing a program (except for online program write), perform reset operation, and then place the CPU module in the RUN status.• When remote STOP is switched to RUN, the CPU module is not put in the "PROG CHECK" status but is placed in the RUN status.

(2) Latch CLEAR operation

To execute a "Latch CLEAR", follow the key switch setting procedure shown below.

- 1) Turn the RUN/STOP key switch of the CPU module from the "STOP" position to the "L. CLR" position several times to flicker the "USER LED" on the CPU module front.
Normally, the LED flickers when the switch is turned several times (three or four times).
When the "USER LED" flickers, it indicates that latch clear is ready.
- 2) After the "USER LED" has flickered, turning the RUN/STOP key switch from the "STOP" position to the "L. CLR" position again executes latch clear and lights up the "USER LED".
If the "USER LED" comes on for two seconds and then goes off, it indicates that latch clear is completed normally.
- 3) To cancel latch clear midway, turn the RUN/STOP key switch to the "RUN" position to place the CPU module in the RUN state, or turn it to the "RESET" position to make a reset.

POINT
<ul style="list-style-type: none"> • The devices where the "Latch CLEAR" occurs can be designated by the "Latch CLEAR" enabled/disabled settings for each device made in device setting in the parameter mode. • In addition to the RUN/STOP key switch method, a remote "Latch CLEAR" can also be executed from a peripheral device. (Refer to the Q2A (S1)/Q3A/Q4ACPU User's Manual).

- (3) Removing a memory card while PLC power is ON
 To remove the memory card while the PLC power is ON, set the "memory card in/out" switch as shown below. Removing a memory card while power is ON:
- (a) Switch ON (build-in LED ON)
 Memory card insertion/ejection prohibited
- (b) Switch OFF (build-in LED OFF)
 Memory card insertion/ejection enabled →
 remove the memory card

POINT
<ul style="list-style-type: none"> • The built-in LED at the "memory card in/out" switch may not go OFF if a CPU module system function (sampling trace, status latch, etc.) is in progress, or if the memory card is being used by the program. In such cases, stop the system function or the program, then remove the memory card after checking that the switch's built-in LED has turned OFF. • Do not turn the "memory card in/out" switch ON after removing the memory card. An error will occur if the switch is turned ON at this time. • When there are parameter-set file registers, local devices or failure history, the memory card cannot be removed. If the "memory card in/out" switch is turned OFF, the in/out switch built-in LED does not go off. For the file registers, the memory card can be removed when they are set to be unused with the QDRSET(P) instruction.

- (4) Inserting a memory card while PLC power is ON
 To insert the memory card while the PLC power is ON, set the "memory card in/out" switch as shown below.
- (a) Insert the memory card.
- (b) Turn the "memory card in/out" switch ON (built-in LED ON)
 Memory card insertion/ejection prohibited

POINT

- After inserting the memory card, turn the "memory card in/out" switch ON. The memory card cannot be used until the switch is turned ON.
- Since mount processing is performed again after the memory card is inserted, note that the scan time of one scan when mount processing is performed increases by a maximum of 10ms.

5. I/O MODULE SPECIFICATIONS AND CONNECTIONS

This section presents the specifications and wiring drawings for each of the A series I/O modules.

5.1 Input Modules

5.1.1 Input module specifications

Model	Input Type	Number of Points/Module	Rated Input Voltage	Input Current	Operating Voltage		Maximum Simultaneous ON Input Point (Percentage Simultaneous ON)
					ON Voltage	OFF Voltage	
AX10	AC input	16 points	100V to 120VAC	10mA	80VAC or higher	40VAC or lower	100%
AX11		32 points		12mA			79VAC or higher
AX11EU				16 points	200V to 240VAC	10mA	160VAC or higher
AX20		32 points	12mA	60%			
AX21			16 points	12mA		100%	
AX21EU		32 points	60%				
AX40	DC input (sink type)	16 points	12/24 VDC	4/10mA	9.5VDC or higher	6VDC or lower	100%
AX41		32 points					60%
AX41-S1				64 points			60% *3
AX42 *1		DC input					3/7mA
AX42-S1 *1							
AX50	DC input (sink type)	16 points	48VDC	4mA	34VDC or higher	10VDC or lower	100%
AX50-S1	DC input (sink/source type)						
AX60	DC input (sink type)		100/110/125VDC	2mA	80VDC or higher	20VDC or lower	
AX60-S1	DC input (sink/source type)						
AX70	Sensor input (sink/source type)	5VDC (SW ON)	3.5mA (TYP) 5.5mA (MAX)	5VDC or higher	2VDC or lower		
		12VDC (SW OFF)	2mA (TYP) 3mA (MAX)				
		24VDC (SW OFF)	4.5mA (TYP) 6mA (MAX)				

	Input Response Time		External Connections	Common Terminal Arrangement	Internal Current Consumption	Number of Occupied I/O Points	
	OFF to ON	ON to OFF					
	15ms or less	25ms or less	20 terminal block connector	16 points/ common	0.055A	16 points	
			38 terminal block connector	32 points/ common	0.11A	32 points	
					0.15A		
			20 terminal block connector	16 points/ common	0.055A	16 points	
	38 terminal block connector	32 points/ common	0.11A	32 points			
			0.15A				
		10ms or less	10ms or less	20 terminal block connector	8 points/ common	0.055A	16 points
				38 terminal block connector		32 points/ common	0.11A
0.1ms or less		0.2ms or less	40-pin connector × 2	32 points/ common	0.12A	64 point	
10ms or less		10ms or less				32 points	
0.5ms or less		0.5ms or less	20 terminal block connector	8 points/ common	0.055A	16 points	
10ms or less		10ms or less					
10ms or less		20ms or less					
1.5ms or less		3ms or less					

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Model	Input Type	Number of Points/Module	Rated Input Voltage	Input Current	Operating Voltage		Maximum Simultaneous ON Input Point (Percentage Simultaneous ON)
					ON Voltage	OFF Voltage	
AX71	Sensor input (sink/source type)	32 points	5VDC (SW ON)	3.5mA (TYP) 5.5mA (MAX)	3.5VDC or higher	1.1VDC or lower	100%
			12VDC (SW OFF)	2mA (TYP) 3mA (MAX)	5VDC or higher	2VDC or lower	
			24VDC (SW OFF)	4.5mA (TYP) 6mA (MAX)			
AX80	DC input (source type)	16 points	12/24 VDC	4/10mA	9.5VDC or higher	6VDC or lower	100%
AX80E							
AX81							
AX81-S1	DC input	32 points	48/60 VDC	2.5/5mA	5.6VDC or higher	2.4VDC or lower	60%
AX81-S2	DC input (source type)			3/4mA	31VDC or higher	10VDC or lower	
AX81-S3	DC input			12/24 VDC	4/10mA	9.5VDC or higher	
AX81B	DC input (sink/source type)	32 points	24VDC	7mA	At normal input 21VDC or higher 6VDC or lower When disconnection detected 1VDC or higher 6VDC or lower		60%
AX82 *1	DC Input (source type)	64 points	12/24 VDC	3/7mA	9.5VDC or higher	6VDC or lower	
AX31	AC/DC input	32 points	12/24 VAC 12/24 VDC	8.5/4mA	7VAC/VDC or higher	2.5VAC/VDC or lower	

	Input Response Time		External Connections	Common Terminal Arrangement	Internal Current Consumption	Number of Occupied I/O Points
	OFF to ON	ON to OFF				
	1.5ms or less	3ms or less	38 terminal block connector	8points/ common	0.11A	32 points
	10ms or less	10ms or less	20 terminal block connector		0.055A	16 points
	[TYP] 5.5ms 6.0ms [High-speed mode]					
	0.5ms or less	1.0ms or less				
	10ms or less	10ms or less	38 terminal block connector	8 points/ common	0.11A	32 points
	20ms or less	20ms or less			0.105A	
	0.1ms or less	0.2ms or less			0.11A	
	10ms or less	10ms or less	38 terminal block connector	8 points/ common	0.125A	64 points
	10ms or less	10ms or less	37-pin D subconnector × 2	32 points/ common	0.12A	64 points
	25ms or less	20ms or less	38 terminal block connector		0.11A	32 points
	20ms or less					

The following specifications apply to all modules:

Isolation method : Photocoupler

Input indication : LEDs

*1 : The ON/OFF status of the first or latter half is indicated by the LEDs in accordance with the setting of the selector switch on the front panel of the module:

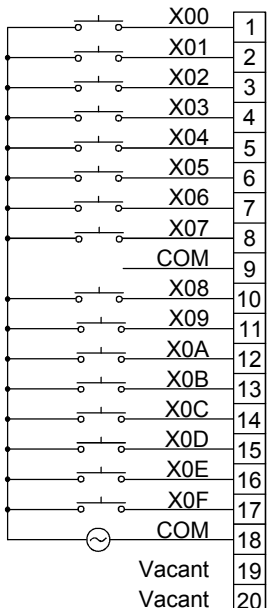
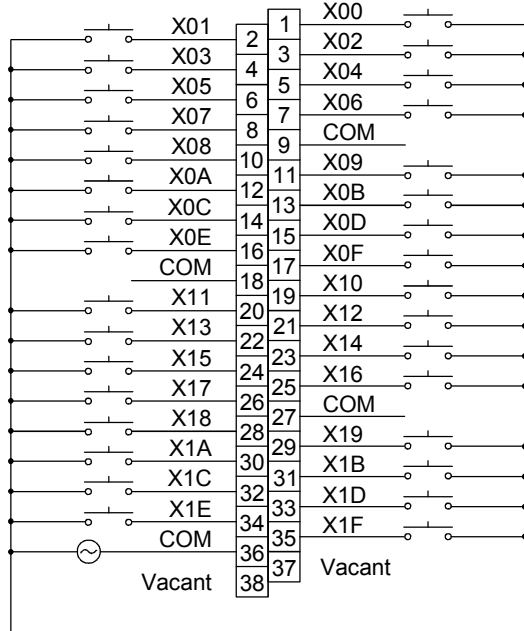
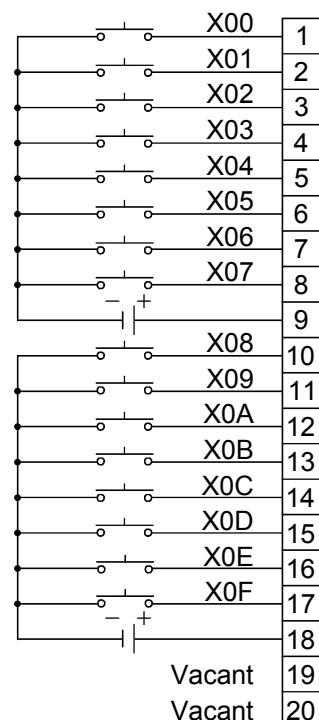
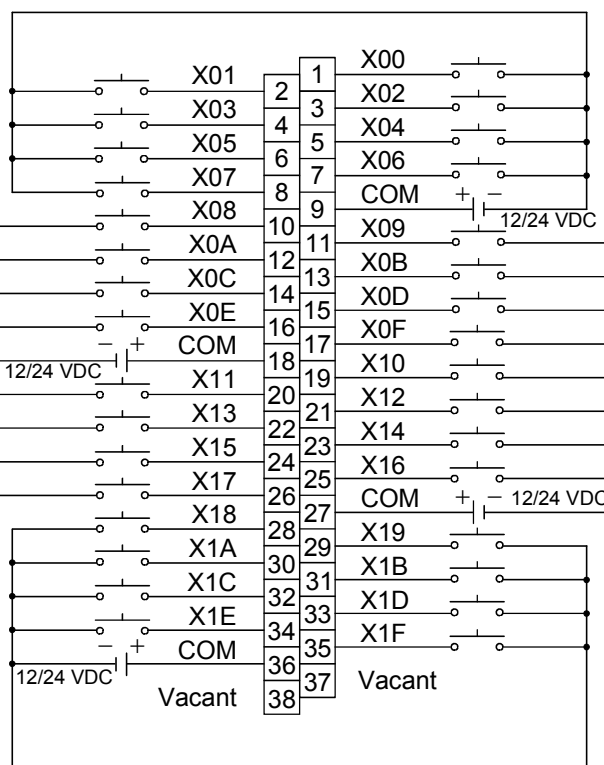
FH setting: First half (X00 to X1F), LH setting: Latter half (X20 to X3F)

*2 : It is possible to select high speed or low speed for the upper eight points only using the DIP switch:

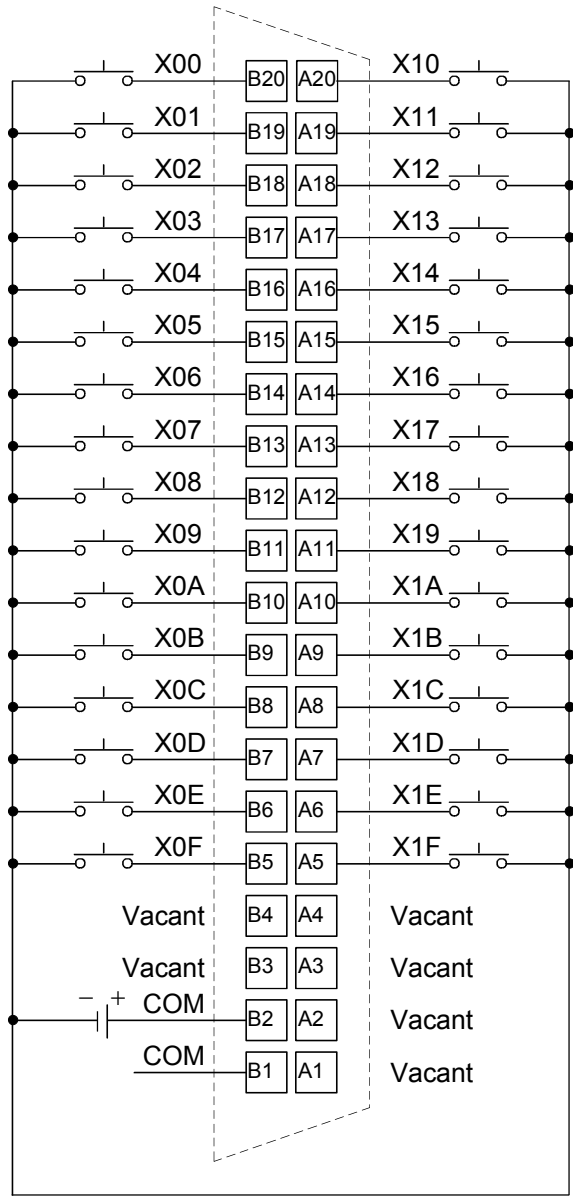
HIGH setting: high-speed, LOW setting: low-speed

*3: The number of simultaneous input points is 40% (13 inputs/common) simultaneously ON when the unit is used adjacent to the power supply module.

5.1.2 Input module connections

(1)	Model	Rated Input Voltage	
	AX10	100-120 VAC	
	AX20	200-240 VAC	
			
(2)	Model	Rated Input Voltage	
	AX11	100-120 VAC	
	AX11EU	100-120 VAC	
	AX21	200-240 VAC	
	AX21EU	200-240 VAC	
			
(3)	Model	Rated Input Voltage	
	AX40	12/24 VDC	
	AX50	48 VDC	
			
(4)	Model	Rated Input Voltage	
	AX41	12/24 VDC	
	AX41-S1	12/24 VDC	
			

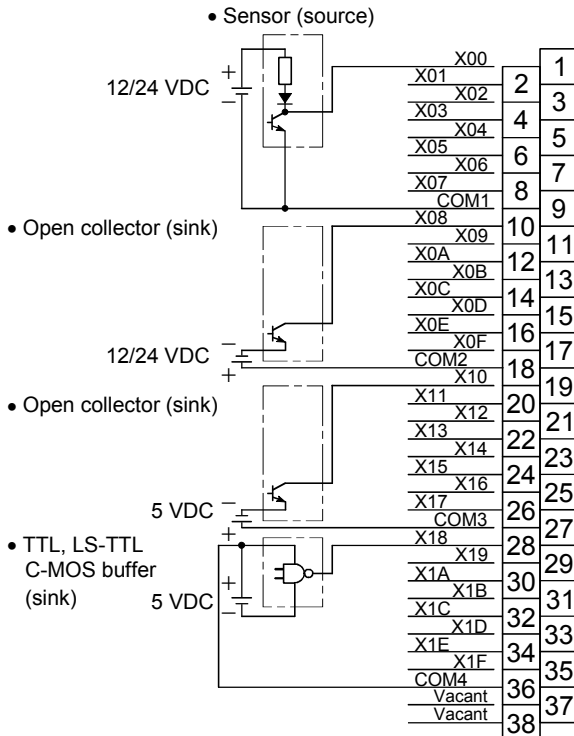
(5)	Model	Rated Input Voltage
	AX42	12/24 VDC
AX42-S1		



* The figure above indicates **F** (the first half 32 points).
 The connections for **L** (the latter half 32 points) are the same
 as for **F** (regard X00 to X1F as X20 to X3F).
B1 and **B2** are connected internally.

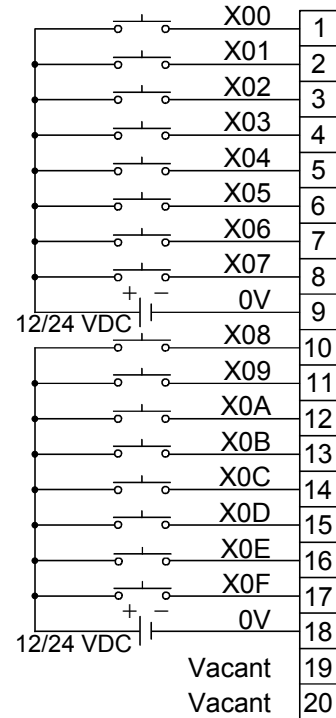
(6)	Model	Rated Input Voltage		(8)	Model	Rated Input Voltage	
	AX50-S1	48 VDC			AX60-S1	100/110/125 VAC	
(7)	Model	Rated Input Voltage		(9)	Model	Rated Input Voltage	
	AX60	100/110/125 VDC			AX70	5/12/24 VDC	
				<ul style="list-style-type: none"> • Sensor (source) • Open collector (sink) • TTL LS-TTL C-MOS buffer (sink) • 5 VDC open collector (sink) 			
				<ul style="list-style-type: none"> • Can be used in any combination in units of 8 points per common. When using the COMS source type, only CMOSs with a 5 VDC rating as shown above can be used (e.g. HCMOS). 			

(10)	Model	Rated Input Voltage
	AX71	5/12/24 VDC

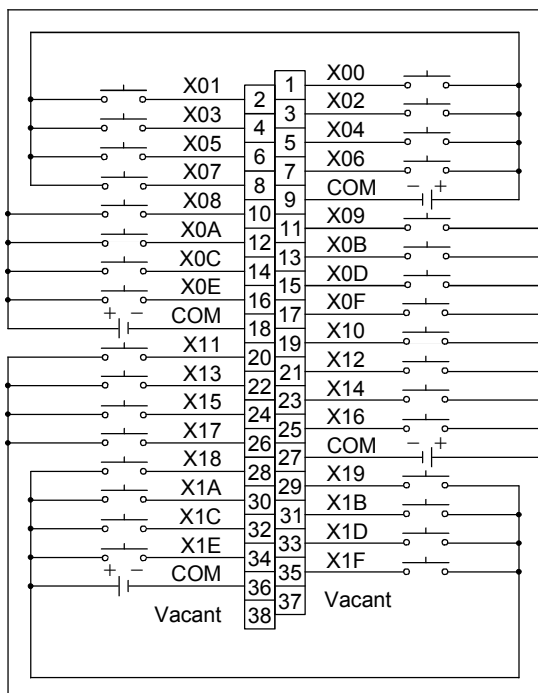


- Can be used in any combination in units of 8 points per common.
- When using the COMS source type, only CMOSs with a 5 VDC rating as shown above can be used (e.g. HCMOS).

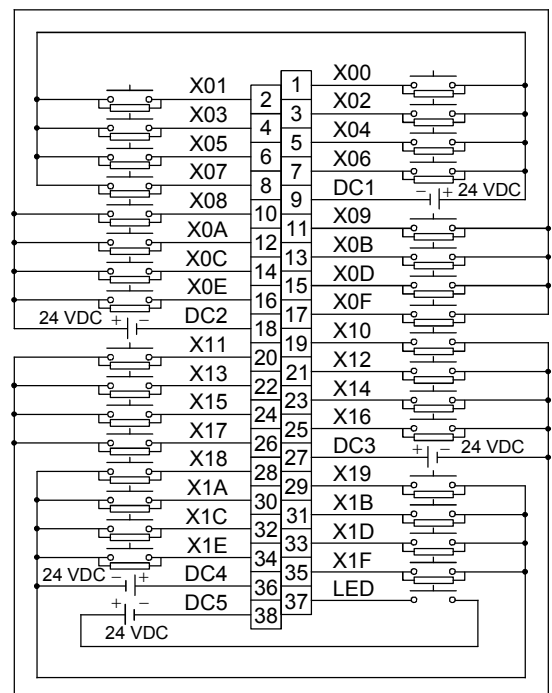
(11)	Model	Rated Input Voltage
	AX80 AX80E	12/24 VDC



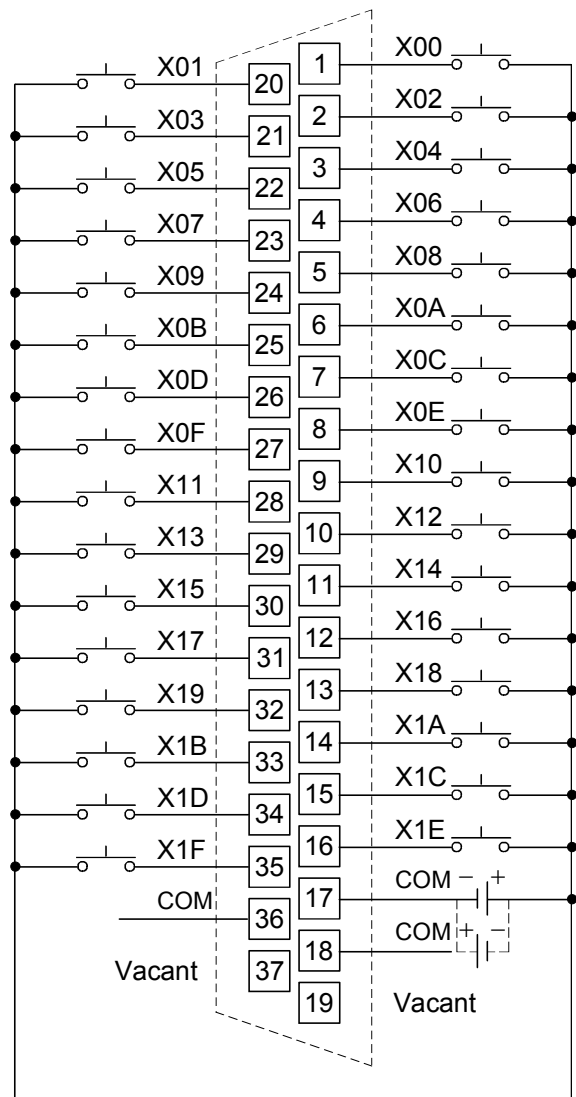
(12)	Model	Rated Input Voltage
	AX81	12/24 VDC
	AX81-S1	
	AX81-S2	48/60 VDC
AX81-S3	12/24 VDC	



(13)	Model	Rated Input Voltage
	AX81B	24 VDC



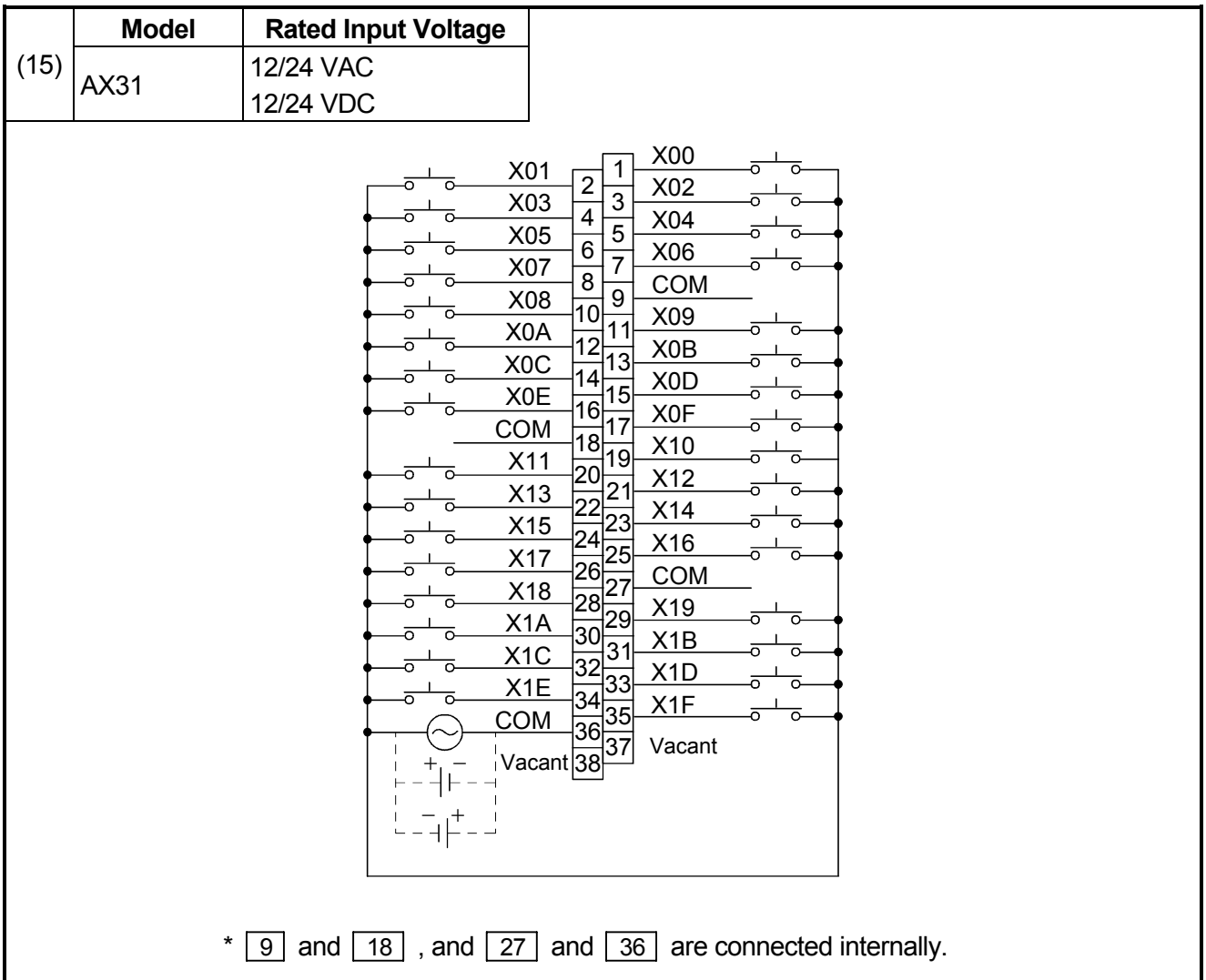
(14)	Model	Rated Input Voltage
	AX82	12/24 VDC



* The figure above indicates **[F]** (the first half 35 points).

The connections for **[L]** (the latter half 32 points) are the same as for **[F]** (regard X00 to X1F as X20 to X3F).

[17] , **[18]** , and **[36]** are connected internally.



5.2 Output Modules

5.2.1 Output module specifications

Model	Output Type	No. of Points/ Module	Rated Load Voltage	Max. Load Current		Output Response Time		
				Per Point	Per Common	OFF to ON	ON to OFF	
AY10	Contact output	16 points	240VAC 24VDC	2A	8A	10ms or less	12ms or less	
AY10A	Contact output (All points independent)				16A/all points			
AY11	Contact output				8A			
AY11A	Contact output (All points independent)				16A/all points			
AY11AEU			24VDC 24VAC					
AY11E	Contact output		240VAC 24VAC		8A			
AY11EEU			24VDC 24VAC					
AY13			32 points		240VAC 24VAC			5A
AY13EEU					24VDC 24VAC			
AY13E					240VAC 24VAC			
AY15EU	24 points	24VDC 240VAC	8A					
AY20EU	Triac output	16 points	100 to 200 VAC	0.6A	1.9A	1ms or less	0.5Hz + 1ms or less	
AY22				2A	3.3A			
AY23				32 points	0.6A			2.4A *4 (1.05A)
AY40	Transistor output (sink type)	16 points	12/24VDC	0.1A	0.8A	2ms or less	2ms or less (resistive load)	
AY40A	Transistor output (all points independent sink type)			0.3A	—			
AY40P	Transistor output (sink type)			0.1A	0.8A			

	External Connections	Common Terminal Arrangement	Surge Suppression	Fuse Rating	Error Display	External Power Supply (TYP 24VDC)	Internal Current Consumption	Number of Occupied I/O Points	
						Current			
	20 terminal block connector	8 points/ common	None	None	None	0.15A	0.115A	16 points	
	38 terminal block connector	No common (all points independent)							
	20 terminal block connector	8 points/ common	Varistor	8A	None	0.15A	0.115A	16 points	
	38 terminal block connector	No common (all points independent)							
	20 terminal block connector	8 points/ common	None	8A	None	0.15A	0.115A	16 points	
	38 terminal block connector			None					None
				None					8A
	38 terminal block connector	8 points/ common	None	None	None	0.29A	0.23A	32 points	
				8A		0.22A	0.15A		
		4 points/ common	CR absorber	3.2A	Display *10	—	0.40A	16 points	
	20 terminal block connector	8 points/ common	CR absorber varistor	7A *6					
	38 terminal block connector		Absorber	3.2A *6	0.59A	32 points			
	20 terminal block connector		Clamp diode	None	None	0.008A	0.115A	16 points	
	38 terminal block connector	No common (all points independent)	Surge absorbing diode			—	0.19A		
	20 terminal block connector	8 points/ common	Cramp diode			0.015A	0.115A		

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Model	Output Type	No. of Points/ Module	Rated Load Voltage	Max. Load Current		Output Response Time				
				Per Point	Per Common	OFF to ON	ON to OFF			
AY41	Transistor output (sink type)	32 points	12/24VDC	0.1A	1.6A	2ms or less	2ms or less (resistive load)			
AY41P					1A					
AY42 *1		64 points			5/12/24 VDC	0.1A *5	2A	0.1ms or less	0.3ms or less (resistive load)	
AY42-S1										2A *4 (1.6A)
AY42-S2										
AY42-S3 *1										
AY42-S4 *1										
AY50										16 points
AY51		32 points			12/24VDC	0.1A	1.92A			
AY51-S1						0.3A	2A			
AY60	16 points	24VDC (12/48V) *2	2A	5A						
AY60E			12/24 VDC 2A	3A						
AY60EP			12/24VDC	12VDC 2A	9.6A					
				24VDC 0.8A	3.8A					
AY60S	Transistor output (sink type)	24/48VDC (12V) *3	2A	6.4A	1ms or less	3ms or less (resistive load)				
AY70	Transistor output (for TTL. CMOS) (sink type)	16 points	5/12VDC	0.016A	0.128A	1ms or less	1ms or less			
AY71		32 points		0.016A	0.256A					

	External Connections	Common Terminal Arrangement	Surge Suppression	Fuse Rating	Error Display	External Power Supply (TYP 24VDC)	Internal Current Consumption	Number of Occupied I/O Points			
						Current					
	38 terminal block connector	16 points/ common	Cramp diode	None	None	0.02A	0.23A	32 points			
						0.03A					
	40-pin connector × 2	32 points/ common				Photo coupler Built-in Zener diode	1.6A *7	Display *11	0.04A	0.29A	64 points
										0.34A	
										0.29A	
		0.29A									
			None	None	—	0.5A					
20 terminal block connector	8 points/ common	Varistor	2A *6	Display *10	0.065A	0.115A	16 points				
38 terminal block connector	16 points/ common		None	None	0.05A	0.023A	32 points				
		Transistor Built-in Zener diode	1A *8	Display *10	0.1A	0.31A					
20 terminal block connector	8 points/ common	Surge absorbing diode	Varistor	3.2A *9	Display	0.065A	0.115A	16 points			
				5A *9		0.065A					
			None	None	0.11A						
			Varistor	5A *9	None	0.003A	0.075A				
				None		*12 0.055A	0.1A		16 points		
38 terminal block connector	16 points/ common	None	None		*12 0.1A	0.2A	32 points				

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(From front page)

Model	Output Type	No. of Points/Module	Rated Load Voltage	Max. Load Current		Output Response Time	
				Per Point	Per Common	OFF to ON	ON to OFF
AY72 *1	Transistor output (for TTL. CMOS) (sink type)	64 points	5/12VDC	0.016A	0.512A	1ms or less	1ms or less
AY80	Transistor output (source type)	16 points	12/24VDC	0.5A	2A	2mc of less	2ms of less (resistive load)
AY80EP				0.8A	3.84A	0.5ms or less	1.5ms or less
AY81		32 points		0.5A	4A	2ms of less	2ms of less (resistive load)
AY81EP				12VDC 0.8A	7.68A	0.5ms or less	1.5ms or less
				24VDC 0.4A	3.84A		
*1 AY82EP				64 points	12VDC 0.1A		
	24VDC 0.04A	0.758A					

	External Connections	Common Terminal Arrangement	Surge Suppression	Fuse Rating	Error Display	External Power Supply (TYP 24VDC)	Internal Current Consumption	Number of Occupied I/O Points
						Current		
	40-pin connector × 2	32 points/common	None	None	None	*12 0.3A	0.3A	64 points
	20 terminal block connector	8 points/common	Varistor	2A *6	Display *10	0.06A	0.115A	16 points
			Surge absorbing diode			0.11A		
	38 terminal block connector	16 points/common	Varistor	None	None	0.05A	0.23A	32 points
			Surge absorbing diode			0.22A		
	40-pin connector × 2	32 points/common				0.05A	0.29A	64 points

The following specifications apply to all modules:

Isolation method : Photocoupler

Input indication : LEDs

*1 : The ON/OFF status of the first or latter half is indicated by the LEDs in accordance with the setting of the selector switch on the front panel of the module:

FH setting: First half (Y00 to Y1F), LH setting: Latter half (Y20 to Y3F)

*2 : When 12/48 VDC is used as the load power supply, a separate 24 VDC power supply must be used as an external power supply.

*3 : When 12 VDC is used as the load power supply, a separate 24/48 VDC power supply must be used as an external power supply.

*4 : When the module is installed adjacent to the power supply module, the value indicated in parentheses applies.

*5 : The maximum load current differs depending on the number of simultaneously ON points.

*6 : Fast-melting fuse (one per common)

*7 : Normal fuse (two per common)

*8 : Fast-melting fuse (two per 8-per-common unit)

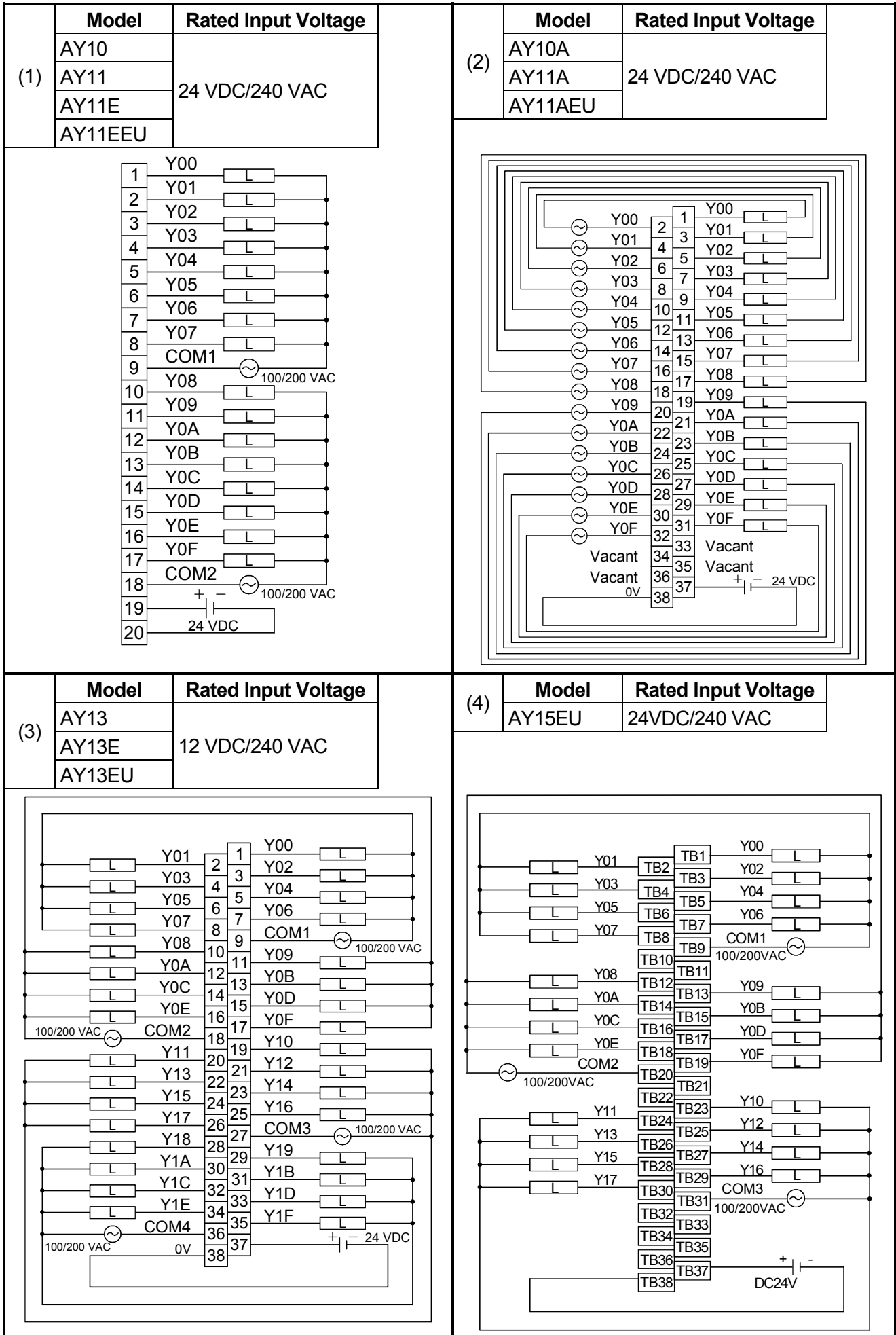
*9 : Fast-melting fuse (two per common)

*10 : LED comes on when a fuse blows or the external power supply is turned off.

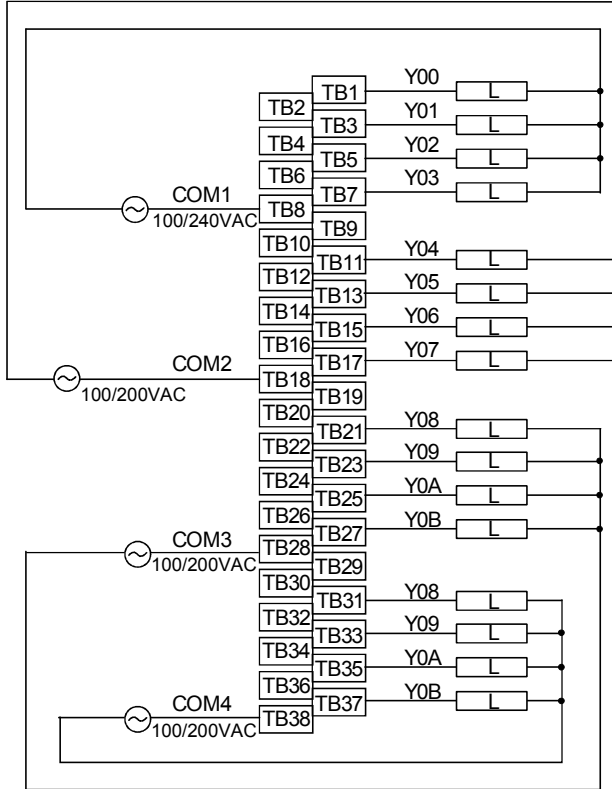
*11 : Since this is a built-in fuse directly fixed to the module, replace the entire module if it blows.

*12 : TYP. 12 VDC

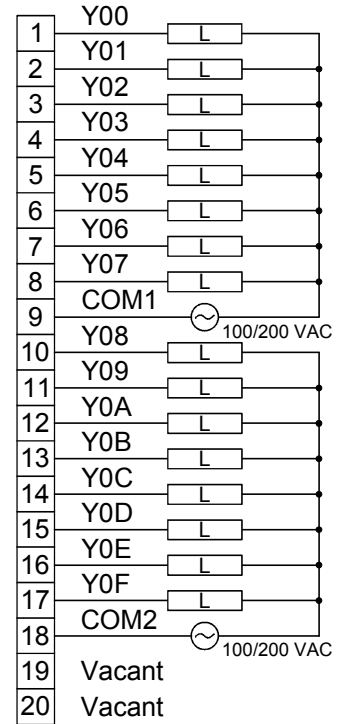
5.2.2 Output module connections



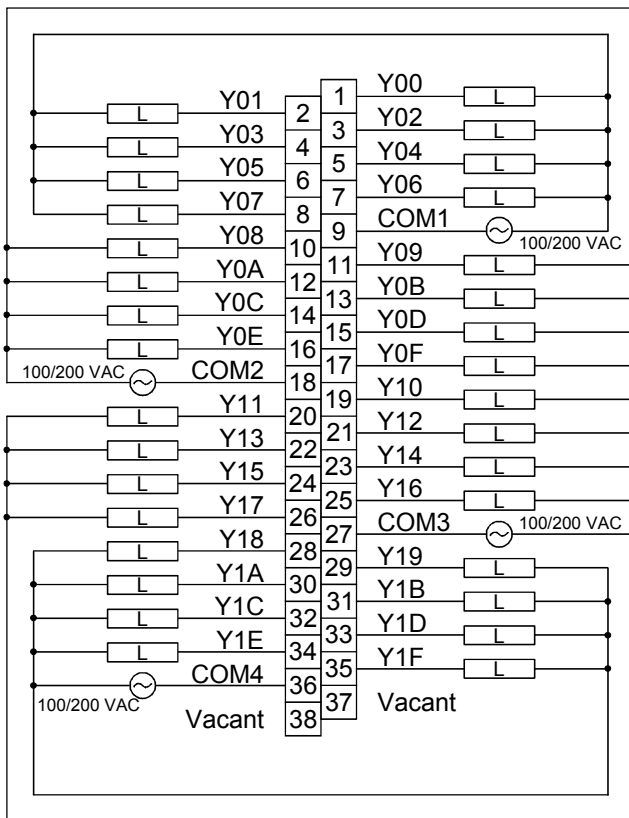
(5)	Model	Rated Input Voltage
	AY20EU	100/200 VAC



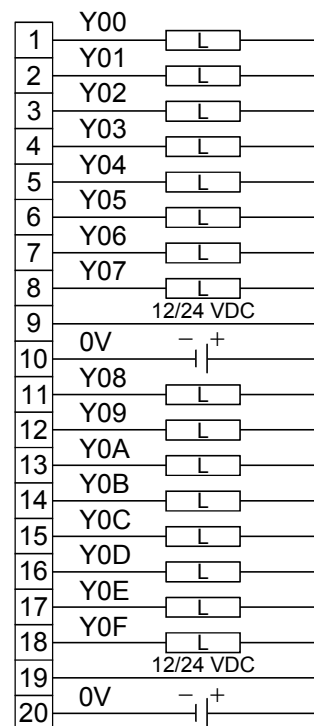
(6)	Model	Rated Input Voltage
	AY22	24 VDC/240 VAC



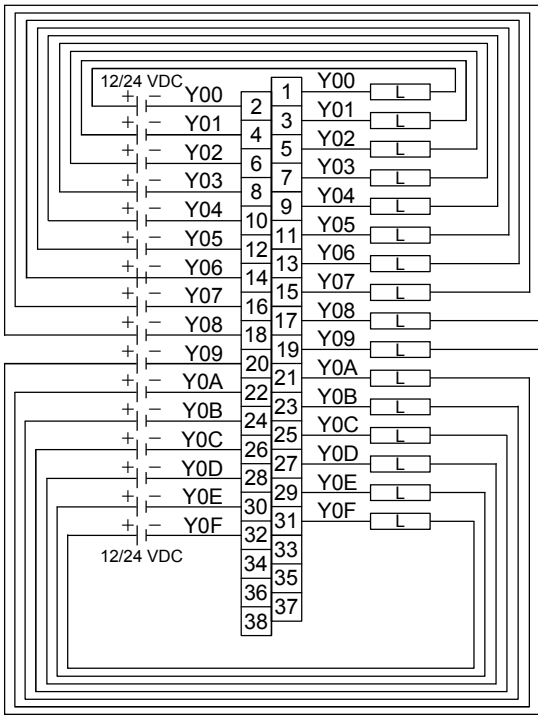
(7)	Model	Rated Input Voltage
	AY23	100/240 VAC



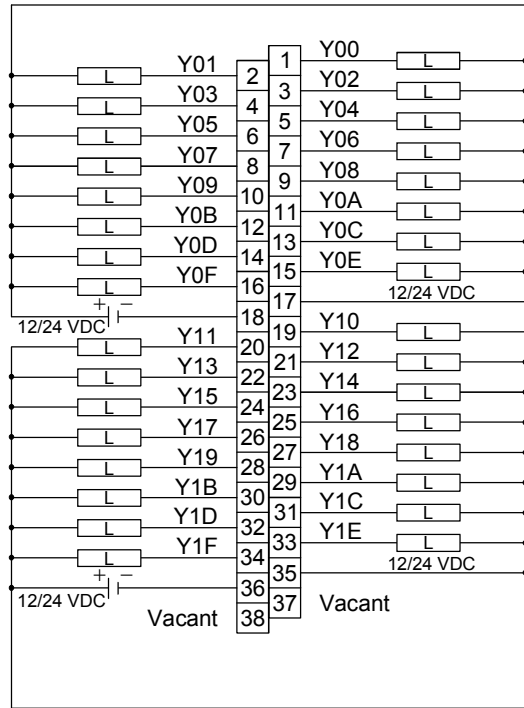
(8)	Model	Rated Input Voltage
	AY40	12/240 VDC
	AY40P	
AY50		



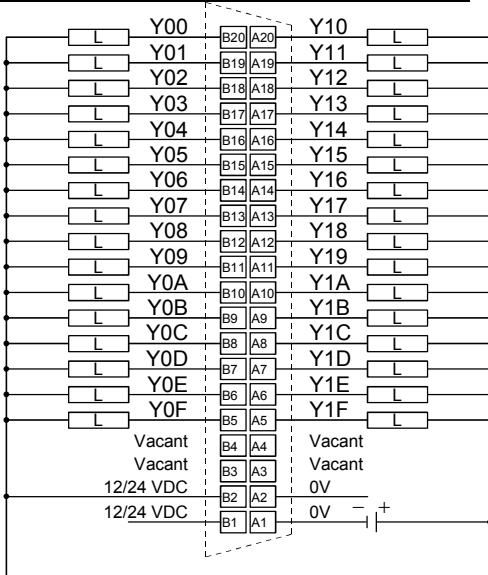
(9)	Model	Rated Input Voltage
	AY40A	12/24 VDC



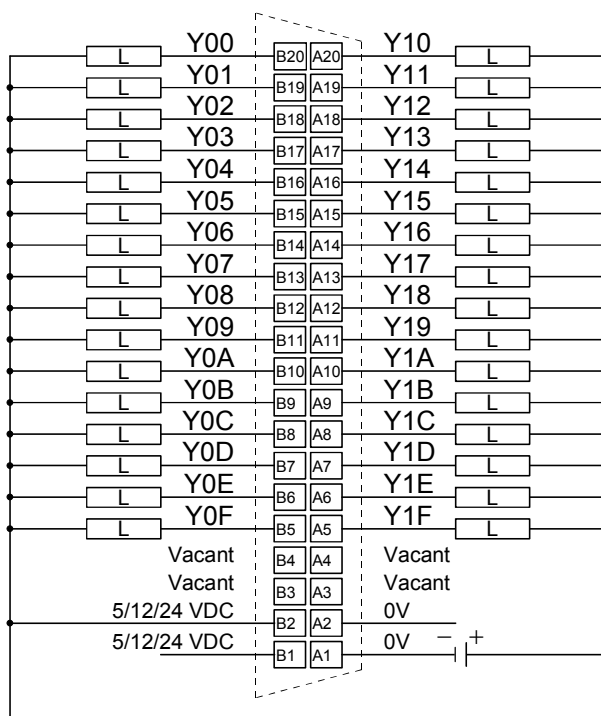
(10)	Model	Rated Input Voltage
	AY41 AY41P	12/24 VDC



(11)	Model	Rated Input Voltage
	AY42	12/24 VDC
	AY42-S3	



(12)	Model	Rated Input Voltage
	AY42-S2	5/12/24 VDC

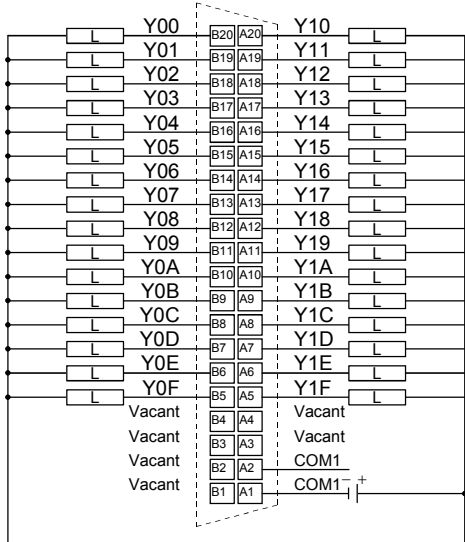


* The figure above indicates **F** (the first half 32 points).

The connections for **L** (the latter half 32 points) are the same as for **F** (regard Y00 to Y1F as Y20 to Y3F).

B1 and **B2**, and **A1** and **A2** are connected internally.

(13)	Model	Rated Input Voltage
	AY42-S4	12/24 VDC

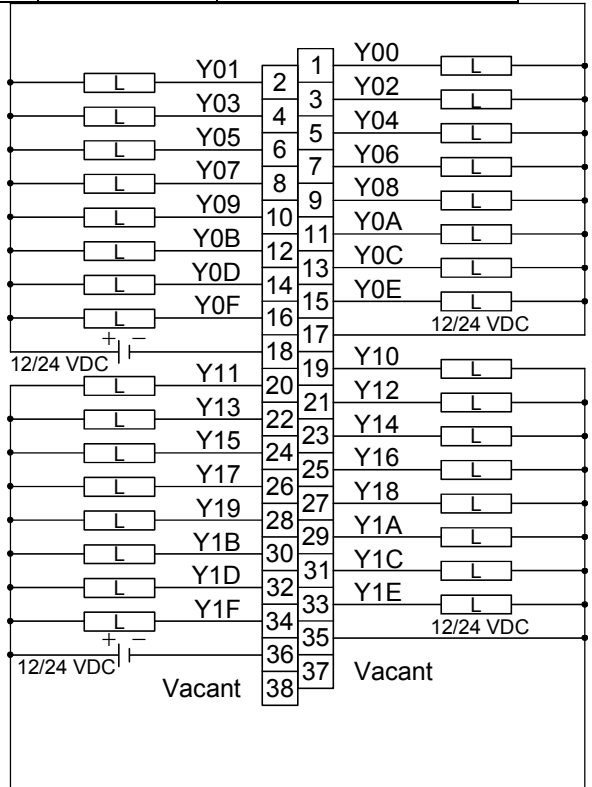


* The figure above indicates **F** (the first half 32 points).

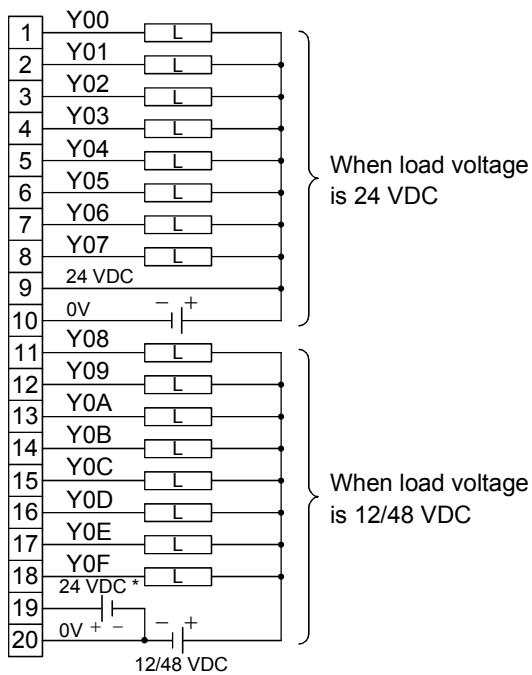
The connections for **L** (the latter half 32 points) are the same as for **F** (regard Y00 to Y1F as Y20 to Y3F).
Regard COM1 as COM2.

B1 and **B2**, and **A1** and **A2** are connected internally.

(14)	Model	Rated Input Voltage
	AY51 AY51-S1	12/24 VDC

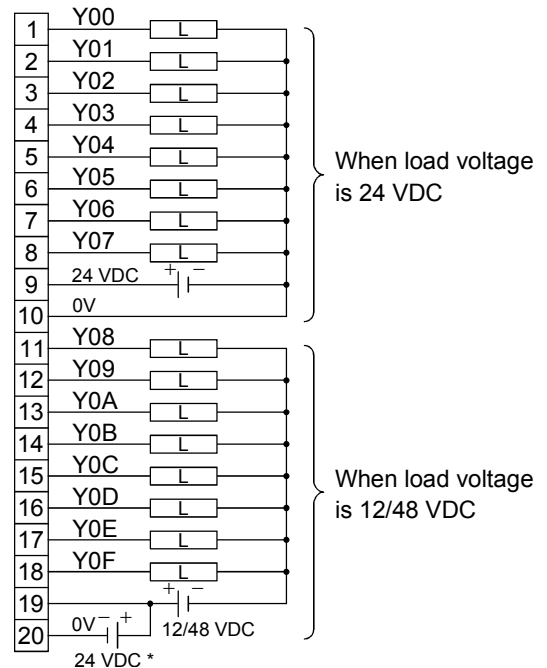


(15)	Model	Rated Input Voltage
	AY60	24 (2/48) VDC



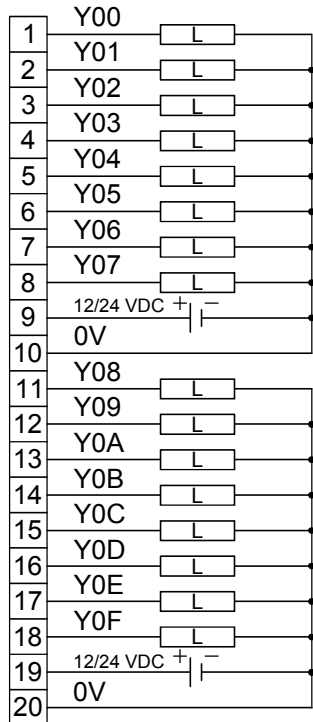
- When 12/48 VDC is used as the load power supply, a separate 24 VDC power supply must be used as an external power supply.

(16)	Model	Rated Input Voltage
	AY60E	24 (12/48) VDC

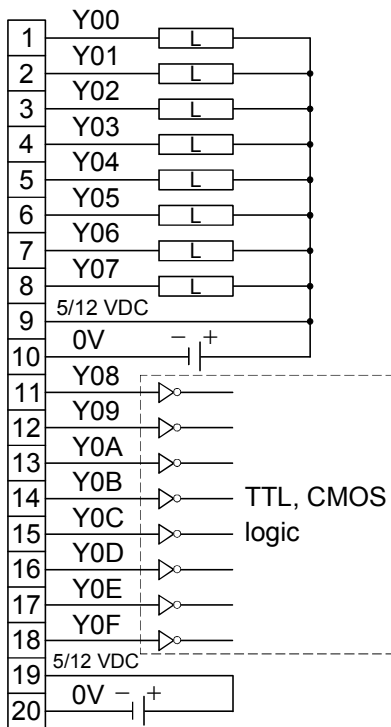


- When 12/48 VDC is used as the load power supply, a separate 24 VDC power supply must be used as an external power supply.

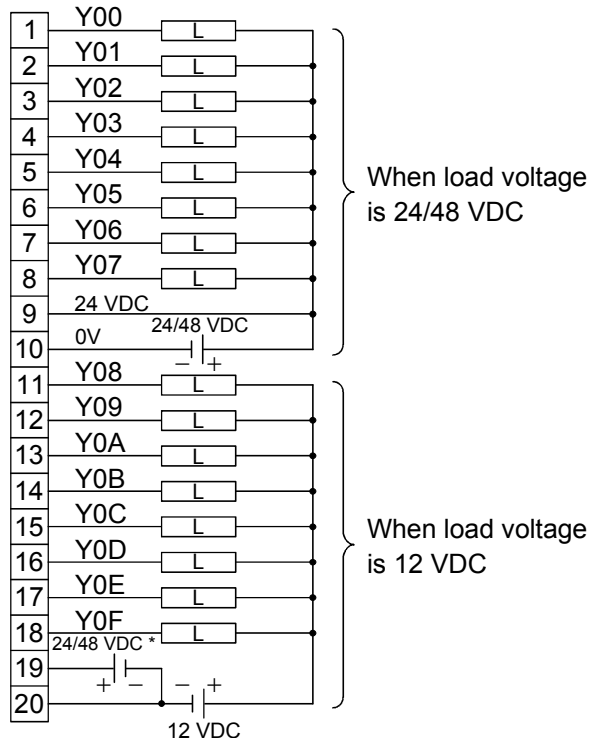
(17)	Model	Rated Input Voltage
	AY60EP	12/24 VDC



(19)	Model	Rated Input Voltage
	AY70	5/12 VDC

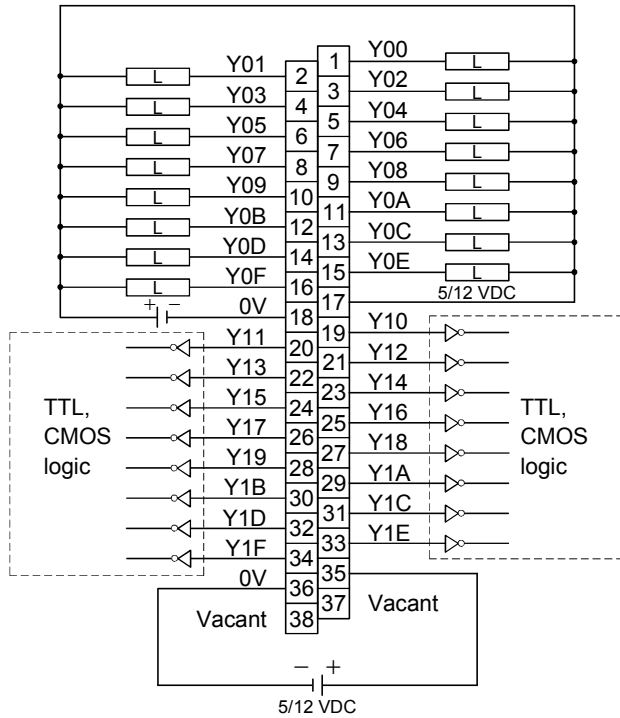


(18)	Model	Rated Input Voltage
	AY60S	24/48 (12) VDC

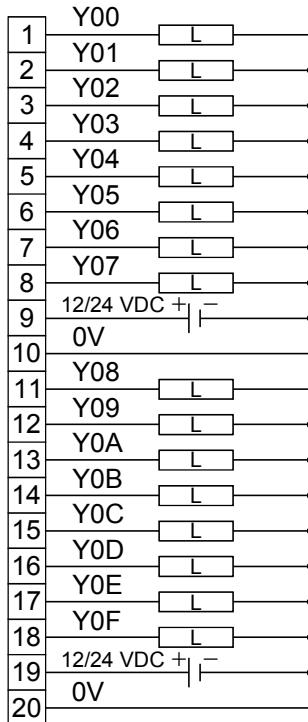


- When 12 VDC is used as the load power supply, a separate 24/48 VDC power supply must be used as an external power supply.

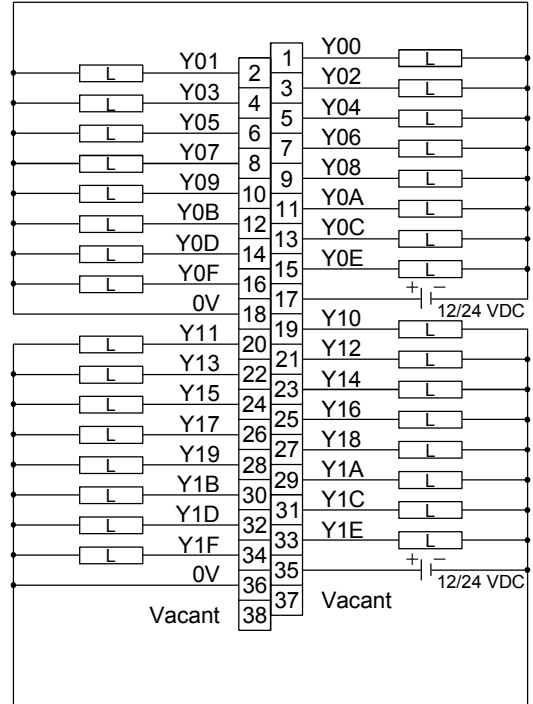
(20)	Model	Rated Input Voltage
	AY71	5/12 VDC



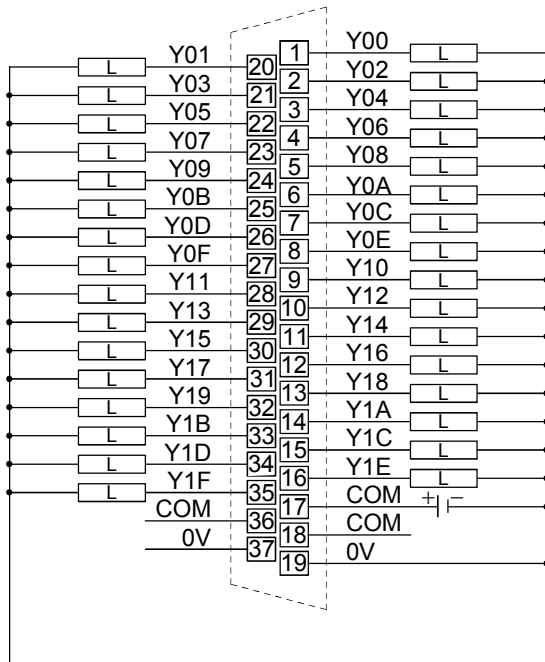
	Model	Rated Input Voltage
(21)	AY80	12/24 VDC
	AY80EP	



	Model	Rated Input Voltage
(22)	AY81	12/24 VDC
	AY81EP	



	Model	Rated Input Voltage
(23)	AY82EP	12/24 VDC



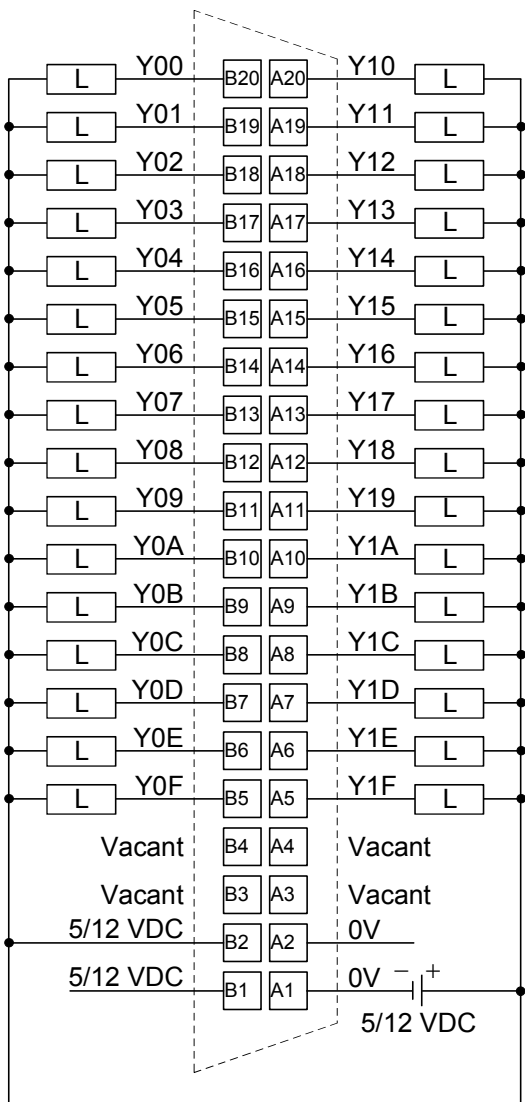
* The figure above indicates **F** (the first half 32 points).

The connections for **L** (the latter half 32 points) are the same as for **F** (regard Y00 to Y1F as Y20 to Y3F).

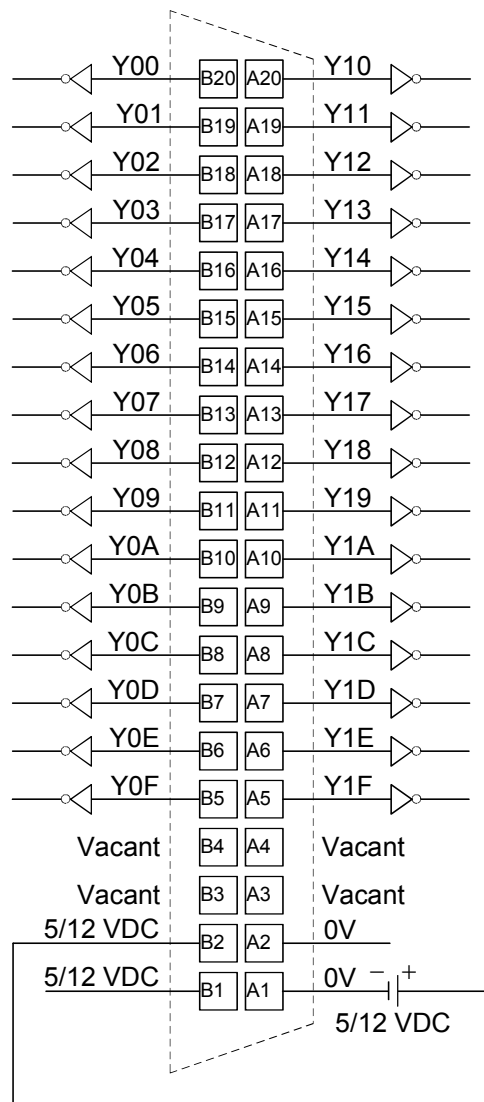
17 and **18** and **36** , and **19** and **37** are connected internally.

(24)	Model	Rated Input Voltage
	AY72	5/12 VDC

Load connection



TTL, CMOS logic



* The figure above indicates **[F]** (the first half 32 points).
 The connections for **[L]** (the latter half 32 points) are the same as for **[F]** (regard Y00 to Y1F as Y20 to Y3F).
[B1] and **[B2]**, and **[A1]** and **[A2]** are connected internally.

5.3 Input/Output Combined Modules

5.3.1 Input/output combined module specifications

Model	Input Type	Number of Points/Module	Isolation Method	Rated Input Voltage	Input Current	Operating Voltage	
						ON Voltage	OFF Voltage
A42XY	Dynamic scan	64 points *1	Photocoupler insulation	12/24VDC		7VDC or higher	3VDC or lower
AH42	DC input (sink type)	32 points				3/7mA	9.5VDC or higher

Model	Output Type	Number of Points/Module	Rated Load Voltage	Max. Load Current		Input Response Time	
				Per Point	Per Common	OFF to ON	ON to OFF
A42XY	Dynamic scan	64 points	12/24VDC	50mA	—	16ms or less	16ms or less
AH42	Transistor output (sink type)	32 points		0.1A	1A	2ms or less	2ms or less

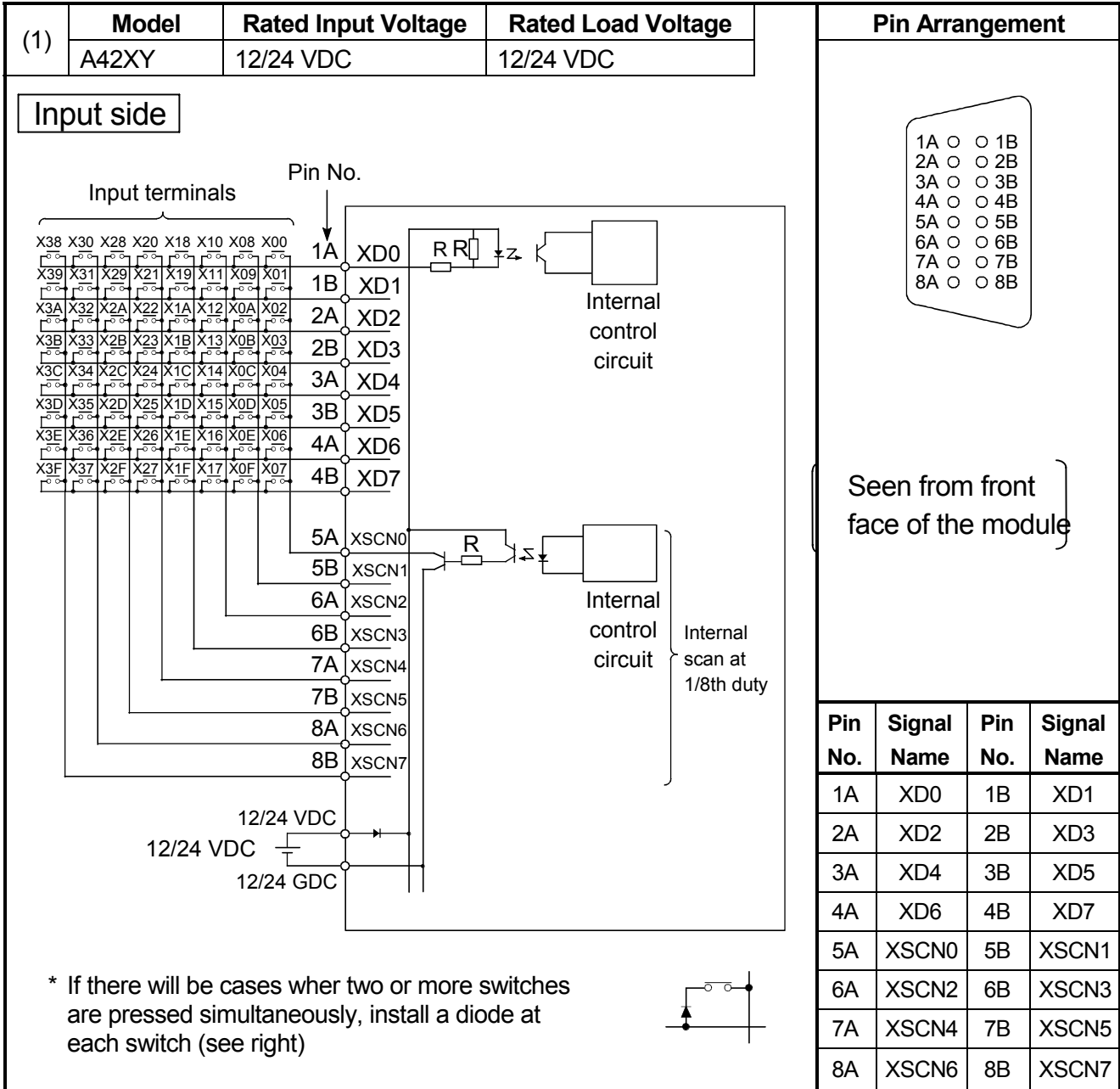
	Maximum Simultaneous ON Input Point (Percentage Simultaneous ON)	Input Response Time		Input Display	External Connections	Common Terminal Arrangement
		OFF to ON	ON to OFF			
60%		16ms or less	16ms or less	LED display	16-pin connector	—
		10ms or less	10ms or less		40-pin connector × 2	30 points/common

	External Connections	Common Terminal Arrangement	Surge Suppression	Fuse Rating	Error Display	External Power Supply (TYP 24VDC)	Internal Current Consumption	Number of Occupied I/O Points
						Current		
	32-pin connector	—	None	None	None	0.18A	0.11A	64 points *1
	40-pin connector × 2	32 points/common	Clamp diode			0.04A	0.245A	64 points *2

*1 : The same numbers are allocated to both input and output points. The number of occupied I/O points is 64.

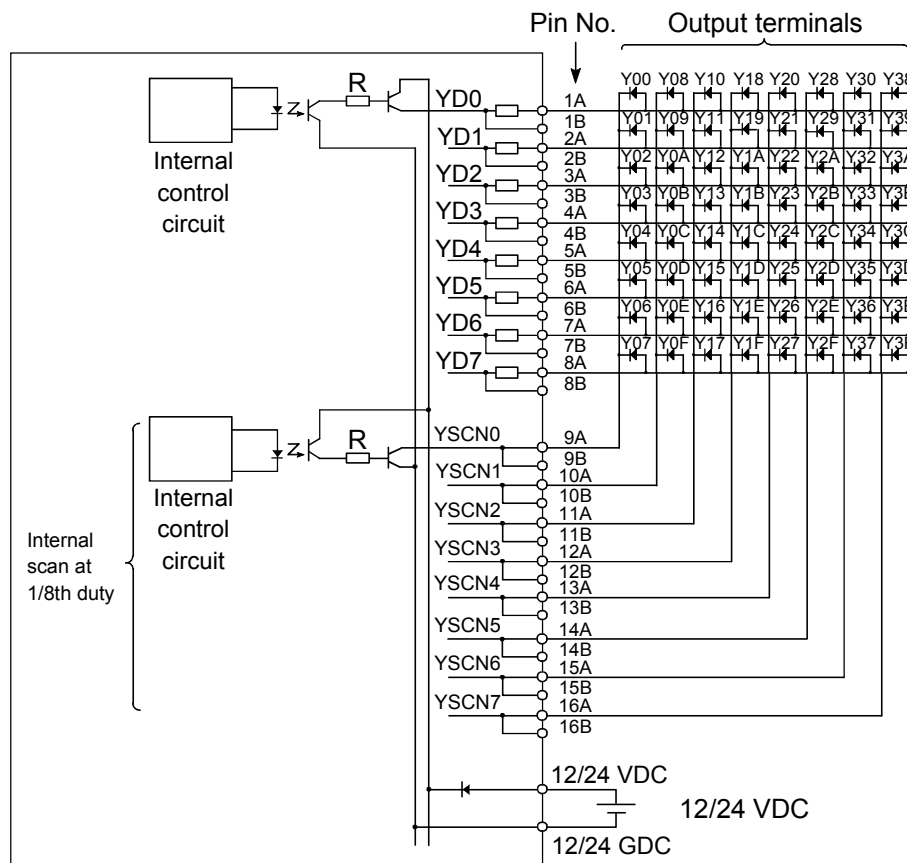
*2 : The first half 32 points are allocated to input and the latter half 32 points are allocated to output. Thus, the number of occupied I/O points is 64. When I/O allocation is carried out at a peripheral device, both modules should be set as 64-point output modules.

5.3.2 Input/output combined module connections

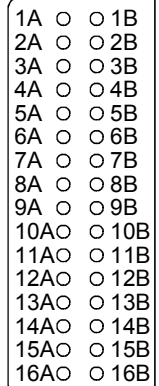


(1)	Model	Rated Input Voltage	Rated Load Voltage
	A42XY	12/24 VDC	12/24 VDC

Output side



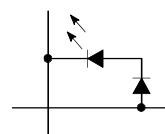
Pin Arrangement



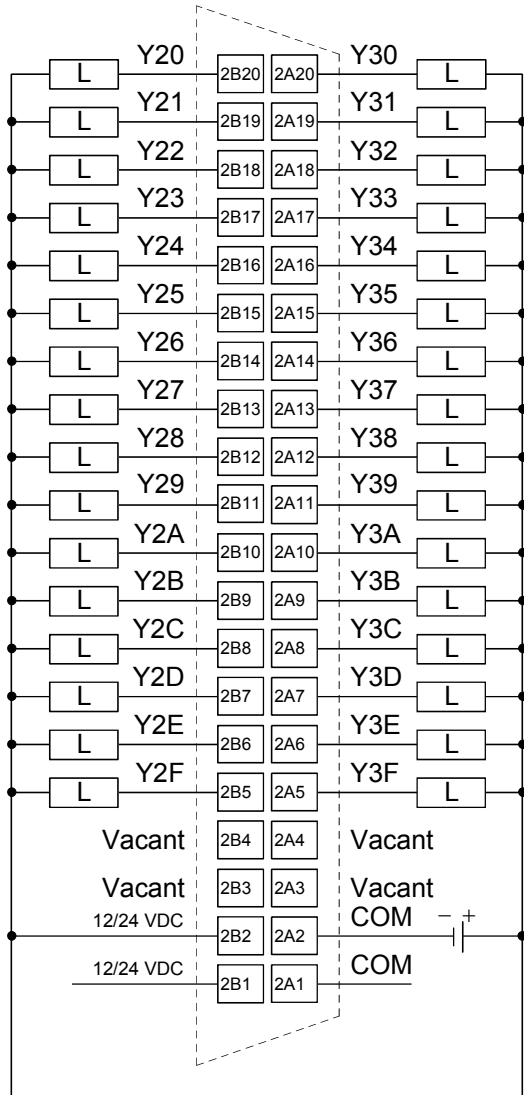
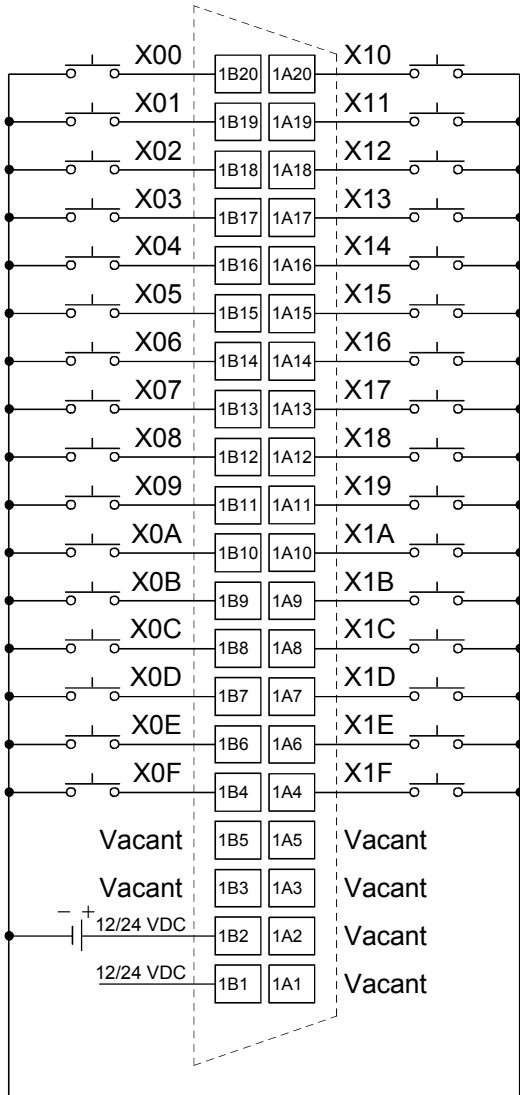
Seen from front face of the module

Pin No.	Signal Name	Pin No.	Signal Name
1A	YD0	1B	YD1
2A	YD1	2B	YD2
3A	YD2	3B	YD3
4A	YD3	4B	YD4
5A	YD4	5B	YD5
6A	YD5	6B	YD6
7A	YD6	7B	YD7
8A	YD7	8B	YD8
9A	YSCN0	9B	YSCN0
10A	YSCN1	10B	YSCN1
11A	YSCN2	11B	YSCN2
12A	YSCN3	12B	YSCN3
13A	YSCN4	13B	YSCN4
14A	YSCN5	14B	YSCN5
15A	YSCN6	15B	YSCN6
16A	YSCN7	16B	YSCN7

* The power supply voltage (12/24 VDC) is applied in the LED's reverse direction. If the peak inverse voltage insufficient, connect protective diodes in series with each of the LEDs. (see right)



(2)	Model	Rated Input Voltage	Rated Load Voltage
	AH42	12/24 VDC	12/24 VDC



X (Input side)

Y (Output side)

* **1B1** and **1B2** are connected internally.

* **2B1** and **2B2**, and **2A1** and **2A2** are connected internally.

❖ 6. ERROR CODE ❖

If an error occurs when the PLC is powered ON, switched to RUN status or running, the QnACPU module executes the self diagnostics function to display the error (LED display, message display) and store the error information into the special relay SM and special register SD.

Also, if an error occurs when a communication request is issued from a peripheral device, special function module or network system, the QnACPU returns the error code (4000H to 4FFFH) to the request source.

The following explains the QnACPU errors and the corresponding corrective actions.

REMARK

The error code of the error that occurred when a general data processing request is made from the peripheral device, special function module or network system is not stored into SD0 of the Q2ASCPU.

The error code is returned to the source of the general data processing request.

6.1 Error Code Type

Errors are detected by the self diagnostics function of CPU module or during communication with CPU module.

The following table classifies the errors according to the detection pattern, detection location and error code.

Error detection pattern	Error detection location	Error code	Reference
Detection by the self diagnostics function of CPU module	CPU module	1000 to 10000*1	Section 6.3
Detection at communication with CPU module	CPU module	4000H to 4FFFH	Q2A(S1)/Q3A/Q4ACPU User's Manual
	Serial communication module, etc.	7000H to 7FFFH	Serial Communication User's Manual, etc.
	CC-Link module	B000H to BFFFH	CC-Link System Master/Local Module User's Manual
	Ethernet module	C000H to CFFFH	Ethernet Interface Module User's Manual
	MELSECNET/H network module	F000H to FFFFH	For QnA/Q4AR MELSECNET/10 Network System Reference Manual

*1 : CPU module error codes are classified into minor, moderate, major errors as shown below.

- Minor error: Errors that may allow the CPU module to continue the operation, e.g., battery error.
(Error code: 1300 to 10000)
- Moderate error: Errors that may cause the CPU module to stop the operation, e.g., WDT error.
(Error code: 1300 to 10000)
- Major error: Errors that may cause the CPU module to stop the operation, e.g., RAM error.
(Error code: 1000 to 1299)

Determine the error level, i.e. whether the operation can be continued or stopped, by referring to “Operating Statuses of CPU” described in Section 6.3 “Error Code List”

6.2 Reading Error Code

When an error occurs, the corresponding error code and error message can be read out using a peripheral device.

For details on peripheral device operation, refer to GX Developer Operating Manual or SW□IVD-GPPQ/SW□NX-GPPQ Operating Manual (Online).

MEMO

6.3 Error Code List

The following information deals with error codes and the meanings, causes, and corrective measures of error messages.

<Relevant CPU>

- : Indicates all the QnACPU and QCPU.
- QCPU : Indicates all the Q series CPU modules.
- Q00J/Q00/Q01 : Indicates the Basic model QCPU.
- Qn(H) : Indicates the High Performance model QCPU.
- QnPH : Indicates the Process CPU.
- QnPRH : Indicates the Redundant CPU.
- QnA : Indicates the QnA series and Q2ASCPU series.
- Rem : Indicates the MELSECNET/H remote I/O modules.

Each CPU module model name: Indicates the relevant specific CPU module.

(Example: Q4AR, Q2AS)

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1000	MAIN CPU DOWN	-	-	Off	Flicker	Stop	Always	
1001								
1002								
1003								
1004								
1005								
1006								
1007								
1008								
1009								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALAM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1000	Runaway or failure of CPU module or failure of main CPU <ul style="list-style-type: none"> • Malfunctioning due to noise or other reason • Hardware fault 	<ul style="list-style-type: none"> • Take noise reduction measures. • Reset the CPU module and RUN it again.If the same error is displayed again, this suggests a CPU module hardware fault.(Contact your local Mitsubishi representative.) 	○
	1001			Q00J/Q00/Q01
	1002			Qn(H)
	1003			QnPH
	1004			QnPRH
	1005			QnU
	1006			Q00J/Q00/Q01
	1007			Qn(H)
	1008	QnPH		
	1009	<ul style="list-style-type: none"> • A failure is detected on the power supply module, CPU module, main base unit, extension base unit or extension cable. • When using the redundant base unit, the redundant power supply module failure in both systems and/or the redundant base unit failure are detected. 	Reset the CPU module and RUN it again.If the same error is detected again, it is considered that the power supply module, CPU module, main base unit, extension base unit or extension cable is faulty. (Contact your local Mitsubishi representative.)	Q00J/Q00/Q01 Q01* ⁴ Qn(H)* ⁶ QnPH QnPRH QnU

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1010	END NOT EXECUTE	–	–	Off	Flicker	Stop	When an END instruction executed	
1020	SFCP. END ERROR	–	–	Off	Flicker	Stop	When SFC program is executed	
1035	MAIN CPU DOWN	–	–	Off	Flicker	Stop	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1010	<p>Entire program was executed without the execution of an END instruction.</p> <ul style="list-style-type: none"> • When the END instruction is executed it is read as another instruction code, e.g. due to noise. • The END instruction has been changed to another instruction code somehow. 	<ul style="list-style-type: none"> • Take noise reduction measures. • Reset the CPU module and RUN it again. If the same error is displayed again, this suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.) 	○
	1020	<p>The SFC program cannot be normally terminated due to noise or other reason.</p> <ul style="list-style-type: none"> • The SFC program cannot be normally terminated due to noise or any similar cause. • The SFC program cannot be normally terminated for any other reason. 		Q00J/Q00/ Q01* ⁴ QnPH QnU
	1035	<p>Runaway or error of the CPU module was detected.</p> <ul style="list-style-type: none"> • Malfunction due to noise etc. • Hardware failure 	<ul style="list-style-type: none"> • Take measures against noise. • Reset the CPU module and run it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	QnU

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1101	RAM ERROR	-	-	Off	Flicker	Stop	At power ON/ At reset/ When an END instruction executed	
1102							At power ON/ At reset/ When an END instruction executed	
1103							At power ON/ At reset	
							At power ON/ At reset/ When an END instruction executed	
1104	RAM ERROR	-	-	Off	Flicker	Stop	At power ON/ At reset	
1105								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/ O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1101	The sequence program storing built-in RAM/program memory in the CPU module is faulty.	<ul style="list-style-type: none"> • Take noise reduction measures. • Reset the CPU module and RUN it again. If the same error is displayed again, this suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.) 	○
	1102	The work area RAM in the CPU module is faulty.	<ul style="list-style-type: none"> • Take noise reduction measures. • Reset the CPU module and RUN it again. If the same error is displayed again, this suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.) 	○
	1103	The device memory in the CPU module is faulty.	<ul style="list-style-type: none"> • Take noise reduction measures. • When indexing is performed, check the value of index register to see if it is within the device range. • Reset the CPU module and RUN it again. If the same error is displayed again, this suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.) 	○
		<ul style="list-style-type: none"> • The device memory in the CPU module is faulty. • The device out of range is accessed due to indexing, and the device for system is overwritten. 		Qn(H) ^{*8} QnPH ^{*8} QnPRH ^{*9}
	1104	The address RAM in the CPU module is faulty.	<ul style="list-style-type: none"> • Take noise reduction measures. • Reset the CPU module and RUN it again. If the same error is displayed again, this suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.) 	○
	1105	The system RAM in the CPU module is faulty.		Q4AR
		The CPU memory in the CPU module is faulty.		Q00J/Q00/Q01 QnU
		The CPU shared memory in the CPU module is faulty.		Qn(H) ^{*4} QnPH QnPRH QnU

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1106	RAM ERROR	–	–	Off	Flicker	Stop	STOP→RUN/ When an END instruction executed	
1107	RAM ERROR	–	–	Off	Flicker	Stop	At power ON/ At reset	
1108							Always	
1109								
1110	TRK. CIR. ERROR	–	–	Off	Flicker	Stop	At power ON/ At reset	
1111		–	–	Off	Flicker	Stop		

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALARM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1106	The battery is dead. The program memory in the CPU module is faulty.	<ul style="list-style-type: none"> • Check the battery to see if it is dead or not. If dead, replace the battery. • Take noise reduction measures. • Format the program memory, write all files to the PLC, then reset the CPU module, and RUN it again. If the same error is displayed again, the possible cause is a CPU module hardware fault. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	Qn(H) QnPH ^{*7} QnPRH
	1107	The work area RAM in the CPU module is faulty.	This suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.)	QnPRH
	1108			Qn(H) ^{*8} QnPH ^{*8} QnPRH ^{*9}
	1109			
	1110	A fault was detected by the initial check of the tracking hardware.		QnPRH
	1111	A tracking hardware fault was detected.		

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1112	TRK. CIR. ERROR	-	-	Off	Flicker	Stop	During running	
1113								
1115	TRK. CIR. ERROR	-	-	Off	Flicker	Stop	At power ON/ At reset	
1116	TRK. CIR. ERROR	-	-	Off	Flicker	Stop	During running	
1150	RAM ERROR	-	-	Off	Flicker	Stop	At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1112	A tracking hardware fault was detected during running. <ul style="list-style-type: none"> • The tracking cable was disconnected and reinserted without the standby system being powered off or reset. 	<ul style="list-style-type: none"> • Start after checking that the tracking cable is connected. If the same error is displayed again, the cause is the hardware fault of the tracking cable or CPU module. (Please contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. For details, refer to the QnPRHCPU User's Manual (Redundant System). 	
	1113	<ul style="list-style-type: none"> • The tracking cable is not secured by the connector fixing screws. • The error occurred at a startup since the redundant system startup procedure was not followed. 		
	1115	A fault was detected by the initial check of the tracking hardware.	This suggests a CPU module hardware fault. (Contact your nearest Mitsubishi representative.)	QnPRH
	1116	A tracking hardware fault was detected during running. <ul style="list-style-type: none"> • The tracking cable was disconnected and reinserted without the standby system being powered off or reset. • The tracking cable is not secured by the connector fixing screws. • The error occurred at a startup since the redundant system startup procedure was not followed. 	<ul style="list-style-type: none"> • Start after checking that the tracking cable is connected. If the same error is displayed again, the cause is the hardware fault of the tracking cable or CPU module. (Please contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. For details, refer to the QnPRHCPU User's Manual (Redundant System). 	
	1150	The memory of the CPU module in the Multiple CPU high speed transmission area is faulty.	<ul style="list-style-type: none"> • Take noise reduction measures. • Reset the CPU module and RUN it again. <p>If the same error is displayed again, the CPU module has hardware failure. Contact your local Mitsubishi representative, explaining a detailed description of the problem.</p>	QnU ^{*10}

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1160	RAM ERROR	-	-	Off	Flicker	Stop	At program execution	
1161							At program execution	
1162							At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.AL.M LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1160	The program memory in the CPU module is overwritten.	<ul style="list-style-type: none"> • Take noise reduction measures. • Format the program memory, write all files to the PLC, then reset the CPU module, and RUN it again. <p>If the same error is displayed again, the CPU module has hardware failure. Contact your local Mitsubishi representative, explaining a detailed description of the problem.</p>	QnU
	1161	The data of the device memory built in the CPU module is overwritten.	<ul style="list-style-type: none"> • Take noise reduction measures. <p>If the same error is displayed again, the CPU module has hardware failure. Contact your local Mitsubishi representative, explaining a detailed description of the problem.</p>	
	1162	The error of the data held by the battery in the CPU module is detected. (It occurs when the automatic format is not set.)	<ul style="list-style-type: none"> • Take noise reduction measures. • Change the CPU main body or SRAM card battery. <p>If the same error is displayed again, the CPU module has hardware failure. Contact your local Mitsubishi representative, explaining a detailed description of the problem.</p>	

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1200	OPE. CIRCUIT ERR.	-	-	Off	Flicker	Stop	At power ON/ At reset	
1201								
1202								
1203	OPE. CIRCUIT ERR.	-	-	Off	Flicker	Stop	When an END instruction executed	
1204								
1205								
1206	OPE. CIRCUIT ERR.	-	-	Off	Flicker	Stop	When instruction executed	
1300	FUSE BREAK OFF	Module No. (Slot No.) [For Remote I/ O network] Network No./ Station No.	-	Off/ On	Flicker/ On	Stop/ Continue*1	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1200	The operation circuit for index modification in the CPU module does not operate normally.	This suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.)	○
	1201	The hardware (logic) in the CPU module does not operate normally.		
	1202	The operation circuit for sequence processing in the CPU module does not operate normally.		
	1203	The operation circuit for index modification in the CPU module does not operate normally.		Q4AR QnPRH
	1204	The hardware (logic) in the CPU module does not operate normally.		
	1205	The operation circuit for sequence processing in the CPU module does not operate normally.		
	1206	The DSP operation circuit in the CPU module does not operate normally.	Q4AR	
	1300	There is an output module with a blown fuse.	<ul style="list-style-type: none"> • Check FUSE. LED of the output modules and replace the module whose LED is lit. (The module with a blown fuse can also be identified using GX Developer. Check the special registers SD1300 to SD1331 to see if the bit corresponding to the module is "1".) • When a GOT is bus-connected to the main base unit or extension base unit, check the connection status of the extension cable and the earth status of the GOT. 	Qn(H) QnPH QnPRH QnU Rem
		There is an output module with a blown fuse.	Check ERR. LED of the output modules and replace the module whose LED is lit. (The module with a blown fuse can also be identified using GX Developer. Check the special registers SD130 to SD137 to see if the bit corresponding to the module is "1".)	Q00J/Q00/Q01

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1300	FUSE BREAK OFF	Module No. (Slot No.) [For Remote I/O network] Network No./ Station No.	—	Off/ On	Flicker/ On	Stop/ Continue*1	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
1300	There is an output module with a blown fuse.	<ul style="list-style-type: none"> • Check ERR. LED of the output modules and replace the fuse of the module whose LED is lit. • Read the common information of the error using the peripheral device and replace the fuse at the output module corresponding to the numerical value (module No.) reading. Alternatively, monitor special registers SD1300 to SD1331 with the peripheral device and change the fuse of the output module whose bit has a value of "1". • When a GOT is bus-connected to the main base unit or extension base unit, check the connection status of the extension cable and the grounding status of the GOT. 	QnA Q4AR
	<ul style="list-style-type: none"> • There is an output module with a blown fuse. • External power supply for output load is turned off or disconnected. 	<ul style="list-style-type: none"> • Check ERR. LED of the output modules and replace the module whose LED is lit. • Read the common information of the error using the peripheral device and replace the fuse at the output module corresponding to the numerical value (module No.) reading. Alternatively, monitor special registers SD1300 to SD1331 with the peripheral device and change the fuse of the output module whose bit has a value of "1". • Check whether the external power supply for output load is ON or OFF. • When a GOT is bus-connected to the main base unit or extension base unit, check the connection status of the extension cable and the earth status of the GOT. 	Q2AS

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1310	I/O INT. ERROR	-	-	Off	Flicker	Stop	During interrupt	
1311								
1401	SP. UNIT DOWN	Module No. (Slot No.)	-	Off/ On	Flicker/ On	Stop/ Continue* ²	At power ON/ At reset/When intelligent function module is accessed	
				Off	Flicker	Stop* ²	At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/ O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1310	An interruption has occurred although there is no interrupt module.	Any of the mounted modules is experiencing a hardware fault. Therefore, check the mounted modules and change the faulty module. (Contact your local Mitsubishi representative.)	○
	1311	An interrupt request from other than the interrupt module was detected.	Take action so that an interrupt will not be issued from other than the interrupt module.	Q00J/Q00/ Q01 ^{*4} QnU
		An interrupt request from the module where interrupt pointer setting has not been made in the PLC parameter dialog box was detected.	<ul style="list-style-type: none"> • Correct the interrupt pointer setting in the PLC system setting of the PLC parameter dialog box. • Take measures so that an interrupt is not issued from the module where the interrupt pointer setting in the PLC system setting of the PLC parameter dialog box has not been made. Correct the interrupt setting of the network parameter. Correct the interrupt setting of the intelligent function module buffer memory. Correct the basic program of the QD51. 	Q00J/Q00/ Q01 ^{*5} QnPRH QnU
	1401	<ul style="list-style-type: none"> • There was no response from the intelligent function module/special function module in the initial processing. • The size of the buffer memory of the intelligent function module/special function module is invalid. • The unsupported module is mounted. 	When the unsupported module is mounted, remove it. When the corresponding module is supported, this suggests the intelligent function module/special function module, CPU module and/or base unit is expecting a hardware fault (Contact your local Mitsubishi representative.)	QCPU Rem
		When PLC parameter I/O allocation was being made, there was no return signal from the special function module during initial processing stage.(When error is generated, the head I/O number of the special function module that corresponds to the common information is stored.)	The CPU module, base unit and/or the special function module that was accessed is experiencing a hardware fault. (Contact your local Mitsubishi representative.)	QnA

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1402	SP. UNIT DOWN	Module No. (Slot No.)	Program error location	Off/ On	Flicker/ On	Stop/ Continue *2	When an intelligent function module access instruction is executed	
				Off	Flicker	Stop	During execution of FROM/TO instruction set	
1403	SP. UNIT DOWN	Module No. (Slot No.)	-	Off/ On	Flicker/ On	Stop/ Continue *2	When an END instruction executed	
				Off/ On	Flicker/ On	Stop/ Continue *2	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/ O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
		The intelligent function module/special function module was accessed in the program, but there was no response.	This suggests the intelligent function module/special function module , CPU module and/or base unit is expecting a hardware fault (Contact your local Mitsubishi representative.)	QCPU Rem
	1402	The special function module was accessed during the execution of a FROM/TO instruction set, but there was no response. (When an error is generated, the program error location corresponding to the individual information is stored.)	The CPU module, base unit and/or the special function module that was accessed is experiencing a hardware fault.(Contact your local Mitsubishi representative.)	QnA
		<ul style="list-style-type: none"> • The unsupported module is mounted. 	When the unsupported module is mounted, remove it. When the corresponding module is supported, this suggests the intelligent function module/special function module , CPU module and/or base unit is expecting a hardware fault (Contact your local Mitsubishi representative.)	QCPU
	1403	<ul style="list-style-type: none"> • There was no response from the intelligent function module/special function module when the END instruction is executed. • An error is detected at the intelligent function module/special function module. • The I/O module (intelligent function module/special function module) is nearly removed, completely removed, or mounted during running. 	The CPU module, base module and/or the intelligent function module/special function module that was accessed is experiencing a hardware fault. (Contact your local Mitsubishi representative.)	QCPU Rem

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1411	CONTROL-BUS. ERR.	Module No. (Slot No.)	–	Off	Flicker	Stop	At power ON/ At reset	
1412	CONTROL-BUS. ERR.	Module No. (Slot No.)	Program error location	Off	Flicker	Stop	During execution of FROM/TO instruction set	
1413	CONTROL-BUS. ERR.	–	–	Off	Flicker	Stop	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALAM LED is displayed at BATTERY ERROR.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
1411	When performing a parameter I/O allocation the intelligent function module/special function module could not be accessed during initial communications. (On error occurring, the head I/O number of the corresponding intelligent function module/special function module is stored in the common information.)	Reset the CPU module and RUN it again. If the same error is displayed again, the intelligent function module/special function module, CPU module or base unit is faulty. (Contact your local Mitsubishi representative.)	○ Rem
1412	The FROM/TO instruction is not executable, due to a control bus error with the intelligent function module/special function module. (On error occurring, the program error location is stored in the individual information.)		○
1413	In a multiple CPU system, a CPU module incompatible with the multiple CPU system is mounted.	<ul style="list-style-type: none"> • Remove the CPU module incompatible with the multiple CPU system from the main base unit, or replace the CPU module incompatible with the multiple CPU system with a CPU module compatible with the multiple CPU system. • The intelligent function module, CPU module or base unit is faulty. (Contact your local Mitsubishi representative.) 	Q00J/Q00/ Q01*4 Qn(H)*4 QnPH
	An error is detected on the system bus. <ul style="list-style-type: none"> • Self-diagnosis error of the system bus. • Self-diagnosis error of the CPU module 	Reset the CPU module and RUN it again. If the same error is displayed again, the intelligent function module, CPU module or base unit is faulty. (Contact your local Mitsubishi representative.)	QCPU Rem

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1414	CONTROL-BUS. ERR.	Module No. (Slot No.)	–	Off	Flicker	Stop	Always	
1415	CONTROL-BUS. ERR.	Module No. (Slot No.)	–	Off	Flicker	Stop	When an END instruction executed	
							At power-ON/ At reset/ When an END instruction executed	
1416	CONTROL-BUS. ERR.	Module No. (Slot No.)	–	Off	Flicker	Stop	At power ON/ At reset	
1417	CONTROL-BUS. ERR.	–	–	Off	Flicker	Stop	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALARM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1414	<ul style="list-style-type: none"> Fault of a loaded module was detected. In a multiple CPU system, a CPU module incompatible with the multiple CPU system is mounted. 	<ul style="list-style-type: none"> Remove the CPU module incompatible with the multiple CPU system from the main base unit, or replace the CPU module with a CPU module compatible with the multiple CPU system. Reset the CPU module and RUN it again. If the same error is displayed again, the intelligent function module, CPU module or base unit is faulty. (Contact your local Mitsubishi representative.) 	Q00J/Q00/ Q01*4 Qn(H)*4 QnPH QnU
		An error is detected on the system bus.	Reset the CPU module and RUN it again. If the same error is displayed again, the intelligent function module, CPU module or base unit is faulty. (Contact your local Mitsubishi representative.)	Q00J/Q00/ Q01*4 Qn(H) QnPH QnPRH QnU Rem
	1415	Fault of the main or extension base unit was detected.	Reset the CPU module and RUN it again. If the same error is displayed again, the intelligent function module, CPU module or base unit is faulty. (Contact your local Mitsubishi representative.)	Q00J/Q00/Q01 Qn(H)*4 QnPH QnPRH QnU Rem
				Qn(H)*8 QnPH*8
	1416	System bus fault was detected at power-on or reset.	Reset the CPU module and RUN it again. If the same error is displayed again, the intelligent function module, CPU module or base unit is faulty. (Contact your local Mitsubishi representative.)	Qn(H)*4 QnPH QnU
		In a multiple CPU system, a bus fault was detected at power-on or reset.		Q00/Q01*4 QnU
	1417	A reset signal error was detected on the system bus.	CPU module or base unit is faulty. (Contact your local Mitsubishi representative.)	QnPRH

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1418	CONTROL-BUS.ERR.	–	–	Off	Flicker	Stop	At power-ON/ At reset/ At Switching execution	
1421	SYS. UNIT DOWN	–	–	Off	Flicker	Stop	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/ O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
1418	In the redundant system, at power-on/ reset or switching system, the control system cannot access the extension base unit since it failed to acquire the access right.	Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module, the Q6□WRB, or hardware of extension cable is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	QnPRH* ⁹
1421	Hardware fault at the system management module AS92R.	This suggests a system management module AS92R hardware fault. (Contact your local Mitsubishi representative.)	Q4AR

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1430	MULTI-C.BUS ERR.	–	–	Off	Flicker	Stop	At power ON/ At reset	
1431		Module No. (CPU No.)						
1432								
1433	MULTI-C.BUS ERR.	Module No. (CPU No.)	–	Off	Flicker	Stop	Always	
1434								
1435								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1430	The error of host CPU is detected in the Multiple CPU high speed bus.	Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	QnU*10
	1431	The communication error with other CPU is detected in the Multiple CPU high speed bus.	<ul style="list-style-type: none"> • Take noise reduction measures. • Check the main base unit mounting status of the CPU module. • Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	
	1432	The communication time out with other CPU is detected in the Multiple CPU high speed bus.	Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	
	1433		<ul style="list-style-type: none"> • Take noise reduction measures. • Check the main base unit mounting status of the CPU module. • Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	
	1434			
	1435	The communication error with other CPU is detected in the Multiple CPU high speed bus.	<ul style="list-style-type: none"> • Take noise reduction measures. • Check the main base unit mounting status of the CPU module. • Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1436	MULTI-C.BUS ERR.	-	-	Off	Flicker	Stop	At power ON/ At reset	
1437								
1439	MULTI-C.BUS ERR.	-	-	Off	Flicker	Stop	At power ON/ At reset	
1500	AC/DC DOWN	-	-	On	Off	Continue	Always	
1510	DUAL DC DOWN 5V	-	-	On	On	Continue	Always	
	SINGLE PS. DOWN	Base No./ Power supply No.	-	On	On	Continue	Always	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	1436	The error of the Multiple CPU high speed main base unit is detected. (The error of the Multiple CPU high speed bus is detected.)	Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	QnU*10
	1437		<ul style="list-style-type: none"> • Take noise reduction measures. • Check the main base unit mounting status of the CPU module. • Reset the CPU module and RUN it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	
	1439	An error of the multiple CPU high speed main base unit was detected. (An error of the multiple CPU high speed bus was detected.)	Reset the CPU module and run it again. If the same error is displayed again, the CPU module has hardware failure. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	
	1500	<ul style="list-style-type: none"> • A momentary power supply interruption has occurred. • The power supply went off. 	Check the power supply.	○ Rem
	1510	The power supply voltage (100 to 240VAC) of either of the two power supply modules on the power supply duplexing extension base unit dropped to or below 85% of the rated voltage. (This can be detected from the control system of the redundant system.)	Check the supply voltage of the power supply module. If the voltage is abnormal then replace the power supply module.	Q4AR
		The voltage of one power supply module dropped on the redundant base unit.	Check the power supplied to the redundant power supply modules mounted on the redundant base unit.	Qn(H)*6 QnPH*6 QnPRH Rem

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
1520	DC DOWN 5V	–	–	Off	Flicker	Stop	Always	
	SINGLE PS. ERROR	Base No./ Power supply No.	–	On	On	Continue	Always	
1530	DC DOWN 24V	–	–	On	On	Continue	Always	
1600	BATTERY ERROR*3	Drive Name	–	On	Off	Continue	Always	
1601					On			
1602					On			
1610	FLASH ROM ERROR	–	–	On	On	Continue	When writing to ROM	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 In the QCPU except for remote I/O module, either error stop or continue can be selected for each intelligent function module by the parameters.

*3 BAT.ALM LED is displayed at BATTERY ERROR.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU	
	1520	The voltage(100 to 240VAC) of the power supply module on the extension base unit dropped to or below 85% of the rated voltage. (This can be detected from the control system of the stand-alone system or redundant system.)	Check the supply voltage of the power supply module. If the voltage is abnormal then replace the power supply module.	Q4AR	
		A fault of one redundant power supply module was detected in the redundant power supply system.	Hardware fault of the redundant power supply module. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	Qn(H) ^{*6} QnPH ^{*6} QnPRH Rem	
	1530	The 24 VDC power supplied to the system management module AS92R has dropped below 90% of the rated voltage. (This can be detected from the control system or standby system of the redundant system.)	Check the 24VDC power supplied to the system management module AS92R.	Q4AR	
	1600	<ul style="list-style-type: none"> • The battery voltage in the CPU module has dropped below stipulated level. • The lead connector of the CPU module battery is not connected. 	<ul style="list-style-type: none"> • Change the battery. • If the battery is for program memory, standard RAM or for the back-up power function, install a lead connector. 	○	
		1601	Voltage of the battery on memory card 1 has dropped below stipulated level.	Change the battery.	QnA Qn(H) QnPH QnPRH QnU
		1602	Voltage of the battery on memory card 2 has dropped below stipulated level.	Change the battery.	QnA
	1610	The number of writing to flash ROM (standard ROM and system securement area) exceeds 100,000 times. (Number of writings >100,000 times)	Change the CPU module.	QnU	

*4 Function version is B or later.

*5 Function version is A.

*6 The module whose first 5 digits of serial No. is 04101 or later.

*7 The module whose first 5 digits of serial No. is 07032 or later.

*8 The module whose first 5 digits of serial No. is 08032 or later.

*9 The module whose first 5 digits of serial No. is 09012 or later.

*10 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2000	UNIT VERIFY ERR.	Module No. (Slot No.) [For Remote I/O network] Network No./ Station No.	—	Off/ On	Flicker/ On	Stop/ Continue ^{*1}	When an END instruction executed	
2001	UNIT VERIFY ERR.	Module No. (CPU No.)	—	Off/ On	Flicker/ On	Stop/ Continue ^{*2}	When an END instruction executed	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2000	In a multiple CPU system, a CPU module incompatible with the multiple CPU system is mounted.	Replace the CPU module incompatible with the multiple CPU system with a CPU module compatible with the multiple CPU system.	Qn(H) ^{*3} QnPH
	The I/O module status is different from the I/O module information at power ON. • I/O module (or intelligent function module) is not installed properly or installed on the base unit.	Read the error common information at the GX Developer, and check and/or change the module that corresponds to the numerical value (module number) there. Alternatively, monitor special registers SD150 to SD157 using GX Developer, and check and replace the module where the bit of its data is "1".	Q00J/Q00/Q01
	I/O module information power ON is changed. • I/O module (or intelligent function module/special function module) not installed properly or installed on the base unit.	<ul style="list-style-type: none"> • Read the common information of the error using the peripheral device, and check and/or change the module that corresponds to the numerical value (module number) there. • Alternatively, monitor the special registers SD1400 to SD1431 at a peripheral device, and change the fuse at the output module whose bit has a value of "1". • When a GOT is bus-connected to the main base unit or extension base unit, check the connection status of the extension cable and the grounding status of the GOT. 	QnA Qn(H) QnPH QnPRH QnU Rem
2001	During operation, a module was mounted on the slot where the empty setting of the CPU module was made.	During operation, do not mount a module on the slot where the empty setting of the CPU module was made.	Q00J/Q00/ Q01 ^{*3} QnU

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2010	BASE LAY ERROR	Base No.	-	Off	Flicker	Stop	At power ON/ At reset	
2011								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2010	<ul style="list-style-type: none"> • More than applicable number of extension base units have been used. • When a GOT was bus-connected, the CPU module was reset while the power of the GOT was OFF. 	<ul style="list-style-type: none"> • Use the allowable number of extension base units or less. • Power on the PLC and GOT again. 	Q00J/Q00/ Q01 ^{*3} QnPRH Q02U
	2011	The QA1S6□B or QA6□B was used as the base unit.	Do not use the QA1S6□B or QA6□B as the base unit.	Q00J/Q00/ Q01 ^{*3} QnPRH QnU

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2012	BASE LAY ERROR	Base No.	-	Off	Flicker	Stop	At power ON/ At reset	
2013								
2020	EXT.CABLE ERR.	-	-	Off	Flicker	Stop	At power-ON/ At reset/ When an END instruction executed	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2012	<p>The GOT is bus-connected to the main base unit of the redundant system.</p> <p>The following errors are detected in the CPU redundant system compatible with the extension base unit.</p> <ul style="list-style-type: none"> • The base unit other than the Q6□WRB is connected to the extension stage No.1. • The base unit is connected to any one of the extension stages No.2 to No.7, although the Q6□WRB does not exist in the extension stage No.1 . • The other system CPU module is incompatible with the extension base unit. • The Q5□B, QA1S6□B, or QA6□B is connected. • The number of slots of the main base unit for both systems is different. <p>Information of the Q6□WRB cannot be read correctly.</p>	<ul style="list-style-type: none"> • Remove a bus connection cable for GOT connection connected to the main base unit. • Use the Q6□WRB (fixed to the extension stage No.1) • Use the CPU module compatible with the extension base unit for the other system. • Do not use the Q5□B, QA1S6□B, or QA6□B for the base unit. • Use the main base unit which has the same number of slots. • Hardware failure of the Q6□WRB. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	QnPRH ^{*6}
2013	<p>Stage number of the Q6□WRB is recognized as other than extension stage No.1 in the redundant system.</p>	<p>Hardware failure of the Q6□WRB. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)</p>	
2020	<p>The following errors are detected in the redundant system.</p> <ul style="list-style-type: none"> • At power-on/reset, the standby system has detected the error in the path between the control system and the Q6□WRB. • The standby system has detected the error in the path between the host system CPU and the Q6□WRB at END processing. 	<p>Check to see if the extension cable between the main base unit and the Q6□WRB is connected correctly. If not, connect it after turning OFF the main base unit where the extension cable will be connected.</p> <p>If the cable is connected correctly, hardware of the CPU module, Q6□WRB, or extension cable is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)</p>	

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2100	SP. UNIT LAY ERR.	Module No. (Slot No.)	-	Off	Flicker	Stop	At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2100	<p>The slot to which the QI60 is mounted is set to other than Inteli (intelligent function module) or Interrupt (interrupt module) in the I/O assignment of PLC parameter.</p>	<p>Make setting again to match the PLC parameter I/O assignment with the actual loading status.</p>	<p>Qn(H)^{*3} QnPH QnPRH</p>
	<ul style="list-style-type: none"> • In the I/O assignment setting of PLC parameter, Inteli (intelligent function module) was allocated to an I/O module or vice versa. • In the I/O assignment setting of PLC parameter, a module other than CPU (or nothing) was allocated to the location of a CPU module or vice versa. • In the I/O assignment setting of the PLC parameter, switch setting was made to the module that has no switch setting. • In the I/O assignment setting of the PLC parameter dialog box, the number of points assigned to the intelligent function module is less than the number of points of the mounted module. 	<ul style="list-style-type: none"> • Make the PLC parameter's I/O assignment setting again so it is consistent with the actual status of the intelligent function module and the CPU module. • Delete the switch setting in the I/O assignment setting of the PLC parameter. 	<p>Qn(H) QnPH QnPRH QnU Rem</p>
	<ul style="list-style-type: none"> • In the parameter I/O allocation settings, an Inteli (intelligent function module) was allocated to a location reserved for an I/O module or vice versa. • In the parameter I/O allocation settings, a module other than CPU (or nothing) was allocated to a location reserved for a CPU module or vice versa. • In the I/O assignment setting of the PLC parameter dialog box, the number of points assigned to the intelligent function module is less than the number of points of the mounted module. 	<p>Reset the parameter I/O allocation setting to conform to the actual status of the intelligent function module and the CPU module.</p>	<p>Q00J/Q00/Q01</p>

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2100	SP. UNIT LAY ERR.	Module No. (Slot No.)	–	Off	Flicker	Stop	At power ON/ At reset	
2101	SP. UNIT LAY ERR.	Module No. (Slot No.)	–	Off	Flicker	Stop	At power ON/ At reset	
2102								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2100	In PLC parameter I/O allocation settings, a special function module was allocated to a location reserved for an I/O module. Or, the opposite has happened.	Reset the PLC parameter I/O allocation setting to conform with the actual status of the special function modules.	QnA
	2101	13 or more A-series special function modules (except for the A1SI61) that can initiate an interrupt to the CPU module have been installed.	Reduce the A series special function modules (except the A1SI61) that can make an interrupt start to the CPU module to 12 or less.	Qn(H)
		13 or more special function modules (not counting the A(1S)I61) capable of sending an interrupt to the CPU module have been installed.	Keep the number of special function modules that can initiate an interrupt (with the exception of the A(1S)I61 module) to 12 or fewer.	QnA
	2102	Seven or more A1SD51S have been installed.	Keep the number of A1SD51S to six or fewer.	Qn(H)
		Seven or more serial communication modules (excludes A (1S) J71QC24) have been installed.	Keep the number of serial communication modules (excludes A(1S)J71QU24) installed to six or fewer.	QnA

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2103	SP. UNIT LAY ERR.	Module No. (Slot No.)	-	Off	Flicker	Stop	At power ON/ At reset	
2104								
2105	SP. UNIT LAY ERR.	Module No. (Slot No.)	-	Off	Flicker	Stop	At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU																													
2103	<ul style="list-style-type: none"> Two or more QI60/A1SI61 modules are mounted in a single CPU system. Two or more QI60/A1SI61 modules are set to the same control CPU in a multiple CPU system. Two or more A1SI61 modules are loaded in a multiple CPU system. 	<ul style="list-style-type: none"> Reduce the number of QI60/A1SI61 modules mounted in the single CPU system to one. Change the number of QI60/A1SI61 modules set to the same control CPU to only one in the multiple CPU system. Reduce the number of A1SI61 modules to only one in the multiple CPU system. When using an interrupt module with each QCPU in a multiple CPU system, replace it with the QI60. (Use one A1SI61 module + max. three QI60 modules or only the QI60 modules.) 	Qn(H) ^{*3} QnPH																													
	Two or more QI60, A1SI61 interrupt modules have been mounted.	Install only 1 QI60, A(1S)I61 module.	Qn(H) QnPRH																													
	The QI60 is mounted.	Remove the QI60.	Rem																													
	Two or more A1SI61 interrupt modules have been mounted.	Install only 1 AI61 module.	QnA																													
	Two or more QI60 modules are mounted.	Reduce the QI61 modules to one.	Q00J/Q00/ Q01 ^{*5}																													
2104	At the MELSECNET/MINI auto refresh network parameter settings, the module allocation that was set is different from the actual module models at the station numbers in the link system.	Reset the network parameter MELSECNET/MINI auto refresh unit module allocation setting so that it conforms to the station number of the module that is actually linked.																														
	<p>There are too many special function modules that can use dedicated instructions allocated (number of modules installed). (The total of the figures indicated below is above 1344.)</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-right: 10px;">(AD59</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 5)</td> </tr> <tr> <td style="padding-right: 10px;">(AD57(S1)/AD58</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 8)</td> </tr> <tr> <td style="padding-right: 10px;">(AJ71C24(S3/S6/S8)</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 10)</td> </tr> <tr> <td style="padding-right: 10px;">(AJ71UC24</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 10)</td> </tr> <tr> <td style="padding-right: 10px;">(AJ71C21(S1)</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 29)</td> </tr> <tr> <td style="padding-right: 10px;">(AJ71PT32-S3/AJ71T32-S3</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 125) *</td> </tr> <tr> <td style="padding-right: 10px;">(AJ71QC24(R2,R4)</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 29)</td> </tr> <tr> <td style="padding-right: 10px;">(AJ71ID1(2)-R4</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 8)</td> </tr> <tr> <td style="padding-right: 10px;">+(AD75</td> <td style="padding-right: 10px;">modules installed</td> <td style="text-align: right;">× 12)</td> </tr> <tr> <td colspan="2" style="border-top: 1px solid black;"></td> <td style="text-align: right; border-top: 1px solid black;">total > 1344</td> </tr> </table> <p>*: When the expansion mode is used.</p>	(AD59	modules installed	× 5)	(AD57(S1)/AD58	modules installed	× 8)	(AJ71C24(S3/S6/S8)	modules installed	× 10)	(AJ71UC24	modules installed	× 10)	(AJ71C21(S1)	modules installed	× 29)	(AJ71PT32-S3/AJ71T32-S3	modules installed	× 125) *	(AJ71QC24(R2,R4)	modules installed	× 29)	(AJ71ID1(2)-R4	modules installed	× 8)	+(AD75	modules installed	× 12)			total > 1344	Reduce the number of special function modules installed.
(AD59	modules installed	× 5)																														
(AD57(S1)/AD58	modules installed	× 8)																														
(AJ71C24(S3/S6/S8)	modules installed	× 10)																														
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*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2106	SP.UNIT LAY ERR.	Module No.	–	Off	Flicker	Stop	At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2106	<ul style="list-style-type: none"> • Three or more MELSECNET/H and MELSECNET/G modules in total are mounted in the entire system. • Three or more Ethernet interface modules are mounted in the entire system. 	<ul style="list-style-type: none"> • Reduce the MELSECNET/H and MELSECNET/G modules up to two or less in the entire system. • Reduce the Ethernet interface modules up to two or less in the entire system. 	Q02U
	<ul style="list-style-type: none"> • Five or more MELSECNET/H and MELSECNET/G modules in total are mounted in the entire system. • Five or more Ethernet interface modules are mounted in the entire system. 	<ul style="list-style-type: none"> • Reduce the MELSECNET/H and MELSECNET/G modules up to four or less in the entire system. • Reduce the Ethernet interface modules up to four or less in the entire system. 	QnU ^{*7}
	<ul style="list-style-type: none"> • Three or more MELSECNET/G modules are mounted in the entire system. • Five or more MELSECNET/H and MELSECNET/G modules in total are mounted in the entire system. 	<ul style="list-style-type: none"> • Reduce the MELSECNET/G modules up to two or less in the entire system. • Reduce the total number of the MELSECNET/H and MELSECNET/G modules up to four or less in the entire system. 	Qn(H) ^{*6}

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2106	SP. UNIT LAY ERR.	Module No. (Slot No.)	-	Off	Flicker	Stop	At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2106	<ul style="list-style-type: none"> • Five or more MELSECNET/H modules have been installed. • Five or more Q series Ethernet interface modules have been installed. 	<ul style="list-style-type: none"> • Reduce the number of MELSECNET/H modules to four or less. • Reduce the number of Q series Ethernet modules to four or less. 	Qn(H) QnPH QnPRH Rem
	<ul style="list-style-type: none"> • Two or more MELSECNET/H modules were installed. • Two or more Q series Ethernet modules were installed. • Three or more Q series CC-Link modules were installed. 	<ul style="list-style-type: none"> • Reduce the MELSECNET/H modules to one or less. • Reduce the Q series Ethernet modules to one or less. • Reduce the Q series CC-Link modules to two or less. 	Q00J/Q00/Q01
	<ul style="list-style-type: none"> • The same network number or same station number is duplicated in the MELSECNET/H network system. 	<ul style="list-style-type: none"> • Check the network number and station number. 	QCPU Rem
	<ul style="list-style-type: none"> • Five or more AJ71QLP21 & AJ71QBR11 modules are installed. • Three or more AJ71AP21/R21 & AJ71AT21B modules are installed. • The total number of installed AJ71QLP21, AJ71QBR11, AJ71AP21/R21, and AJ71AT21B modules exceeds five. • The same network numbers or identical station numbers exist in the MELSECNET/10 network system. • Two or more master or load stations exist simultaneously at the MELSECNET(II) or MELSECNET/B data link system. 	<ul style="list-style-type: none"> • Reduce the AJ71QLP21 and AJ71QBR11 modules to four or less. • Reduce the AJ71AP21/R21 and AJ71AT21B modules to two or less. • Reduce the AJ71QLP21, AJ71QBR11, AJ71AP21/R21 and AJ71AT21B modules to a total of four or less. • Check the network Nos. and station Nos. • Check the station Nos. 	QnA

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2107	SP. UNIT LAY ERR.	Module No. (Slot No.)	-	Off	Flicker	Stop	At power ON/ At reset	
2108								
2109						Stop/ Continue ^{*2}		
2110	SP. UNIT ERROR	Module No. (Slot No.)	Program error location	Off/ On	Flicker/ On	Stop/ Continue ^{*1}	When instruction executed	
2111								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2107	The start X/Y set in the PLC parameter's I/O assignment settings is overlapped with the one for another module.	Make the PLC parameter's I/O assignment setting again so it is consistent with the actual status of the intelligent function module/special function modules.	○ Rem
	2108	<ul style="list-style-type: none"> • Network module A1SJ71LP21, A1SJ71BR11, A1SJ71AP21, A1SJ71AR21, or A1SJ71AT21B dedicated for the A2USCPU has been installed. • Network module A1SJ71QLP21 or A1SJ71QBR11 dedicated for the Q2AS has been installed. 	Replace the network module to MELSECNET/H module.	Qn(H)
		A(1S)J71LP21 or A(1S)J71BR11 for use with the AnUCPU network module has been installed.	Replace the network module to A(1S)J71QLP21 or A(1S)J71QBR11.	QnA
	2109	The control system and standby system module configurations are different when a redundant system is in the backup mode.	Check the module configuration of the standby system.	Q4AR
	2110	<ul style="list-style-type: none"> • The location designated by the FROM/TO instruction set is not the intelligent function module/special function module. • The module that does not include buffer memory has been specified by the FROM/TO instruction. • The intelligent function module/special function module, Network module being accessed is faulty. • Station not loaded was specified using the instruction whose target was the CPU share memory. 	<ul style="list-style-type: none"> • Read the individual information of the error using the GX Developer, check the FROM/TO instruction that corresponds to that numerical value (program error location), and correct when necessary. • The intelligent function module/special function module that was accessed is experiencing a hardware fault. Therefore, change the faulty module. Alternatively, contact your local Mitsubishi representative. 	Q00J/Q00/Q01 Qn(H) ^{*3} QnPH QnPRH QnU
		2111		<ul style="list-style-type: none"> • The location designated by a link direct device (J□\□) is not a network module. • The I/O module (intelligent function module/special function module) was nearly removed, completely removed, or mounted during running.

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2112	SP. UNIT ERROR	Module No. (Slot No.)	Program error location	Off/ On	Flicker/ On	Stop/ Continue ^{*1}	When instruction executed/ STOP → RUN	
2113	SP. UNIT ERROR	FFFF _H (fixed)	Program error location	Off/ On	Flicker/ On	Stop/ Continue ^{*2}	When instruction executed/ STOP → RUN	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2112	<ul style="list-style-type: none"> • The module other than special function module is specified by the special function module dedicated instruction. Or, it is not the corresponding special function module. • The module model specified by the special function module dedicated instruction and that specified by the parameter I/O assignment is different. 	<ul style="list-style-type: none"> • Read the individual information of the error using a peripheral device, and check the special function module dedicated instruction (network instruction) that corresponds to the value (program error part) to make modification. • Set the module model by PLC parameter I/O assignment according to the special function module dedicated instruction setting. Example) Although AJ71QC24N is used actually, AJ71QC24 is set. 	QnA
	<ul style="list-style-type: none"> • The module other than intelligent function module/special function module is specified by the intelligent function module/special function module dedicated instruction. Or, it is not the corresponding intelligent function module/special function module. • There is no network No. specified by the network dedicated instruction. Or the relay target network does not exist. 	Read the individual information of the error using a peripheral device, and check the special function module / special function module dedicated instruction (network instruction) that corresponds to the value (program error part) to make modification.	QCPU Rem
2113	The module other than network module is specified by the network dedicated instruction.		QnA Qn(H) QnPH

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing
				RUN	ERROR		
2114	SP. UNIT ERROR	Module No. (Slot No.)	Program error location	Off/ On	Flicker/ On	Stop/ Continue	When instruction executed/ STOP → RUN
2115							
2116							
2117							
2118							When instruction executed

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2114	An instruction, which on execution specifies other stations, has been used for specifying the host CPU. (An instruction that does not allow the host CPU to be specified).	Read the individual information of the error using the GX Developer, check the program corresponding that value (program error location), and make correction.	Q00J/Q00/ Q01 ^{*3} Qn(H) ^{*3} QnPH QnU
	2115	An instruction, which on execution specifies the host CPU, has been used for specifying other CPUs. (An instruction that does not allow other stations to be specified).		Q00J/Q00/ Q01 ^{*3} Qn(H) ^{*3} QnPH
	2116	<ul style="list-style-type: none"> • An instruction that does not allow the .under the control of another CPU to be specified is being used for a similar task. • Instruction was executed for the A or QnA module under control of another CPU. 		Q00J/Q00/ Q01 ^{*3} Qn(H) ^{*3} QnPH QnU
	2117	A CPU module that cannot be specified in the instruction dedicated to the multiple CPU system was specified.		Q00J/Q00/ Q01 ^{*3} Qn(H) ^{*3} QnPH QnU
	2118	When the online module change setting is set to be “enabled” in the PLC parameter in a multiple CPU system, intelligent function module controlled by other CPU using the FROM instruction/ intelligent function module device (U□\G□) is specified.		<ul style="list-style-type: none"> • When performing the online module change in a multiple CPU system, correct the program so that access will not be made to the intelligent function module controlled by the other CPU. • When accessing the intelligent function module controlled by the other CPU in a multiple CPU system, set the online module change setting to be “disabled” by parameter.

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2120	SP. UNIT LAY ERR.	-	-	Off	Flicker	Stop	At power ON/ At reset	
2121								
2122								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2120	The locations of the Q5□B/Q6□B and QA1S6□B/QA6□B are improper.	Check the location of the base unit.	Q00J/Q00/ Q01* ⁴ Qn(H) QnPH
	2121	The CPU module is installed to other than the CPU slot and slots 0 to 2.	Check the loading position of the CPU module and reinstall it at the correct slot.	Qn(H) QnPH Rem
	2122	The QA1S6□B/QA6□B are used for the main base unit.	Replace the main base unit with a usable one.	Qn(H) QnPH QnPRH Rem

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2124	SP. UNIT LAY ERR.	-	-	Off	Flicker	Stop	At power ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2124	<ul style="list-style-type: none"> • A module is mounted on the 65th slot or later slot. • A module is mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • A module is mounted on the slot whose number of I/O points exceeds 4096 points. • A module is mounted on the slot whose number of I/O points strides 4096 points. 	<ul style="list-style-type: none"> • Remove the module mounted on the 65th slot or later slot. • Remove the module mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • Remove the module mounted on the slot whose number of I/O points exceeds 4096 points. • Replace the module with the one whose number of occupied points does not exceed 4096 points. 	Qn(H) QnPH QnPRH QnU*7 Rem
	<ul style="list-style-type: none"> • A module is mounted on the 37th slot or later slot. • A module is mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • A module is mounted on the slot whose number of I/O points exceeds 2048 points. • A module is mounted on the slot whose number of I/O points strides 2048 points. 	<ul style="list-style-type: none"> • Remove the module mounted on the 37th slot or later slot. • Remove the module mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • Remove the module mounted on the slot whose number of I/O points exceeds 2048 points. • Replace the module with the one whose number of occupied points does not exceed 2048 points. 	Q02U
	<ul style="list-style-type: none"> • A module is mounted on the 25th slot or later slot. (The 17th slot or later slot for the Q00J.) • A module is mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • A module is mounted on the slot whose number of I/O points exceeds 1024 points. (256 points for the Q00J.) • A module is mounted on the slot whose number of I/O points strides 1024 points. (256 points for the Q00J.) 	<ul style="list-style-type: none"> • Remove the module mounted on the 25th slot or later slot. (The 17th slot or later slot for the Q00J.) • Remove the module mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • Remove the module mounted on the slot whose number of I/O points exceeds 1024 points. (256 points for the Q00J.) • Replace the module with the one whose number of occupied points does not exceed 1024 points. (256 points for the Q00J.) 	Q00J/Q00/Q01
	5 or more extension base units were added. (3 bases for Q00J)	Remove 5 or more extension base units. (3 bases for Q00J)	Q00J/Q00/Q01*4

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2125	SP. UNIT LAY. ERR.	Module No. (Slot No.)	-	Off	Flicker	Stop	At power ON/ At reset	
2126								
2128	SP.UNIT LAY ERR.	Module No.	-	Off	Flicker	Stop	At power-ON/ At reset	
2150	SP. UNIT VER. ERR.	Module No. (Slot No.)	-	Off	Flicker	Stop	At power ON/ At reset/ At PLC writing	
2151								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2125	<ul style="list-style-type: none"> • A module which the QCPU cannot recognise has been installed. • There was no response from the intelligent function module/special function module. 	<ul style="list-style-type: none"> • Install a usable module. • The intelligent function module/special function module is experiencing a hardware fault. (Contact your local Mitsubishi representative.) 	QCPU Rem
	2126	<p>CPU module locations in a multiple CPU system are either of the following.</p> <ul style="list-style-type: none"> • There are empty slots between the QCPU and QCPU/motion controller. • A module other than the High Performance model QCPU/Process CPU (including the motion controller) is mounted on the left-hand side of the High Performance model QCPU/Process CPU. 	<ul style="list-style-type: none"> • Mount modules on the available slots so that the empty slots will be located on the right-hand side of the CPU module.) • Remove the module mounted on the left-hand side of the High Performance model QCPU/Process CPU, and mount the High Performance model QCPU/Process CPU on the empty slot. Mount the motion CPU on the right-hand side of the High Performance model QCPU/Process CPU. 	Qn(H) ^{*3} QnPH
	2128	The unusable module is mounted on the extension base unit in the redundant system.	<ul style="list-style-type: none"> • Remove the unusable module from the extension base unit. 	QnPRH ^{*6}
	2150	In a multiple CPU system, the control CPU of the intelligent function module incompatible with the multiple CPU system is set to other than CPU No.1.	<ul style="list-style-type: none"> • Change the intelligent function module for the one compatible with the multiple CPU system (function version B). • Change the setting of the control CPU of the intelligent function module incompatible with the multiple CPU system to CPU No.1. 	Q00J/Q00/ Q01 QnPH QuU
	2151	<p>Either of the following modules incompatible with the redundant system has been mounted in a redundant system.</p> <ul style="list-style-type: none"> • MELSECNET/H • Ethernet 	<p>Use either of the following modules compatible with the redundant system.</p> <ul style="list-style-type: none"> • MELSECNET/H • Ethernet 	QnPRH

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2200	MISSING PARA.	Drive Name	–	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	
2210	BOOT ERROR	Drive name	–	Off	Flicker	Stop	At power ON/ At reset	
2211								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2200	There is no parameter file in the drive specified as valid parameter drive by the DIP switches.	<ul style="list-style-type: none"> • Check and correct the valid parameter drive settings made by the DIP switches. • Set the parameter file to the drive specified as valid parameter drive by the DIP switches. 	Qn(H) QnPH QnPRH
		There is no parameter file at the program memory.	Set the parameter file to the program memory.	Q00J/Q00/Q01
		Parameter file does not exist in all drives where parameters will be valid.	Set a parameter file in a drive to be valid.	QuU
	2210	The contents of the boot file are incorrect.	Check the boot setting.	Q00J/Q00/ Q01 ^{*3} Qn(H) QnPH QnPRH QnU
		There is no boot file in the drive designated by the parameter enabled drive switch even though the Boot DIP switch is ON.	Check and correct the valid parameter drive settings made by the DIP switches. Set the boot file to the drive specified by the parameter drive DIP switches.	QnA
	2211	File formatting is failed at a boot.	<ul style="list-style-type: none"> • Reboot. • CPU module hardware fault. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	Qn(H) QnPRH QnU

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2220	RESTORE ERROR	-	-	Off	Flicker	Stop	At power ON/ At reset	
2221								
2300	ICM. OPE. ERROR	Drive name	-	Off/ On	Flicker/ On	Stop/ Continue* ¹	When memory card is inserted or removed	
2301								
2302								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2220	<ul style="list-style-type: none"> The device information (number of points) backed up by the device data backup function is different from the number of device points of the PLC parameter. After this error occurred, perform restore per power-on/reset until the number of device points is identical to the number of device points in the PLC parameter, or until the backup data is deleted.	<ul style="list-style-type: none"> Set the number of device points at the time of backup to the device point setting in [PLC parameter]. Then, turn ON from OFF power supply, or reset the CPU and cancel reset. Delete the backed up data, and turn ON from OFF power supply, or reset the CPU and cancel reset. 	QnU
	2221	<ul style="list-style-type: none"> The device information backed up by the device data backup function is incomplete. (Turning power supply OFF or reset is suspected.) Do not return the data when this error occurs. Also, delete the incomplete device information at the time of this error occurrence.	Reset the CPU module and run it again.	QnU
	2300	<ul style="list-style-type: none"> A memory card was removed without switching the memory card in/out switch OFF. The memory card in/out switch is turned ON although a memory card is not actually installed. 	<ul style="list-style-type: none"> Remove memory card after placing the memory card in/out switch OFF. Turn on the card insert switch after inserting a memory card. 	QnA Qn(H) QnPH QnPRH QnU
	2301	<ul style="list-style-type: none"> The memory card has not been formatted. Memory card format status is incorrect. The QCPU file does not exist in the Flash card. 	<ul style="list-style-type: none"> Format memory card. Reformat memory card. Write the QCPU file to the Flash card. 	QnA Qn(H) QnPH QnPRH QnU
		SRAM card failure is detected. (It occurs when automatic format is not set.)	Format SRAM card after changing battery of SRAM card.	QnU
	2302	A memory card that cannot be used with the CPU module has been installed.	<ul style="list-style-type: none"> Format memory card. Reformat memory card. Check memory card. 	QnA Qn(H) QnPH QnPRH QnU

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2400	FILE SET ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ At PLC writing	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2400	<p>Automatic write to standard ROM was performed on the CPU module that is incompatible with automatic write to standard ROM. (Memory card where automatic write to standard ROM was selected in the boot file was fitted and the parameter enable drive was set to the memory card.)</p>	<ul style="list-style-type: none"> • Execute automatic write to standard ROM on the CPU module which is compatible with automatic write to standard ROM. • Using GX Developer, perform write of parameters and programs to standard ROM. • Change the memory card for the one where automatic write to standard ROM has not been set, and perform boot operation from the memory card. 	<p>Qn(H)^{*3} QnPH QnPRH</p>
	<p>The file designated at the PLC file settings in the parameters cannot be found.</p>	<ul style="list-style-type: none"> • Read the individual information of the error using peripheral device, check to be sure that the parameter drive name and file name correspond to the numerical values there (parameter number), and correct. • Create a file created using parameters, and load it to the CPU module. 	<p>○</p>
	<p>The Ethernet parameter that was added for QnACPU, with the function version "B," has been set to QnACPU without the function version "B."</p>	<p>Change to QnACPU with the function version "B". Delete the Ethernet parameter.</p>	<p>QnA</p>

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2401	FILE SET ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ At PLC writing	
2402								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2401	Program memory capacity was exceeded by performing boot operation or automatic write to standard ROM.	<ul style="list-style-type: none"> • Check and correct the parameters (boot setting). • Delete unnecessary files in the program memory. 	Qn(H) ^{*3} QnPH QnPRH
		Program memory capacity was exceeded by performing boot operation.		<ul style="list-style-type: none"> • Choose "Clear program memory" for boot in the parameter so that boot is started after the program memory is cleared.
		The file specified by parameters cannot be made.	<ul style="list-style-type: none"> • Read the individual information of the error using the peripheral device, check to be sure that the parameter drive name and file name correspond to the numerical values there (parameter number), and correct. • Check the space remaining in the memory card. 	○
		Although setting is made to use the device data storage file, there is no empty capacity required for creating the device data storage file in the standard ROM.	Secure the empty capacity of the standard ROM.	QnU
	2402	Though the file register has been set in the pairing setting/tracking setting, the file register does not exist.	Confirm the file register and parameter.	Q4AR

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2410								
2411	FILE OPE. ERROR	File name/ Drive name	Program error location	Off/ On	Flicker/ On	Stop/ Continue* ¹	When instruction executed	
2412								
2413								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
2410	<ul style="list-style-type: none"> • The specified program does not exist in the program memory. This error may occur when the ECALL, EFCALL, PSTOP, PSCAN, POFF or PLOW instruction is executed. • The specified file does not exist. 	<ul style="list-style-type: none"> • Read the individual information of the error using the peripheral device, check to be sure that the program corresponds to the numerical values there (program location), and correct. Create a file created using parameters, and load it to the CPU module. • In case a specified file does not exist, write the file to a target memory and/ or check the file specified with the instruction again. 	QnA Qn(H) QnPH QnPRH QnU
2411	<ul style="list-style-type: none"> • The file is the one which cannot be specified by the sequence program (such as comment file). • The specified program exists in the program memory, but has not been registered in the program setting of the Parameter dialog box. This error may occur when the ECALL, EFCALL, PSTOP, PSCAN or POFF instruction is executed. 	Read the individual information of the error using the peripheral device, check to be sure that the program corresponds to the numerical values there (program location), and correct.	
2412	The SFC program file is one that cannot be designated by the sequence program.	Read the individual information of the error using the peripheral device, check to be sure that the program corresponds to the numerical values there (program location), and correct.	QnA Qn(H) QnPH QnPRH QnU
2413	No data has been written to the file designated by the sequence program.	Read the individual information of the error using the peripheral device, check to be sure that the program corresponds to the numerical values there (program location), and correct. Check to ensure that the designated file has not been write protected.	QnA Qn(H) QnPH QnPRH

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
2500								
2501	CAN'T EXE. PRG.	File name/ Drive name	-	Off	Flicker	Stop	At power ON/ At reset	
2502								
2503								
2504								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 Either error stop or continue can be selected for each module by the parameters.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	2500	<ul style="list-style-type: none"> • There is a program file that uses a device that is out of the range set in the PLC parameter device setting. • After the PLC parameter setting is changed, only the parameter is written into the PLC. 	<ul style="list-style-type: none"> • Read the common information of the error using the peripheral device, check to be sure that the parameter device allocation setting and the program file device allocation correspond to the numerical values there (file name), and correct if necessary. • If PLC parameter device setting is changed, batch-write the parameter and program file into the PLC. 	○
		After the index modification of the PLC parameter is changed, only the parameter is written to the PLC.	When the index modification of the PLC parameter is changed, batch-write the parameter and program file into the PLC.	QnU
	2501	There are multiple program files although "none" has been set at the PLC parameter program settings.	Edit the PLC parameter program setting to "yes". Alternatively, delete unneeded programs.	QnA Qn(H) QnPH QnPRH QnU
		<ul style="list-style-type: none"> • There are three or more program files. • The program name differs from the program contents. 	<ul style="list-style-type: none"> • Delete unnecessary program files. • Match the program name with the program contents. 	Q00J/Q00/Q01
	2502	The program file is incorrect. Alternatively, the file contents are not those of a sequence program.	Check whether the program version is * * *.QPG, and check the file contents to be sure they are for a sequence program.	○
		The program file is not the one for the redundant CPU.	Create a program using GX Developer or PX Developer for which the PLC type has been set to the redundant CPU (Q12PRH/Q25PRH), and write it to the CPU module.	QnPRH
	2503	There are no program files at all.		○
	2504	Two or more SFC normal programs or control programs have been designated.	<ul style="list-style-type: none"> • Check program configuration. • Check parameters and program configuration. 	QnA Qn(H) QnPH QnPRH QnU
		There are two or more SFC programs.	Reduce the SFC programs to one.	Q00J/Q00/ Q01 ^{*3}

*3 The function version is B or later.

*4 The function version is A.

*5 The module whose first 5 digits of serial No. is 04101 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3000	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN/ At PLC writing	
3001								

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	3000	In a multiple CPU system, the intelligent function module under control of another CPU is specified in the interrupt pointer setting of the PLC parameter.	<ul style="list-style-type: none"> Specify the head I/O number of the intelligent function module under control of the host CPU. Delete the interrupt pointer setting of the parameter. 	Qn(H) ^{*1} QnPH QnU
		The PLC parameter settings for timer time limit setting, the RUN-PAUSE contact, the common pointer number, general data processing, number of empty slots, system interrupt settings, baud rate setting, and service processing setting are outside the range that can be used by the CPU module.	<ul style="list-style-type: none"> Read the individual information of the error using the peripheral device, check the parameter item corresponding to the numerical value (parameter No.), and correct it. Rewrite corrected parameters to the CPU module, reload the CPU power supply and/or reset the module. If the same error occurs, it is thought to be a hardware error. (Contact your local Mitsubishi representative.) 	○ Rem
		In a program memory check, the check capacity has not been set within the range applicable for the CPU module.		QnPH QnPRH ^{*4}
		The parameter settings in the error individual information (special register SD16) are illegal.		○
	The ATA card is set to the PLC card slot when the specified drive for the file register is set to "memory card ROM" and [Use the following file] or [Use the same file name as the program] (either one is allowed) is set in the PLC file setting.	QnU		
	3001	The parameter settings are corrupted.		○ Rem

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3002	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN/ At PLC writing	
3003	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	When an END instruction executed	
	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
3004	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3002	When "Use the following file" is selected for the file register in the PLC file setting of the PLC parameter dialog box, the specified file does not exist although the file register capacity has been set.	<ul style="list-style-type: none"> • Read the individual information of the error using the peripheral device, check the parameter item corresponding to the numerical value (parameter No.), and correct it. • Rewrite corrected parameters to the CPU module, reload the CPU power supply and/or reset the module. • If the same error occurs, it is thought to be a hardware error. (Contact your local Mitsubishi representative.) 	QnA Qn(H) QnPH QnPRH
	When [Use the following file] is set for the file register in the PLC file setting of the PLC parameter dialog box and the capacity of file register is not set, the file register file does not exist in the specified target memory.		QnU
	When [Use the following file.] is set for the device data storage file in [PLC file] of [PLC parameter], and [Capacity] is not set, the device data storage file does not exist in the target memory.		QnU
	The automatic refresh range of the multiple CPU system exceeded the file register capacity.	Change the file register file for the one refresh-enabled in the whole range.	Qn(H) ^{*1} QnPH QnU
3003	The number of devices set at the PLC parameter device settings exceeds the possible CPU module range.	<ul style="list-style-type: none"> • Read the individual information of the error using the peripheral device, check the parameter item corresponding to the numerical value (parameter No.), and correct it. • If the error is still generated following the correction of the parameter settings, the possible cause is the memory error of the CPU module's built-in RAM or program memory or the memory card. (Contact your local Mitsubishi representative.) 	○
3004	The parameter file is incorrect. Alternatively, the contents of the file are not parameters.	Check whether the parameter file version is * * *.QPA, and check the file contents to be sure they are parameters.	○

*3 The module whose first 5 digits of serial No. is 04012 or later.
*4 The module whose first 5 digits of serial No. is 07032 or later.
*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.
*6 The module whose first 5 digits of serial No. is 09012 or later.
*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3005	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-ON/ At reset/ STOP→RUN	
3006	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
3007								
3009								

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3005	The contents of the parameter are broken.	<ul style="list-style-type: none"> • Read the individual information of the error using the peripheral device, check the parameter item corresponding to the numerical value (parameter No.), and correct it. • Write the modified parameter items to the CPU module again, and power-on the PLC or reset the CPU module. • When the same error occurs again, the hardware is faulty. Contact your local Mitsubishi representative, explaining a detailed description of the problem. 	Qn(H) ^{*6}
3006	<ul style="list-style-type: none"> • The high speed interrupt is set in a Q02CPU. • The high speed interrupt is set in a multiple CPU system. • The high speed interrupt is set when aQA1S6□B or QA6□B is used. • No module is installed at the I/O address designated by the high speed interrupt. 	<ul style="list-style-type: none"> • Delete the setting of the Q02CPU' s high speed interrupt. To use high speed interrupts, change the CPU module to one of the Q02H/Q06H/ Q12H/Q25HCPU. • To use a multiple CPU system, delete the setting of the high-speed interrupt. To use high speed interrupts, change the system to a single CPU system. • To use either the QA1S6□B or QA6□B, delete the setting of the high speed interrupt. To use high speed interrupts, do not use the QA1S6□B/ QA6□B. • Re-examine the I/O address designated by the high speed interrupt setting. 	Qn(H) ^{*3}
3007	The parameter file in the drive specified as valid parameter drive by the DIP switches is inapplicable for the CPU module.	Create parameters using GX Developer, and write them to the drive specified as valid parameter drive by the DIP switches.	QnPRH
3009	In a multiple CPU system, the modules for AnS, A, Q2AS and QnA have been set to multiple control CPUs.	Re-set the parameter I/O assignment to control them under one CPU module. (Change the parameters of all CPUs in the multiple CPU system.)	Qn(H) ^{*1}

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3010	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
3012								
3013	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	3010	The parameter-set number of CPU modules differs from the actual number in a multiple CPU system.	Match the number of (CPU modules in multiple CPU setting) - (CPUs set as empty in I/O assignment) with that of actually mounted CPU modules.	Qn(H) ^{*1} QnPH
	3012	Multiple CPU setting or control CPU setting differs from that of the reference CPU settings in a multiple CPU system.	Match the multiple CPU setting or control CPU setting in the PLC parameter with that of the reference CPU (CPU No.1) settings.	Q00/Q01 ^{*1} Qn(H) ^{*1} QnU
	3013	Multiple CPU auto refresh setting is any of the followings in a multiple CPU system. <ul style="list-style-type: none"> • When a bit device is specified as a refresh device, a number other than a multiple of 16 is specified for the refresh-starting device. • The device specified is other than the one that may be specified. • The number of send points is an odd number. 	Check the following in the multiple CPU auto refresh setting and make correction. <ul style="list-style-type: none"> • When specifying the bit device, specify a multiple of 16 for the refresh starting device. • Specify the device that may be specified for the refresh device. • Set the number of send points to an even number. 	Qn(H) ^{*1} QnPH
		In a multiple CPU system, the multiple CPU auto refresh setting is any of the following. <ul style="list-style-type: none"> • The total number of transmission points is greater than the maximum number of refresh points. 	Check the following in the multiple CPU auto refresh setting and make correction. <ul style="list-style-type: none"> • The total number of transmission points is within the maximum number of refresh points. 	Q00/Q01 ^{*1}
		In a multiple CPU system, the multiple CPU auto refresh setting is any of the following. <ul style="list-style-type: none"> • The device specified is other than the one that may be specified. • The number of send points is an odd number. • The total number of send points is greater than the maximum number of refresh points. 	Check the following in the multiple CPU auto refresh setting and make correction. <ul style="list-style-type: none"> • Specify the device that may be specified for the refresh device. • Set the number of send points to an even number. • Set the total number of send points within the range of the maximum number of refresh points. 	QnU

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3014	PARAMETER ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
3015	PARAMETER ERROR	File name/ Drive name	Parameter number/ CPU No.	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
3016	PARAMETER ERROR	File name/ Drive name	Parameter number/ CPU No.	Off	Flicker	Stop	At power ON/ At reset/ At PLC writing	
3040	PARAMETER ERROR	-	-	Off	Flicker	Stop	At power ON/ At reset	
3041								

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3014	<ul style="list-style-type: none"> In a multiple CPU system, the online module change parameter (multiple CPU system parameter) settings differ from those of the reference CPU. In a multiple CPU system, the online module change setting is enabled although the CPU module mounted does not support online module change parameter. 	<ul style="list-style-type: none"> Match the online module change parameter with that of the reference CPU. If the CPU module that does not support online module change is mounted, replace it with the CPU module that supports online module change. 	Qn(H) QnPH QnU
3015	In a multiple CPU system configuration, the CPU verified is different from the one set in the parameter setting.	Read the individual information of the error using the peripheral device, check the parameter item corresponding to the numerical value (parameter No./CPU No.) and parameter of target CPU, and correct them.	QnU
3016	The CPU module incompatible with multiple CPU synchronized boot-up is set as the target for the synchronized boot-up in the [Multiple CPU synchronous startup setting].	Delete the CPU module incompatible with multiple CPU synchronized boot-up from the setting.	QnU ^{*7}
3040	The parameter file is damaged.	With GX Developer, write [PLC parameter/network parameter/remote password] to a valid drive then reload the power supply for system and/or reset the CPU module. If the same error occurs, it is thought to be hardware error. (Contact your local Mitsubishi representative.)	Qn(H) ^{*4} QnPH ^{*4} QnPRH ^{*4}
3041	Parameter file of intelligent function module is damaged.	With GX Developer, write [Intelligent function module parameter] to a valid drive to write the parameters then reload the power supply for system and/or reset the CPU module. If the same error occurs, it is thought to be a hardware error. (Contact your local Mitsubishi representative.)	Qn(H) ^{*4} QnPH ^{*4} QnPRH ^{*4}

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3042	PARAMETER ERROR	—	—	Off	Flicker	Stop	At power ON/ At reset	
3100	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3042	The system file that have stored the remote password setting information is damaged.	<ul style="list-style-type: none"> • With GX Developer, write [PLC parameter/network parameter/remote password] to a valid drive then reload the power supply for system and/or reset the CPU module. If the same error occurs, it is thought to be a hardware error. (Contact your local Mitsubishi representative.) • When a valid drive for parameter is set to other than [program memory], set the parameter file (PARAM) at the boot file setting to be able to transmit to the program memory. With GX Developer, write [PLC parameter/network parameter/remote password] to a valid drive then reload the power supply for system and/or reset the CPU module. If the same error occurs, it is thought to be hardware error. (Contact your local Mitsubishi representative.) 	Qn(H) ^{*4} QnPH ^{*4} QnPRH ^{*4}
3100	In a multiple CPU system, the MELSECNET/G module controlled by another CPU is specified as the head I/O number of the MELSECNET/G module.	<ul style="list-style-type: none"> • Delete the net work parameter of the MELSECNET/G module controlled by another CPU. • Change the setting to the head I/O number of the MELSECNET/G module controlled by host CPU. 	Qn(H) ^{*6} QnU
	The network parameter of the MELSECNET/G operating as the normal station is overwritten to the control station. Or, the network parameter of the MELSECNET/G operating as the control station is overwritten to the normal station. (The network parameter is updated on the module by resetting.)	Reset the CPU module.	

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3100	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3100	<ul style="list-style-type: none"> • The number of actually mounted modules is different from the number of modules set in the network parameter of the MELSECNET/G. • The head I/O number of the actually mounted module is different from the one set in the network parameter of the MELSECNET/G. • Data cannot be handled in the parameter exists. • The network type of MELSECNET/G is overwritten during power-on. (When changing the network type, switch RESET to RUN.) <hr/> <ul style="list-style-type: none"> • The MELSECNET/G module is specified for the head I/O number of network parameter in the MELSECNET/H. • The MELSECNET/H module is specified for the head I/O number of network parameter in the MELSECNET/G. <hr/> <ul style="list-style-type: none"> • Although the MELSECNET/G module is mounted, network parameter for the MELSECNET/G module is not set. • Although the MELSECNET/G and MELSECNET/H modules are mounted, network parameter for the MELSECNET/H module is not set. 	<ul style="list-style-type: none"> • Check the network parameter and actual mounting status, and if they differ, make them matched. When network parameters are modified, write them to the CPU module. • Check the setting of extension base unit stage number. • Check the connection status of extension base unit and extension cable. When the GOT is bus-connected to the main base unit or extension base unit, also check its connection status. <p>If an error occurs even after performing the above checks, the hardware may be faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)</p>	Qn(H) ^{*6} QnU

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3100	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3100	In a multiple CPU system, the MELSECNET/H under control of another CPU is specified as the head I/O number in the network setting parameter of the MELSECNET/H.	<ul style="list-style-type: none"> Delete the MELSECNET/H network parameter of the MELSECNET/H under control of another CPU. Change the setting to the head I/O number of the MELSECNET/H under control of the host CPU. 	Q00/Q01* ¹ Qn(H)* ¹ QnPH QnU
	The network parameter of the MELSECNET/H operating as the normal station is overwritten to the control station. Or, the network parameter of the MELSECNET/H operating as the control station is overwritten to the normal station. (The network parameter is updated on the module by resetting.)	Reset the CPU module.	Qn(H)* ¹ QnPH QnPRH QnU
	<ul style="list-style-type: none"> The number of actually installed modules is different from that designated in the number of modules setting parameter of MELSECNET/H. The head I/O number of actually installed modules is different from that designated in the network parameter of MELSECNET/H. Some data in the parameters cannot be handled. The network type of MELSECNET/H is overwritten during power-on. (When changing the network type, switch RESET to RUN.) The mode switch of MELSECNET/H module*⁵ is outside the range. 	<ul style="list-style-type: none"> Check the network parameters and actual mounting status, and if they differ, make them matched. If any network parameter has been corrected, write it to the CPU module. Check the extension base unit stage No. setting. Check the connection status of the extension base units and extension cables. When the GOT is bus-connected to the main base unit and extension base units, also check the connection status. If the error occurs after the above checks, the possible cause is a hardware fault. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) <ul style="list-style-type: none"> Set the mode switch of MELSECNET/H module*⁵ within the range. 	QCPU
	Although the QnACPU is a control station or master station, the network parameters have not been written.	<ul style="list-style-type: none"> Correct and write the network parameters. If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.) 	QnA

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3101	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	When an END instruction executed	
	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	The link refresh range exceeded the file register capacity.	Change the file register file for the one that enables entire range refresh.	Qn(H) ^{*1} QnPH QnPRH QnU
3101	<ul style="list-style-type: none"> When the station number of the MELSECNET/H module is 0, the inter-PLC network parameter setting has been made. When the station number of the MELSECNET/H module is other than 0, the remote master parameter setting has been made. 	Correct the type or station number of the MELSECNET/H module in the network parameter to meet the used system.	Qn(H) ^{*1} QnPH QnPRH
	The refresh parameter for the MELSECNET/G is outside the range.	<ul style="list-style-type: none"> Check the network parameters and mounting status, and if they differ, match the network parameters and mounting status. If any network parameter has been corrected, write it to the CPU module. Confirm the setting of the number of extension stages of the extension base units. Check the connection status of the extension base units and extension cables. <p>When the GOT is bus-connected to the main base unit and extension base units, also check their connection status.</p> <p>If the error occurs after the above checks, the cause is a hardware fault. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)</p>	Qn(H) ^{*6} QnU ○
	<ul style="list-style-type: none"> The network No. specified by a network parameter is different from that of the actually mounted network. The head I/O No. specified by a network parameter is different from that of the actually mounted I/O unit. The network class specified by a network parameter is different from that of the actually mounted network. The network refresh parameter of the MELSECNET/H, MELSECNET/10 is out of the specified area. 		
	A multi-remote I/O network was configured using a module that does not support the MELSECNET/H multi-remote I/O network.	Use a module that supports the MELSECNET/H multi-remote I/O network.	QnPH
	<ul style="list-style-type: none"> The system A of the MELSECNET/H remote master station has been set to other than Station No. 0. The system B of the MELSECNET/H remote master station has been set to Station No. 0. 	<ul style="list-style-type: none"> Set the system A of the MELSECNET/H remote master station to Station No. 0. Set the system B of the MELSECNET/H remote master station to any of Station No. 1 to 64. 	QnPRH

*3 The module whose first 5 digits of serial No. is 04012 or later.
*4 The module whose first 5 digits of serial No. is 07032 or later.
*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.
*6 The module whose first 5 digits of serial No. is 09012 or later.
*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3102	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	3102	A MELSECNET/G network parameter error was detected.	<ul style="list-style-type: none"> • Correct and write the network parameters. • If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.) 	Qn(H) ^{*6} QnU
		<ul style="list-style-type: none"> • The network module detected a network parameter error. • A MELSECNET/H network parameter error was detected. 		○
		The station No. specified in pairing setting are not correct. <ul style="list-style-type: none"> • The stations are not numbered consecutively. • Pairing setting has not been made for the CPU module at the normal station. 	Refer to the troubleshooting of the network module, and if the error is due to incorrect pairing setting, reexamine the pairing setting of the network parameter.	QnPRH
		The MELSECNET/G module whose first 5 digits of serial No. is "09041" or earlier is mounted.	Mount the MELSECNET/G module whose first 5 digits of serial No. is "09042" or later.	QnU

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3103	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3103	<p>In a multiple CPU system, the Q series Ethernet interface module under control of another station is specified to the start I/O number of the Ethernet network parameter.</p>	<ul style="list-style-type: none"> • Delete the Ethernet network parameter of the Q series Ethernet interface module under control of another station. • Change the setting to the start I/O number of the Q series Ethernet interface module under control of the host station. 	Q00/Q01* ¹ Qn(H)* ¹ QnPH QnU
	<ul style="list-style-type: none"> • Although the number of modules has been set to one or greater number in the Ethernet module count parameter setting, the number of actually mounted module is zero. • The start I/O No. of the Ethernet network parameter differs from the I/O No. of the actually mounted module. 		○ Rem
	<ul style="list-style-type: none"> • AJ71QE71 does not exist in the position of I/O number set by the parameter. • I/O number designation is overlapping. • Numbers of the network parameter and loaded AJ71QE71 are different. • Ethernet (parameter + dedicated instruction) is set to more than five. 	<ul style="list-style-type: none"> • Correct and write the network parameters. • If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.) 	QnA
	<ul style="list-style-type: none"> • Ethernet module whose network type is set to "Ethernet (main base)" is mounted on the extension base unit in the redundant system. • Ethernet module whose network type is set to "Ethernet (extension base)" is mounted on the main base unit in the redundant system. 		QnPRH* ⁶

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3104								
3105	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3104	<ul style="list-style-type: none"> • The Ethernet, MELSECNET/H and MELSECNET/10 use the same network number. • The network number, station number or group number set in the network parameter is out of range. • The specified I/O number is outside the range of the used CPU module. • The Ethernet-specific parameter setting is not normal. 	<ul style="list-style-type: none"> • Correct and write the network parameters. • If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.) 	○ Rem
3105	<p>In a multiple CPU system, the Q series CC-Link module under control of another station is specified as the head I/O number of the CC-Link network parameter.</p>	<ul style="list-style-type: none"> • Delete the CC-Link network parameter of the Q series CC-Link module under control of another station. • Change the setting to the start I/O number of the Q series CC-Link module under control of the host station. 	Q00/Q01*1 Qn(H)*1 QnPH QnU
	<ul style="list-style-type: none"> • Though the number of CC-Link modules set in the network parameters is one or more, the number of actually mounted modules is zero. • The start I/O number in the common parameters is different from that of the actually mounted module. • The station type of the CC-Link module count setting parameters is different from that of the actually mounted station. 	<ul style="list-style-type: none"> • Correct and write the network parameters. • If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.) 	○ Rem
	<ul style="list-style-type: none"> • CC-Link module whose station type is set to “master station (compatible with redundant function)” is mounted on the extension base unit in the redundant system. • CC-Link module whose station type is set to “master station” is mounted on the main base unit in the redundant system. 		QnPRH*6
	<p>The contents of the Ethernet parameter are incorrect.</p>	<p>Write after correcting parameters.</p>	QnA

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3106	LINK PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	When an END instruction executed	
	LINK PARA. ERROR	File name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	
3107	LINK PARA. ERROR	File name	Parameter number	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	
3200	SFC PARA. ERROR	File name	Parameter number	Off	Flicker	Stop	STOP→RUN	
3201								
3202								
3203								
3300	SP. PARA ERROR	File name	Parameter number ^{*2}	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
3301								
3302								

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	3106	The CC-Link link refresh range exceeded the file register capacity.	Change the file register file for the one refresh-enabled in the whole range.	Qn(H) ^{*1} QnPH QnPRH QnU
		The network refresh parameter for CC-Link is out of range.	Check the parameter setting.	QCPU Rem
	3107	<ul style="list-style-type: none"> The CC-Link parameter setting is incorrect. The set mode is not allowed for the version of the mounted CC-Link module. 	Check the parameter setting.	○ Rem
	3200	The parameter setting is illegal. <ul style="list-style-type: none"> Though Block 0 was set to "Automatic start" in the SFC setting of the PLC parameter dialog box, Block 0 does not exist. 	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	QnA Q00J/Q00/ Q01 ^{*1} QnPH QnPRH QnU
	3201	The block parameter setting is illegal.		QnA Qn(H) QnPH QnPRH
	3202	The number of step relays specified in the device setting of the PLC parameter dialog box is less than that used in the program.		
	3203	The execution type of the SFC program specified in the program setting of the PLC parameter dialog box is other than scan execution.		
	3300	The start I/O number in the intelligent function module parameter set on GX Configurator differs from the actual I/O number.	Check the parameter setting.	QCPU Rem
	3301	The refresh setting of the intelligent function module exceeded the file register capacity.	Change the file register file for the one which allows refresh in the whole range.	Q00J/Q00/Q01 Qn(H) ^{*1} QnPH QnPRH QnU
		The intelligent function module's refresh parameter setting is outside the available range.	Check the parameter setting.	QCPU Rem
	3302	The intelligent function module's refresh parameter are abnormal.	Check the parameter setting.	QCPU

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3303	SP. PARA ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
3400	REMOTE PASS. ERR.	—	—	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3303	In a multiple CPU system, the automatic refresh setting or other parameter setting was made to the intelligent function module under control of another station.	<ul style="list-style-type: none"> • Delete the automatic refresh setting or other parameter setting of the intelligent function module under control of another CPU. • Change the setting to the automatic refresh setting or other parameter setting of the intelligent function module under control of the host CPU. 	Q00/Q01*1 Qn(H)*1 QnPH QnU
3400	The head I/O number of the target module of the remote password is set to other than 0 _h to 0FF0 _h .	Change the head I/O number of the target module to be within the 0 _h to 0FF0 _h range.	Qn(H)*1 QnPH QnPRH QnU*7 Rem
	The head I/O number of the target module of the remote password is set to other than 0 _h to 07E0 _h .	Change the head I/O number of the target module to be within the 0 _h to 07E0 _h range.	Q02U
	The head I/O number of the target module of the remote password is outside the following range. <ul style="list-style-type: none"> • Q00JCPU: 0_h to 1E0_h • Q00CPU/Q01CPU: 0_h to 3E0_h 	Change the head I/O number of the target module of the remote password for the number within the following range. <ul style="list-style-type: none"> • Q00JCPU: 0_h to 1E0_h • Q00CPU/Q01CPU: 0_h to 3E0_h 	Q00J/Q00/ Q01*1

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
3401	REMOTE PASS. ERR.	—	—	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN	

*1 The function version is B or later.

*2 Parameter No. is the value gained by dividing the head I/O number of parameter in the intelligent function module set by GX Configurator by 10H.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
3401	<p>Position specified as the head I/O number of the remote password file is incorrect due to one of the following reasons:</p> <ul style="list-style-type: none"> • Module is not loaded. • Other than a the intelligent function module (I/O module) • Intelligent function module other than the Q series serial communication module, modem interface module or Ethernet module • Q series serial communication module or Ethernet module of function version A <p>The intelligent function module where remote password is available is not mounted.</p>	<p>Mount the Q series serial communication module, modem interface module or Ethernet module of function version B or later in the position specified in the head I/O No. of the remote password file.</p>	<p>Qn(H)^{*1} QnPH QnPRH QnU Rem</p>
	<p>Any of the following modules is not mounted on the slot specified for the head I/O number of the remote password.</p> <ul style="list-style-type: none"> • Serial communication module of function version B or later • Ethernet module of function version B or later • Modem interface module of function version B or later 	<p>Mount any of the following modules in the position specified for the head I/O number of the remote password.</p> <ul style="list-style-type: none"> • Serial communication module of function version B or later • Ethernet module of function version B or later • Modem interface module of function version B or later 	<p>Q00J/Q00/ Q01^{*1}</p>
	<p>The Q series serial communication module, modem interface module or Ethernet module of function version B or later controlled by another CPU was specified in a multiple CPU system.</p>	<ul style="list-style-type: none"> • Change it for the Ethernet module of function version B or later connected by the host CPU. • Delete the remote password setting. 	<p>Qn(H)^{*1} QnPH QnU</p>

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07032 or later.

*5 The MELSECNET/H module whose first 5 digits of serial No. is 08102 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing
				RUN	ERROR		
4000	INSTRCT. CODE ERR	Program error location	-	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN When instruction executed
4001							
4002							
4003							
4004							
4010	MISSING END INS.	Program error location	-	Off	Flicker	Stop	At power ON/ At reset/ STOP→RUN
4020	CAN'T SET(P)	Program error location	-	Off	Flicker	Stop	
4021							
4030	CAN'T SET(I)	Program error location	-	Off	Flicker	Stop	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4000	<ul style="list-style-type: none"> The program contains an instruction code that cannot be decoded. An unusable instruction is included in the program. 	<p>Read the common information of the error using a peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.</p>	○
	4001	The program contains a dedicated instruction for SFC although it is not an SFC program.		QnA Q00J/Q00/ Q01* ² Qn(H) QnPH QnPRH QnU
	4002	<ul style="list-style-type: none"> The name of dedicated instruction specified by the program is incorrect. The dedicated instruction specified by the program cannot be executed by the specified module. 		○ Rem
	4003	The number of devices for the dedicated instruction specified by the program is incorrect.		
	4004	The device which cannot be used by the dedicated instruction specified by the program is specified.		
	4010	There is no END (FEND) instruction in the program.		○
	4020	The total number of internal file pointers used by the program exceeds the number of internal file pointers set in the parameters.		QnA Qn(H) QnPH QnPRH QnU
	4021	<ul style="list-style-type: none"> The common pointer Nos. assigned to files overlap. The local pointer Nos. assigned to files overlap. 		○
	4030	The allocation pointer Nos. assigned by files overlap.		

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4100								
4101	OPERATION ERROR	Program error location	-	Off/ On	Flicker/ On	Stop/ Continue* ¹	When instruction executed	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4100	The instruction cannot process the contained data.	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	○ Rem
		Access error of ATA card occurs by FREAD/FWRITE instructions.	<ul style="list-style-type: none"> • Take measurements against noise. • Reset and restart the CPU module. When the same error is displayed again, the ATA card has hardware failure. (Please consult your local Mitsubishi service center or representative, explaining a detailed description of the problem.)	Qn(H) QnPH QnPRH
	4101	<ul style="list-style-type: none"> • The number of setting data dealt with the instruction exceeds the applicable range. • The storage data and constant of the device specified by the instruction exceeds the applicable range. • When writing to the host CPU shared memory, the write prohibited area is specified for the write destination address. • The range of storage data of the device specified by the instruction is duplicated. • The device specified by the instruction exceeds the range of the number of device points. • The interrupt pointer No. specified by the instruction exceeds the applicable range. 	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	○ Rem
		<ul style="list-style-type: none"> • The storage data of file register specified by the instruction exceeds the applicable range. Or, file register is not set. 		QnU

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4102								
4103	OPERATION ERROR	Program error location	-	Off/ On	Flicker/ On	Stop/ Continue *1	When instruction executed	
4104								
4105								
4107								
4108								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4102	In a multiple CPU system, the link direct device (J□\□) was specified for the network module under control of another station.	<ul style="list-style-type: none"> Delete from the program the link direct device which specifies the network module under control of another CPU. Using the link direct device, specify the network module under control of the host CPU. 	Q00/Q01 ^{*2} Qn(H) ^{*2} QnPH QnU
		<ul style="list-style-type: none"> The network No. or station No. specified for the dedicated instruction is wrong. The link direct device (J□\□) setting is incorrect. The module No./ network No./number of character strings exceeds the range that can be specified. 	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	○ Rem
		<ul style="list-style-type: none"> The specification of character string (" ") specified by dedicated instruction cannot be used for the character string. 		QnU
	4103	The configuration of the PID dedicated instruction is incorrect.		QnA Q00J/Q00/ Q01 ^{*2} Qn(H) QnPRH QnU
	4104	The number of settings is beyond the range.	Read the common information of the error using peripheral device, and check and correct the program corresponding to that value (program error location).	Q4AR
	4105	PLOADP/PUNLOADP/PSWAPP instructins were executed while setting program memory check.	<ul style="list-style-type: none"> Delete the program memory check setting. When using the program memory check, delete PLOADP/PUNLOADP/PSWAPP instructions. 	QnPH ^{*5}
	4107	33 or more multiple CPU dedicated instructions were executed from one CPU module.	Using the multiple CPU dedicated instruction completion bit, provide interlocks to prevent one CPU module from executing 33 or more multiple CPU dedicated instructions.	Q00/Q01 ^{*2} Qn(H) ^{*2} QnPH Q02U
		Numbers of execution to the CC-Link instruction are beyond 32.	Set the numbers of execution to the CC-Link instruction to 32 or less.	QnA
	4108	The CC-Link parameter is not set when the CC-Link instruction is executed.	Execute the CC-Link instruction after setting the CC-Link parameter.	

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4109	OPERATION ERROR	Program error location	–	Off/ On	Flicker/ On	Stop/ Continue* ¹	When instruction executed	
4111	OPERATION ERROR	Program error location	–	Off/ On	Flicker/ On	Stop/ Continue* ²	When instruction executed	
4112								
4113	OPERATION ERROR	Program error location	–	Off/ On	Flicker/ On	Stop/ Continue	When instruction executed	
4120	OPERATION ERROR	Program error location	–	Off/ On	Flicker/ On	Stop/ Continue* ²	When instruction executed	
4121								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4109	With high speed interrupt setting PR, PRC, UDCNT1, UDCNT2, PLSY or PWM instruction is executed.	Delete the high-speed interrupt setting. When using high-speed interrupt, delete the PR, PRC, UDCNT1, UDCNT2, PLSY and PWM instructions.	Qn(H) ^{*3}
	4111	An attempt was made to perform write/read to/from the CPU shared memory write/read disable area of the host station CPU module with the instruction.	Read the common information of the error using GX Developer, and check and correct the error step corresponding to that value (program error location).	Q00/Q01 ^{*2} QnU
	4112	The CPU module that cannot be specified with the multiple CPU dedicated instruction was specified.		
	4113	<ul style="list-style-type: none"> When the SP.DEVST instruction is executed, the number of writing to the standard ROM of the day exceeds the value specified by SD695. The value outside the specified range is set to SD695. 	<ul style="list-style-type: none"> Check that the number of execution of the SP.DEVST instruction is proper. Execute the SP.DEVST instruction again the following day or later day. Or, arrange the value of SD695. Correct the value of SD695 so that it does not exceed the range. 	QnU
	4120	Since the manual system switching enable flag (special register SM1592) is OFF, manual system switching cannot be executed by the control system switching instruction (SP. CONTSW).	To execute control system switching by the SP. CONTSW instruction, turn ON the manual system switching enable flag (special register SM1592).	QnPRH
	4121	<ul style="list-style-type: none"> In the separate mode, the control system switching instruction (SP. CONTSW) was executed in the standby system CPU module. In the debug mode, the control system switching instruction (SP. CONTSW) was executed. 	<ul style="list-style-type: none"> Reexamine the interlock signal for the SP. CONTSW instruction, and make sure that the SP. CONTSW instruction is executed in the control system only. (Since the SP. CONTSW instruction cannot be executed in the standby system, it is recommended to provide an interlock using the operation mode signal or like.) As the SP. CONTSW instruction cannot be executed in the debug mode, reexamine the interlock signal related to the operation mode. 	

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4122	OPERATION ERROR	Program error location	–	Off/ On	Flicker/ On	Stop/ Continue	When instruction executed	
4130	OPERATION ERROR	Program error location	–	Off/ On	Flicker/ On	Stop/ Continue* ²	When END/ other instruction executed	
4131	OPERATION ERROR	Program error location	–	Off/ On	Flicker/ On	Stop/ Continue	When instruction executed	
4140	OPERATION ERROR	Program error location	–	OFF/ On	Flicker/ On	Stop/ Continue* ²	When instruction executed	
4141								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
4122	<ul style="list-style-type: none"> • The dedicated instruction was executed to the module mounted on the extension base unit in the redundant system. • The instruction for accessing the intelligent function module mounted on the extension base unit from the standby system at separate mode was executed. 	<ul style="list-style-type: none"> • Delete the dedicated instruction for the module mounted on the extension base unit. • Delete the instruction for accessing the intelligent function module mounted on the extension base unit from the standby system. 	QnPRH ^{*6}
4130	Instructions to read SFC step comment (S(P).SFSCOMR) and SFC transition condition comment (S(P).SFCTCOMR) are executed for the comment file in ATA card	Target comment file is to be other than the comment file in ATA card.	Qn(H) ^{*4} QnPH ^{*5} QnPRH
4131	The SFC program is started up by the instruction while the other SFC program has not yet been completed.	Check the SFC program specified by the instruction. Or, check the executing status of the SFC program.	QnU
4140	Operation where the input data is special value ("-0", unnormalized number, nonnumeric, $\pm \infty$) is performed.	Read the common information of the error using the peripheral device, check the error step corresponding to the numerical value (program error part), and correct it.	QnU
4141	Overflow occurs at operation.		

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4200	FOR NEXT ERROR	Program error location	–	Off	Flicker	Stop	When instruction executed	
4201	FOR NEXT ERROR	Program error location	–	Off	Flicker	Stop	When instruction executed	
4202								
4203								
4210	CAN'T EXECUTE(P)	Program error location	–	Off	Flicker	Stop	When instruction executed	
4211								
4212								
4213								
4220	CAN'T EXECUTE(I)	Program error location	–	Off	Flicker	Stop	When instruction executed	
4221								
4223								
4225	CAN'T EXECUTE(I)	–	–	Off	Flicker	Stop	At power-ON/ At reset	

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU	
	4200	No NEXT instruction was executed following the execution of a FOR instruction. Alternatively, there are fewer NEXT instructions than FOR instructions.	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	○	
	4201	A NEXT instruction was executed although no FOR instruction has been executed. Alternatively, there are more NEXT instructions than FOR instructions.			
	4202	More than 16 nesting levels are programmed.			Keep nesting levels at 16 or under.
	4203	A BREAK instruction was executed although no FOR instruction has been executed prior to that.			
	4210	The CALL instruction is executed, but there is no subroutine at the specified pointer.	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	○	
	4211	There was no RET instruction in the executed subroutine program.			
	4212	The RET instruction exists before the FEND instruction of the main routine program.			
	4213	More than 16 nesting levels are programmed.			Keep nesting levels at 16 or under.
	4220	Though an interrupt input occurred, the corresponding interrupt pointer does not exist.	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	○	
	4221	An IRET instruction does not exist in the executed interrupt program.			
	4223	The IRET instruction exists before the FEND instruction of the main routine program.			
		<ul style="list-style-type: none"> • The IRET instruction was executed in the fixed scan execution type program. • The STOP instruction was executed in the fixed scan execution type program. 		QnU	
	4225	The interrupt pointer for the module mounted on the extension base unit is set in the redundant system.	Delete the setting of interrupt pointer for the module mounted on the extension base unit, since it cannot be used.	QnPRH* ⁶	

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4230	INST. FORMAT ERR.	Program error location	-	Off	Flicker	Stop	When instruction executed	
4231								
4235								
4300	EXTEND INST. ERR.	Program error location	-	Off/ On	Flicker/ On	Stop/ Continue ^{*1}	When instruction executed	
4301								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4230	The number of CHK and CHKEND instructions is not equal.	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	QnA Qn(H) QnPH
	4231	The number of IX and IXEND instructions is not equal.		○
	4235	The configuration of the check conditions for the CHK instruction is incorrect. Alternatively, a CHK instruction has been used in a low speed execution type program.		QnA Qn(H) QnPH
	4300	The designation of a MELSECNET/ MINI-S3 master module control instruction was wrong.	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	QnA
	4301	The designation of an AD57/AD58 control instruction was wrong.		

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4350								
4351	OPERATION ERROR	Program error location	–	OFF	Flicker	Stop	When instruction executed	
4352								
4353								
4354								
4355								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
4350	<ul style="list-style-type: none"> • The target CPU module specified by the dedicated instruction of Multiple CPU high speed bus specified by the program. • The reserved CPU is specified. • The uninstalled CPU is specified. • The head I/O number of the target CPU/16 (n1) is outside the range of 3EH to 3E3H. • The CPU module where the instruction cannot be executed is specified. • The instruction is executed in a single CPU system. • The host CPU is specified. 	Read the common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	QnU
4351	<ul style="list-style-type: none"> • The dedicated instruction of Multiple CPU high speed bus specified by the program cannot be executed to the specified target CPU module. • The instruction name is wrong. • The instruction unsupported by the target CPU module is specified. 		QnU ^{*7}
4352	The number of devices for the dedicated instruction of Multiple CPU high speed bus specified by the program is wrong.		
4353	The device which cannot be used for the dedicated instruction of Multiple CPU high speed bus specified by the program is specified.		QnU
4354	The character string which cannot be handled by the dedicated instruction of Multiple CPU high speed bus is specified.		
4355	The number of read/write data (number of request/receive data) for the dedicated instruction of Multiple CPU high speed bus specified by the program is not valid.		QnU ^{*7}

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*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4400	SFCP. CODE ERROR	Program error location	–	Off	Flicker	Stop	STOP→RUN	
4410	CAN'T SET(BL)	Program error location	–	Off	Flicker	Stop	STOP→RUN	
4411								
4420	CAN'T SET(S)	Program error location	–	Off	Flicker	Stop	STOP→RUN	
4421	CAN'T SET(S)	Program error location	–	Off	Flicker	Stop	STOP→RUN	
4422								
4423								
4430	SFC EXE. ERROR	File name/ Drive name	–	Off	Flicker	Stop	STOP→RUN	
4431								
4432								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4400	No SFCP or SFCPEND instruction in SFC program.	Write the program to the CPU module again using GX Developer.	QnA Qn(H) QnPH QnPRH
	4410	The block number designated by the SFC program exceeds the range.		QnA Q00J/Q00/ Q01* ² Qn(H) QnPH QnPRH QnU
	4411	Block number designations overlap in SFC program.		
	4420	A step number designated in an SFC program exceeds the range.		QnA Q00J/Q00/ Q01* ² Qn(H) QnPH QnPRH QnU
	4421	Total number of steps in all SFC programs exceed the maximum.		
	4422	Step number designations overlap in SFC program.		
	4423	The total number of (maximum step No.+1) of each block exceeds the total number of step relays.	Correct the total number of step relays so that it does not exceed the total number of (maximum step No.+1) of each block.	
	4430	The SFC program cannot be executed. • The data of the block data setting is illegal. • The SFC data device of the block data setting is beyond the device setting range set in the PLC parameter.	<ul style="list-style-type: none"> • Write the program to the CPU module again using GX Developer. • After correcting the setting of the SFC data device, write it to the CPU module. • After correcting the device setting range set in the PLC parameter, write it to the CPU module. 	Q00J/Q00/ Q01* ² QnU
	4431	The SFC program cannot be executed. • The block parameter setting is abnormal.	Write the program to the CPU module again using GX Developer.	
	4432	The SFC program cannot be executed. • The structure of the SFC program is illegal.		

*3 The module whose first 5 digits of serial No. is 04012 or later.

*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4500	SFCP. FORMAT ERR.	Program error location	-	Off	Flicker	Stop	STOP→RUN	
4501								
4502								
4503								
4504								
4505								
4506								
4600	SFCP. OPE. ERROR	Program error location	-	Off/ On	Flicker/ On	Stop/ Continue *1	When instruction executed	
4601								
4602								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4500	The numbers of BLOCK and BEND instructions in an SFC program are not equal.	Write the program to the CPU module again using the peripheral device.	QnA Qn(H) QnPH QnPRH
	4501	The configuration of the STEP* to TRAN* to TSET to SEND instructions in the SFC program is incorrect.		
	4502	The structure of the SFC program is illegal. • STEP1* instruction does not exist in the block of the SFC program.		
	4503	The structure of the SFC program is illegal. • The step specified in the TSET instruction does not exist. • In jump transition, the host step number was specified as the destination step number.	• Write the program to the CPU module again using GX Developer. • Read the common information of the error using GX Developer, and check and correct the error step corresponding to that value (program error location).	QnA Q00J/Q00/ Q01* ² Qn(H) QnPH QnPRH QnU
	4504	The structure of the SFC program is illegal. • The step specified in the TAND instruction does not exist.	Write the program to the CPU module again using GX Developer.	
	4505	The structure of the SFC program is illegal. • In the operation output of a step, the SET Sn/BLmSn or RST Sn/BLmSn instruction was specified for the host step.	Read the common information of the error using GX Developer, and check and correct the error step corresponding to that value (program error location).	Q00J/Q00/ Q01* ² QnU
	4506	The structure of the SFC program is illegal. • In a reset step, the host step number was specified as the destination step.		
	4600	The SFC program contains data that cannot be processed.	Read common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	QnA Qn(H) QnPH QnPRH
	4601	Exceeds device range that can be designated by the SFC program.		
	4602	The START instruction in an SFC program is preceded by an END instruction.		

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*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
4610	SFCP. EXE. ERROR	Program error location	-	On	On	Continue	STOP→RUN	
4611								
4620	BLOCK EXE. ERROR	Program error location	-	Off	Flicker	Stop	When instruction executed	
4621								
4630	STEP EXE. ERROR	Program error location	-	Off	Flicker	Stop	When instruction executed	
4631								
4632								
4633								

*1 CPU operation can be set in the parameters at error occurrence. (LED indication varies.)

*2 The function version is B or later.

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	4610	The active step information at presumptive start of an SFC program is incorrect.	Read common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem. The program is automatically subjected to an initial start.	QnA Qn(H) QnPH QnPRH
	4611	Key-switch was reset during RUN when presumptive start was designated for SFC program.		
	4620	Startup was executed at a block in the SFC program that was already started up.	Read common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	
	4621	Startup was attempted at a block that does not exist in the SFC program.	<ul style="list-style-type: none"> • Read the common information of the error using GX Developer, and check and correct the error step corresponding to that value (program error location). • Turn ON if the special relay SM321 is OFF. 	QnA Q00J/Q00/ Q01* ² Qn(H) QnPH QnPRH QnU
	4630	Startup was executed at a block in the SFC program that was already started up.	Read common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	QnA Qn(H) QnPH QnPRH
	4631	<ul style="list-style-type: none"> • Startup was attempted at the step that does not exist in the SFC program. Or, the step that does not exist in the SFC program was specified for end. • Forced transition was executed based on the transition condition that does not exist in the SFC program. Or, the transition condition for forced transition that does not exist in the SFC program was canceled. 	<ul style="list-style-type: none"> • Read the common information of the error using the peripheral device, and check and correct the error step corresponding to that value (program error location). • Turn ON if the special relay SM321 is OFF. 	QnA Q00J/Q00/ Q01* ² Qn(H) QnPH QnPRH QnU
	4632	There were too many simultaneous active steps in blocks that can be designated by the SFC program.	Read common information of the error using the peripheral device, check error step corresponding to its numerical value (program error location), and correct the problem.	QnA Qn(H) QnPH QnPRH QnU
	4633	There were too many simultaneous active steps in all blocks that can be designated.		

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*4 The module whose first 5 digits of serial No. is 07012 or later.

*5 The module whose first 5 digits of serial No. is 07032 or later.

*6 The module whose first 5 digits of serial No. is 09012 or later.

*7 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
5000	WDT ERROR	Time (value set)	Time (value actually measured)	Off	Flicker	Stop	Always	

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
5000	<ul style="list-style-type: none"> • The scan time of the initial execution type program exceeded the initial execution monitoring time specified in the PLC RAS setting of the PLC parameter. 	<ul style="list-style-type: none"> • Read the individual information of the error from the peripheral device, check its value (time), and shorten the scan time. • Change the initial execution monitoring time or the WDT value in the PLC RAS setting of the PLC parameter. • Resolve the endless loop caused by jump transition. 	<p style="text-align: center;">QnA Qn(H) QnPH QnPRH QnU</p>
	<ul style="list-style-type: none"> • The power supply of the standby system is turned OFF. • The tracking cable is disconnected or connected without turning off or resetting the standby system. • The tracking cable is not secured by the connector fixing screws. 	<ul style="list-style-type: none"> • Since power-off of the standby system increases the control system scan time, reset the WDT value, taking the increase of the control system scan time into consideration. • When the tracking cable is disconnected during operation, securely connect it and restart the CPU module. If the same error is displayed again, the tracking cable or CPU module has a hardware fault. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	<p style="text-align: center;">QnPRH</p>

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
5001	WDT ERROR	Time (value set)	Time (value actually measured)	Off	Flicker	Stop	Always	

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	5001	<ul style="list-style-type: none"> • The scan time of the program exceeded the WDT value specified in the PLC RAS setting of the PLC parameter. 	<ul style="list-style-type: none"> • Read the individual information of the error using the peripheral device, check its value (time), and shorten the scan time. • Change the initial execution monitoring time or the WDT value in the PLC RAS setting of the PLC parameter. • Resolve the endless loop caused by jump transition. 	○
		<ul style="list-style-type: none"> • The power supply of the standby system is turned OFF. • The tracking cable is disconnected or connected without turning off or resetting the standby system. • The tracking cable is not secured by the connector fixing screws. 	<ul style="list-style-type: none"> • Since power-off of the standby system increases the control system scan time, reset the WDT value, taking the increase of the control system scan time into consideration. • When the tracking cable is disconnected during operation, securely connect it and restart the CPU module. If the same error is displayed again, the tracking cable or CPU module has a hardware fault. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	QnPRH

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
5010	PRG. TIME OVER	Time (value set)	Time (value actually measured)	On	On	Continue	Always	
5011								

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
5010	The program scan time exceeded the constant scan setting time specified in the PLC RAS setting of the PLC parameter.	<ul style="list-style-type: none"> • Review the constant scan setting time. • Review the constant scan setting time and low speed program execution time in the PLC parameter so that the excess time of constant scan can be fully secured. 	QnA Qn(H) QnPH QnPRH QnU
	The low speed program execution time specified in the PLC RAS setting of the PLC parameter exceeded the excess time of the constant scan.		QnA Qn(H) QnPH QnPRH
	The program scan time exceeded the constant scan setting time specified in the PLC RAS setting of the PLC parameter.	Review the constant scan setting time in the PLC parameter so that the excess time of constant scan can be fully secured.	Q00J/Q00/Q01
5011	The scan time of the low speed execution type program exceeded the low speed execution watch time specified in the PLC RAS setting of the PLC parameter dialog box.	Read the individual information of the error using the peripheral device, check the numerical value (time) there, and shorten scan time if necessary. Change the low speed execution watch time in the PLC RAS setting of the PLC parameter dialog box.	QnA Qn(H) QnPH

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6000	PRG. VERIFY ERR.	File name	–	Off	Flicker	Stop	Always	
	FILE DIFF.	File name	–	Off	Flicker	Stop	At power ON/ At reset/ At tracking cable connection/ At changing to backup mode/ At completion of write during RUN/ At system switching/ At switching both systems into RUN	

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	<p>The control system and standby system in the redundant system do not have the same programs and parameters. (This can be detected from the standby system of the redundant system.)</p>	<p>Synchronise the programs and parameters of the control system and standby system.</p>	<p>Q4AR</p>
<p>6000</p>	<p>In a redundant system, the control system and standby system do not have the same programs and parameters.</p> <p>The file type detected as different between the two systems can be checked by the file name of the error common information.</p> <ul style="list-style-type: none"> • The program is different. (File name = *****.QPG) • The PLC parameters/network parameters/redundant parameters are different. (File name = PARAM.QPA) • The remote password is different. (File name = PARAM.QPA) • The intelligent function module parameters are different. (File name = IPARAM.QPA) • The device initial values are different. (File name = *****.QDI) • The capacity of each write destination within the CPU for online pchange of multiple program blocks is different. (File name = MBOC.QMB) <p>(This can be detected from the standby system of the redundant system.)</p>	<ul style="list-style-type: none"> • Match the programs and parameters of the control system and standby system. • Perform PLC verify in either of the following procedures 1), 2) to clarify the differences between the files of the two systems, then correct the wrong file, and write the corrected file to the PLC again. <ol style="list-style-type: none"> 1) After reading the programs/parameters of System A using GX Developer or PX Developer, verify them with those of System B. 2) Verify the programs/parameters of GX Developer or PX Developer saved in the offline environment with those written to the CPU modules of both systems. <ul style="list-style-type: none"> • When the capacity of each write destination within the CPU for online change of multiple program blocks is different between the two systems, take corrective action 1) or 2). <ol style="list-style-type: none"> 1) Using the memory copy from control system to standby system, copy the program memory from the control system to the standby system. 2) Format the CPU module program memories of both systems. (For the capacity of each write destination within the CPU for online change of multiple program blocks, set the same value to both systems.) 	<p>QnPRH</p>

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6001	FILE DIFF.	–	–	Off	Flicker	Stop	At power ON/ At reset/At tracking cable connection/At operation mode change	
6010	MODE. VERIFY ERR.	–	–	On	On	Continue	Always	
	OPE. MODE DIFF.	–	–	On	On	Continue	Always	
6020	OPE. MODE DIFF.	–	–	Off	Flicker	Stop	At power ON/ At reset	
6030	UNIT LAY. DIFF.	Module No.	–	Off	Flicker	Stop	At power ON/ At reset/At tracking cable connection/At operation mode change	
6035	UNIT LAY. DIFF.	–	–	Off	Flicker	Stop		

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	6001	In a redundant system, the valid parameter drive settings (SW2, SW3) made by the DIP switches are not the same.	Match the valid parameter drive settings (SW2, SW3) by the DIP switches of the control system and standby system.	QnPRH
	6010	The operational status of the control system and standby system in the redundant system is not the same. (This can be detected from the standby system of the redundant system.)	Synchronise the operation statuses of the control system and standby system.	Q4AR
		The operational status of the control system and standby system in the redundant system is not the same. (This can be detected from the standby system of the redundant system.)	Synchronise the operation statuses of the control system and standby system.	
	6020	At power ON/reset, the RUN/STOP switch settings of the control system and standby system are not the same in a redundant system. (This can be detected from the control system or standby system of the redundant system.)	Set the RUN/STOP switches of the control system and standby system to the same setting.	
	6030	<ul style="list-style-type: none"> • In a redundant system, the module configuration differs between the control system and standby system. • The network module mode setting differs between the two systems. (This can be detected from the control system or standby system of the redundant system.)	<ul style="list-style-type: none"> • Match the module configurations of the control system and standby system. • In the redundant setting of the network parameter dialog box, match the mode setting of System B to that of System A. 	QnPRH
	6035	In a redundant system, the CPU module model name differs between the control system and standby system. (This can be detected from the standby system of the redundant system.)	Match the model names of the control system and standby system.	

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6036	UNIT LAY. DIFF.	Module No.	–	Off	Flicker	Stop	Always	
6040	CARD TYPE DIFF.	–	–	Off	Flicker	Stop	At power ON/ At reset	
6041		–	–	Off	Flicker	Stop	At power ON/ At reset	
6050	CAN'T EXE. MODE	–	–	On	On	Continue	Always	
6060	CPU MODE DIFF.	–	–	Off	Flicker	Stop	At power ON/ At reset/At tracking cable connection	
6061	CPU MODE DIFF.	–	–	Off	Flicker	Stop	When an END instruction executed	
6062	CPU MODE DIFF.	–	–	Off	Flicker	Stop	At power ON/ At reset/At tracking cable connection	

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
6036	A difference in the remote I/O configuration of the MELSECNET/H multiplexed remote I/O network between the control system and standby system of a redundant system was detected. (This can be detected from the control system or standby system of the redundant system.)	Check the network cables of the MELSECNET/H multiplexed remote I/O network for disconnection.	QnPRH
6040	In a redundant system, the memory card installation status (installed/not installed) differs between the control system and standby system.	Match the memory card installation statuses (set/not set) of the control system and standby system.	
6041	In a redundant system, the memory card type differs between the control system and standby system.	Match the memory card types of the control system and standby system.	
6050	The function inexecutable in the debug mode or operation mode (backup/separate mode) was executed. (This can be detected from the control system or standby system of the redundant system.)	Execute the function executable in the debug mode or operation mode (backup/separate mode).	QnPRH
6060	In a redundant system, the operation mode (backup/separate) differs between the control system and standby system.	Match the operation modes of the control system and standby system.	
6061	(This can be detected from the standby system of the redundant system.)		
6062	Both System A and B are in the same system status (control system). (This can be detected from the system B of the redundant system.)	Power the CPU module (System B) which resulted in a stop error, OFF and then ON.	QnPRH

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6100	TRUCKINERR	–	–	On	On	Continue	At power ON/ At reset/ STOP→RUN	
	TRK. TRANS. ERR.	Tracking transmission data classification	–	On	On	Continue	Always	

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
		A CPU module tracking memory error was detected during initial. (This can be detected from the control system or standby system of the redundant system.)	Hardware fault of the CPU module. (Please contact your local nearest Mitsubishi or sales representative, explaining a detailed description of the problem. Change the CPU modules in order of the standby system CPU module and control system CPU module.)	Q4AR
	6100	<ul style="list-style-type: none"> • An error (e.g. retry limit exceeded) occurred in tracking data transmission. (This error may be caused by tracking cable removal or other system power-off (including reset).) • The error occurred at a startup since the redundant system startup procedure was not followed. 	<ul style="list-style-type: none"> • Check the CPU module or tracking cable. If the error still occurs, this indicates the CPU module or tracking cable is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. 	QnPRH

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6101	TRUCKIN ERR.	-	-	On	On	Continue	When an END instruction executed	
		Tracking transmission data classification						
6102	TRK. TRANS. ERR.		-	On	On	Continue	Always	
6103		-						

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	The CPU module detected an error during the handshake for tracking. (This can be detected from the control system or standby system of the redundant system.)	Check the condition of the other stations.	Q4AR
6101	<ul style="list-style-type: none"> • A timeout error occurred in tracking (data transmission). (This error may be caused by tracking cable removal or other system power-off (including reset).) • The error occurred at a startup since the redundant system startup procedure was not followed. (This can be detected from the control system or standby system of the redundant system.) 	<ul style="list-style-type: none"> • Check the CPU module or tracking cable. If the error still occurs, this indicates the CPU module or tracking cable is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. 	QnPRH
6102	A data sum value error occurred in tracking (data reception). (This can be detected from the control system or standby system of the redundant system.)		
6103	<ul style="list-style-type: none"> • A data error (other than sum value error) occurred in tracking (data reception). (This error may be caused by tracking cable removal or other system power-off (including reset).) • The error occurred at a startup since the redundant system startup procedure was not followed. (This can be detected from the control system or standby system of the redundant system.) 		

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6105	TRK. TRANS. ERR.	Tracking transmission data classification	-	On	On	Continue	Always	
6106								
6107	TRK. TRANS. ERR.	-	-	On	On	Continue	Always	
6108								
6110	TRK. SIZE ERROR	Tracking capacity excess error factor	-	On	On	Continue	When an END instruction executed	

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
6105	<ul style="list-style-type: none"> • An error (e.g. retry limit exceeded) occurred in tracking (data transmission). (This error may be caused by tracking cable removal or other system power-off (including reset).) • The error occurred at a startup since the redundant system startup procedure was not followed. (This can be detected from the control system or standby system of the redundant system.) 	<ul style="list-style-type: none"> • Check the CPU module or tracking cable. If the error still occurs, this indicates the CPU module or tracking cable is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. 	QnPRH
6106	<ul style="list-style-type: none"> • A timeout error occurred in tracking (data transmission). (This error may be caused by tracking cable removal or other system power-off (including reset).) • The error occurred at a startup since the redundant system startup procedure was not followed. (This can be detected from the control system or standby system of the redundant system.) 		
6107	<p>A data sum value error occurred in tracking (data reception). (This can be detected from the control system or standby system of the redundant system.)</p>	<ul style="list-style-type: none"> • Check the CPU module or tracking cable. If the error still occurs, this indicates the CPU module or tracking cable is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. 	QnPRH
6108	<ul style="list-style-type: none"> • A data error (other than sum value error) occurred in tracking (data reception). (This error may be caused by tracking cable removal or other system power-off (including reset).) • The error occurred at a startup since the redundant system startup procedure was not followed. (This can be detected from the control system or standby system of the redundant system.) 		
6110	<p>The tracking capacity exceeded the allowed range. (This can be detected from the control system or standby system of the redundant system.)</p>	Reexamine the tracking capacity.	QnPRH

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6111	TRK. SIZE ERROR	-	-	On	On	Continue	When an END instruction executed	
6112	TRK. SIZE ERROR	-	-	On	On	Continue	When an END instruction executed	
6120	TRK. CABLE ERR.	-	-	Off	Flicker	Stop	At power ON/ At reset	

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	6111	The control system does not have enough file register capacity for the file registers specified in the tracking settings. (This can be detected from the control system or standby system of the redundant system.)	Switch to the file registers of which capacity is greater than the file registers specified in the tracking settings.	QnPRH
	6112	File registers greater than those of the standby system were tracked and transmitted from the control system. (This can be detected from the standby system of the redundant system.)	Switch to the file registers of which capacity is greater than the file registers specified in the tracking settings.	
	6120	<ul style="list-style-type: none"> • A start was made without the tracking cable being connected. • A start was made with the tracking cable faulty. • As the tracking hardware on the CPU module side was faulty, communication with the other system could not be made via the tracking cable. (This can be detected from the control system or standby system of the redundant system.)	Make a start after connecting the tracking cable. If the same error still occurs, this indicates the tracking cable or CPU module side tracking transmission hardware is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.)	

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6130	TRK. DISCONNECT	–	–	On	On	Continue	Always	
6140	TRK.INIT. ERROR	–	–	Off	Flicker	Stop	At power ON/ At reset	
6200	CONTROL EXE.	Reason(s) for system switching	–	On	Off	Continue	Always	
	CONTROL EXE.	Reason(s) for system switching	–	On	Off	No error	Always	

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	6130	<ul style="list-style-type: none"> • The tracking cable was removed. • The tracking cable became faulty while the CPU module is running. • The CPU module side tracking hardware became faulty. (This can be detected from the control system or standby system of the redundant system.)	<ul style="list-style-type: none"> • If the tracking cable was removed, connect the tracking cable to the connectors of the CPU modules of the two systems. • When the error is not resolved after connecting the tracking cable to the connectors of the CPU modules of the two systems and resetting the error, the tracking cable or CPU module side tracking hardware is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	QnPRH
	6140	<ul style="list-style-type: none"> • The other system did not respond during initial communication at power ON/reset. • The error occurred at a startup since the redundant system startup procedure was not followed. (This can be detected from the control system or standby system of the redundant system.)	<ul style="list-style-type: none"> • Power the corresponding CPU module OFF and then ON again, or reset it and then unreset. If the same error still occurs, this indicates the CPU module is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. 	
		The standby system in a redundant system is switched to the control system. (This can be detected from the standby system of the redundant system.)	Check the control system condition.	Q4AR
	6200	The standby system has been switched to the control system in a redundant system. (Detected by the CPU that was switched from the standby system to the control system) Since this error code does not indicate the error information of the CPU module but indicates its status, the error code and error information are not stored into SD0 to 26, but are stored into the error log every system switching. (Check the error information by reading the error log using GX Developer.)	-	QnPRH

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6210	CONTROL WAIT	Reason(s) for system switching	–	On	Off	Continue	Always	
	STANDBY	Reason(s) for system switching	–	On	Off	No error	Always	
6220	CAN'T EXE. CHANGE	Reason(s) for system switching	–	On	On	Continue	At switching request	
	CAN'T SWITCH	Reason(s) for system switching	Reason(s) for system switching failure	On	On	Continue	At switching execution	

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
		The control system in a redundant system is switched to the standby system. (This can be detected from the standby system of the redundant system.)	Check the control system condition.	Q4AR
	6210	The control system has been switched to the standby system in a redundant system. (Detected by the CPU that was switched from the control system to the standby system) Since this error code does not indicate the error information of the CPU module but indicates its status, the error code and error information are not stored into SD0 to 26, but are stored into the error log every system switching. (Check the error information by reading the error log using GX Developer.)	-	QnPRH
	6220	<ul style="list-style-type: none"> • Since the standby system is in an error or similar status in the redundant system, the control system cannot be switched to the standby system. • When an attempt was made to execute system switching, the control system could not be switched to the standby system due to a network error of the control system. (This can be detected from the control system of the redundant system.)	Check the standby system condition.	Q4AR
		System switching cannot be executed due to standby system error/ tracking cable error/ online module change in execution at separate mode. Causes for switching system at control system are as follows: <ul style="list-style-type: none"> • System switching by SP. CONTSW instruction • System switching request from network module 	<ul style="list-style-type: none"> • Check the status of the standby system and resolve the error. • Complete the online module change. 	QnPRH

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6221	CAN'T EXE. CHANGE	Reason(s) for system switching	–	On	On	Continue	At switching request	
6230	DUAL SYS. ERROR	–	–	On	On	Continue	Always	
6300	STANDBY SYS. DOWN	–	–	On	On	Continue	Always	

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	6221	Switching is disabled because of a bus switching module error. (This can be detected from the control system of the redundant system.)	This is a bus switching module hardware fault. (Contact your local Mitsubishi representative.)	Q4AR
	6230	The link module mounted on the standby system CPU module is the remote master station.	Check the system configuration status.	
	6300	Any of the following errors was detected in the backup mode. <ul style="list-style-type: none"> • The standby system has not started up in the redundant system. • The standby system has developed a stop error in the redundant system. • The CPU module in the debug mode was connected to the operating control system. (This can be detected from the control system of the redundant system.)	<ul style="list-style-type: none"> • Check whether the standby system is on or not, and if it is not on, power it on. • Check whether the standby system has been reset or not, and if it has been reset, unreset it. • Check whether the standby system has developed a stop error or not, and if it has developed the error, remove the error factor and restart it. • When the CPU module in the debug mode was connected to the control system operating in the backup mode, make connection so that the control system and standby system are combined correctly. 	QnPRH

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6310	CONTROL SYS. DOWN	-	-	Off	Flicker	Stop	Always	
6311	CONTROL SYS. DOWN	-	-	Off	Flicker	Stop	At power ON/ At reset	
6312								
6313	CONTROL SYS. DOWN	-	-	Off	Flicker	Stop	At power ON/ At reset	

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
6310	<p>Any of the following errors was detected in the backup mode.</p> <ul style="list-style-type: none"> • The control system has not started up in the redundant system. • The control system has developed a stop error in the redundant system. • The CPU module in the debug mode was connected to the operating standby system. • The error occurred at a startup since the redundant system startup procedure was not followed. <p>(This can be detected from the standby system of the redundant system.)</p>	<ul style="list-style-type: none"> • The standby system exists but the control system does not exist. • Check whether the system other than the standby system is on or not, and if it is not on, power it on. • Check whether the system other than the standby system has been reset or not, and if it is has been reset, unreset it. • Check whether the system other than the standby system has developed a stop error or not, and if has developed the error, remove the error factor, set the control system and standby system to the same operating status, and restart. • When the CPU module in the debug mode was connected to the control system operating in the backup mode, make connection so that the control system and control system are combined correctly. • Confirm the redundant system startup procedure, and execute a startup again. 	QnPRH
6311 6312	<ul style="list-style-type: none"> • As consistency check data has not transmitted from the control system in a redundant system, the other system cannot start as a standby system. • The error occurred at a startup since the redundant system startup procedure was not followed. <p>(This can be detected from the standby system of the redundant system.)</p>	<ul style="list-style-type: none"> • Replace the tracking cable. If the same error still occurs, this indicates the CPU module is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) • Confirm the redundant system startup procedure, and execute a startup again. 	QnPRH
6313	The control system detected the error of the system configuration and informed it to the standby system (host system) in the redundant system.	Restart the system after checking that the connection between base unit and the system configuration (type/number/parameter of module) are correct.	QnPRH*1

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
6400	PRG. MEM. CLEAR	–	–	Off	Flicker	Stop	At execution of the memory copy from control system to standby system	
6410	MEM.COPY EXE	–	–	On	On	Continue	At execution of the function of copying memory from control system to standby system	
6500	TRK. PARA. ERROR	File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset	
6501		File name/ Drive name	Parameter number	Off	Flicker	Stop	At power ON/ At reset	

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	6400	The memory copy from control system to standby system was executed, and the program memory was cleared.	After the memory copy from control system to standby system is completed, switch power OFF and then ON, or make a reset.	QnPRH
	6410	The memory copy from control system to standby system was executed. (This can be detected from the control system of the redundant system.)	—	
	6500	The file register file specified in the tracking setting of the PLC parameter dialog box does not exist.	Read the individual information of the error using GX Developer, and check and correct the drive name and file name. Create the specified file.	QnPRH
	6501	The file register range specified in the device detail setting of the tracking setting of the PLC parameter dialog box exceeded the specified file register file capacity.	Read the individual information of the error using GX Developer, and increase the file register capacity.	

*1 The module whose first 5 digits of serial No. is 09012 or later.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
7000	MULTI CPU DOWN	Module No. (CPU No.)	–	Off	Flicker	Stop	Always	
7002	MULTI CPU DOWN	Module No. (CPU No.)	–	Off	Flicker	Stop	At power ON/ At reset	
7003								

*1 The function version is B or later.

*2 For the Basic model QCPU, the special register (SD207 to DS209) for LED indication priority can turn off the indication. (The LED indication is always OFF for the High Performance model QCPU, Process CPU, Redundant CPU, and Universal model QCPU.)

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
7000	<ul style="list-style-type: none"> In the operating mode of a multiple CPU system, a CPU error occurred at the CPU where "All station stop by stop error of CPU " was selected. In a multiple CPU system, a CPU module incompatible with the multiple CPU system was mounted. 	<ul style="list-style-type: none"> Read the individual information of the error using the GX Developer, check the error of the PLC resulting in CPU module fault, and remove the error. Remove the CPU module incompatible with the multiple CPU system from the main base unit. 	Q00/Q01*1 Qn(H)*1 QnPH QnU
	In a multiple CPU system, CPU other than CPU No.1 cannot be started up due to stop error of the CPU No.1 at power-on, which occurs to CPU No.2 to No.4.	Read the individual information of the error using the GX Developer, check the error of the PLC resulting in CPU module fault, and remove the error.	Q00/Q01*1 Qn(H)*1 QnPH QnU
7002	<ul style="list-style-type: none"> There is no response from the target CPU module in a multiple CPU system during initial communication. In a multiple CPU system, a CPU module incompatible with the multiple CPU system was mounted. 	<ul style="list-style-type: none"> Reset the CPU module and RUN it again. If the same error is displayed again, this suggests the hardware fault of any of the CPU modules. (Contact your local Mitsubishi representative.) Remove the CPU module incompatible with the multiple CPU system from the main base unit. Or, replace the CPU module incompatible with the multiple CPU system with the compatible one. 	Q00/Q01*1 Qn(H)*1 QnPH
	<ul style="list-style-type: none"> There is no response from the target CPU module in a multiple CPU system during initial communication. 	<ul style="list-style-type: none"> Reset the CPU module and RUN it again. If the same error is displayed again, this suggests the hardware fault of any of the CPU modules. (Contact your local Mitsubishi representative.) 	QnU
7003	There is no response from the target CPU module in a multiple CPU system at initial communication stage.	Reset the CPU module and RUN it again. If the same error is displayed again, this suggests the hardware fault of any of the CPU modules. (Contact your local Mitsubishi representative.)	Q00/Q01*1 Qn(H)*1 QnPH

*3 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
7004	MULTI CPU DOWN	Module No. (CPU No.)	–	Off	Flicker	Stop	Always	
7010	MULTI EXE. ERROR	Module No. (CPU No.)	–	Off	Flicker	Stop	At power ON/ At reset	

*1 The function version is B or later.

*2 For the Basic model QCPU, the special register (SD207 to DS209) for LED indication priority can turn off the indication. (The LED indication is always OFF for the High Performance model QCPU, Process CPU, Redundant CPU, and Universal model QCPU.)

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
7004	In a multiple CPU system, a data error occurred in communication between the CPU modules.	<ul style="list-style-type: none"> • Check the system configuration to see if modules are mounted in excess of the number of I/O points. • When there are no problems in the system configuration, this indicates the CPU module hardware is faulty. (Contact your local Mitsubishi representative, explaining a detailed description of the problem.) 	Q00/Q01* ¹ QnU
7010	<ul style="list-style-type: none"> • In a multiple CPU system, a faulty CPU module was mounted. • In a multiple CPU system, a CPU module incompatible with the multiple CPU system was mounted. (The CPU module compatible with the multiple CPU system was used to detect an error.) • In a multiple CPU system, any of the CPU No. 2 to 4 was reset with power ON. (The CPU whose reset state was cancelled was used to detect an error.) • In a multiple CPU system, the PC CPU module used the QFB (bus interface driver) of version 1.06 or earlier. 	<ul style="list-style-type: none"> • Read the individual information of the error using GX Developer, and replace the faulty CPU module. • Replace the CPU module with the one compatible with the multiple CPU system. • Do not reset any of the No. 2 to 4 CPU modules. • Use the PC CPU module that uses the QFB of version 1.07 or later. • Reset CPU No. 1 and restart the multiple CPU system. 	Q00/Q01* ¹ Qn(H)* ¹ QnPH QnU

*3 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
7011	MULTI EXE. ERROR	Module No. (CPU No.)	–	Off	Flicker	Stop	At power ON/ At reset	
7013	MULTI EXE. ERROR	Module No. (CPU No.)	–	Off	Flicker	Stop	At power ON/ At reset	
7020	MULTI CPU ERROR	Module No. (CPU No.)	–	On	On	Continue	Always	
7030	CPU LAY. ERROR	Module No. (CPU No.)	–	Off	Flicker	Stop	At power ON/ At reset	
7031								

*1 The function version is B or later.

*2 For the Basic model QCPU, the special register (SD207 to DS209) for LED indication priority can turn off the indication. (The LED indication is always OFF for the High Performance model QCPU, Process CPU, Redundant CPU, and Universal model QCPU.)

Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
7011	<p>Either of the following settings was made in a multiple CPU system.</p> <ul style="list-style-type: none"> Multiple CPU automatic refresh setting was made for the inapplicable CPU module. "I/O sharing when using multiple CPUs" setting was made for the inapplicable CPU module. 	<ul style="list-style-type: none"> Correct the multiple CPU automatic refresh setting. Correct the "I/O sharing when using multiple CPUs" setting. 	Q00/Q01* ¹ QnU
	<p>The system configuration for using the Multiple CPU high speed transmission function is not met.</p> <ul style="list-style-type: none"> The QnUD(H)CPU is not used for the CPU No.1. The Multiple CPU high speed main base unit (Q3□DB) is not used. Points other than 0 is set to the send range for the CPU module incompatible with the multiple CPU high speed transmission function. Points other than 0 is set to the send range for the CPU module incompatible with the multiple CPU. 	<p>Change the system configuration to meet the conditions for using the Multiple CPU high speed transmission function.</p>	QnU* ³
7013	<p>The Q172(H)CPU(N) or Q173(H)CPU(N) is mounted to the CPU slot or slots 0 to 2. (The module may break down.)</p>	<p>Remove the Q172(H)CPU(N) or Q173(H)CPU(N).</p>	QnU
7020	<p>In the operating mode of a multiple CPU system, an error occurred in the CPU where "system stop" was not selected. (The CPU module where no error occurred was used to detect an error.)</p>	<p>Read the individual information of the error using the peripheral device, check the error of the CPU module resulting in CPU module fault, and remove the error.</p>	Q00/Q01* ¹ Qn(H)* ¹ QnPH QnU
7030	<p>An assignment error occurred in the CPU-mountable slot (CPU slot, I/O slot 0, 1) in excess of the number of CPU modules specified in the multiple CPU setting of the PLC parameter dialog box.</p>	<ul style="list-style-type: none"> Set the same value to the number of CPU modules specified in the multiple CPU setting of the PLC parameter dialog box and the number of mounted CPU modules (including CPU (empty)). 	Q00J/Q01/ Q01* ¹ QnU
7031	<p>An assignment error occurred within the range of the number of CPUs specified in the multiple CPU setting of the PLC parameter dialog box.</p>	<ul style="list-style-type: none"> Make the type specified in the I/O assignment setting of the PLC parameter dialog box consistent with the CPU module configuration. 	

*3 The Universal model QCPU except the Q02UCPU.

Error Code (SD0)	Error Message	Common Information (SD5 to 15)	Individual Information (SD16 to 26)	LED Status		CPU Operation Status	Diagnostic Timing	
				RUN	ERROR			
7032	CPU LAY. ERROR	Module No. (CPU No.)	–	Off	Flicker	Stop	At power ON/ At reset	
7035	CPU LAY. ERROR	Module No. (Slot No.)	–	Off	Flicker	Stop	At power ON/ At reset	
7036	CPU RAY ERROR	Module No. (CPU No.)	–	Off	Flicker	Stop	At power ON/ At reset	
8031	INCORRECT FILE	–	File diagnostic information	Off	Off	Stop	At power-On/ At reset/ STOP→RUN/ At PLC writing	
9000	F****	Program error location	Annunciator number	On	On/ Off *2	Continue	When instruction executed	
				USER LED On				
9010	<CHK>ERR ***_***	Program error location	Failure No.	On	Off	Continue	When instruction executed	
				USER LED On				
9020	BOOT OK	–	–	Off	Flicker	Stop	At power ON/ At reset	
10000	CONT. UNIT ERROR	–	–	Off	Flicker	Continue	Always	

*1 The function version is B or later.

*2 For the Basic model QCPU, the special register (SD207 to DS209) for LED indication priority can turn off the indication. (The LED indication is always OFF for the High Performance model QCPU, Process CPU, Redundant CPU, and Universal model QCPU.)

	Error Code (SD0)	Error Contents and Cause	Corrective Action	Corresponding CPU
	7032	<ul style="list-style-type: none"> The number of CPU modules mounted in a multiple CPU system is wrong. 	Configure a system so that the number of mountable modules of each CPU module does not exceed the maximum number of mountable modules specified in the specification.	Q00/Q01* ¹ QnU
	7035	The CPU module has been mounted on the inapplicable slot.	Mount the CPU module on the applicable slot.	Q00J/Q00/ Q01* ¹ QnPRH QnU
	7036	The host CPU No. set by the multiple CPU setting and the host CPU No. determined by the mounting position of the CPU module are not the same.	<ul style="list-style-type: none"> Mount the mounting slot of the CPU module correctly. Correct the host CPU No. set by the multiple CPU setting to the CPU No. determined by the mounting position of the CPU module. 	QnU* ³
	8031	The error of stored file (enabled parameter file) is detected.	Write the file shown as SD17 to SD22 of individual information to the drive shown as SD16(L) of individual information, and turn ON from OFF the power supply of the CPU module or cancel the reset. If the same error is displayed again, the CPU module has hardware failure. Contact your local Mitsubishi representative, explaining a detailed description of the problem.	QnU
	9000	Annunciator (F) was set ON	Read the individual information of the error using the peripheral device, and check the program corresponding to the numerical value (annunciator number).	○
	9010	Error detected by the CHK instruction.	Read the individual information of the error using the peripheral device, and check the program corresponding to the numerical value (error number) there.	QnA Qn(H) QnPH QnPRH
	9020	Storage of data onto ROM was completed normally in automatic write to standard ROM. (BOOT LED also flickers.)	Use the DIP switches to set the valid parameter drive to the standard ROM. Then, switch power on again, and perform boot operation from the standard ROM.	Qn(H)* ¹ QnPH QnPRH
	10000	In the multiple CPU system, an error occurred in the CPU module other than the Process CPU/High Performance model QCPU.	Check the details of the generated error by connecting to the corresponding CPU module using GX Developer.	Qn(H)* ¹ QnPH

*3 The Universal model QCPU except the Q02UCPU.

6.4 Canceling of Errors

Q series CPU module can perform the cancel operation for errors only when the errors allow the CPU module to continue its operation.

To cancel the errors, follow the steps shown below.

- 1) Eliminate the cause of the error.
- 2) Store the error code to be canceled in the special register SD50.
- 3) Energize the special relay SM50 (OFF → ON).
- 4) The error to be canceled is canceled.

After the CPU module is reset by the canceling of the error, the special relays, special registers, and LEDs associated with the error are returned to the status under which the error occurred.

If the same error occurs again after the cancellation of the error, it will be registered again in the error history.

When multiple enunciators(F) detected are canceled, the first one with No. F only is canceled.

Refer to the following manual for details of error canceling.

→ QCPU User's Manual (Function Explanation, Program Fundamentals)

POINT	
(1)	<p>When the error is canceled with the error code to be canceled stored in the SD50, the lower one digit of the code is neglected.</p> <p>(Example)</p> <p>If error codes 2100 and 2101 occur, and error code 2100 to cancel error code 2101.</p> <p>If error codes 2100 and 2111 occur, error code 2111 is not canceled even if error code 2100 is canceled.</p>
(2)	<p>Errors developed due to trouble in other than the CPU module are not canceled even if the special relay (SM50) and special register (SD50) are used to cancel the error.</p> <p>(Example)</p> <p>Since "SP. UNIT DOWN" is the error that occurred in the base unit (including the extension cable), intelligent function module, etc. the error cause cannot be removed even if the error is canceled by the special relay (SM50) and special register (SD50).</p> <p>Refer to the error code list and remove the error cause.</p>

7. TRANSPORTATION PRECAUTIONS

When transporting lithium batteries, make sure to treat them based on the transportation regulations.

7.1 Relevant Models

The batteries for the QnACPU are classified as shown in the table below.

Product Name	Model	Description	Handled As
QnA series battery	A6BAT	Lithium battery	Non-dangerous goods
QnA series battery memory card	Q1MEM-128S, Q1MEM-128SE, Q1MEM-1MS, Q1MEM-1MSE, Q1MEM-1MSF, Q1MEM-256S, Q1MEM-256SE, Q1MEM-256SF, Q1MEM-2MS, Q1MEM-2MSF, Q1MEM-512S, Q1MEM-512SE, Q1MEM-512F, Q1MEM-64S, Q1MEM-64SE	Packed with lithium coin battery (BR2325)	

7.2 Transportation Guidelines

Products are packed properly in compliance with the transportation regulations prior to shipment. When repacking any of the unpacked products to transport it to another location, make sure to observe the IATA Dangerous Goods Regulations, IMDG Code and other local transportation regulations.

For details, please consult your transportation company.

Warranty

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

Country/Region	Sales office/Tel	Country/Region	Sales office/Tel
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Brazil	MELCO-TEC Rep. Com.e Assessoria Tecnica Ltda. Rua Correia Dias, 184, Edificio Paraiso Trade Center-8 andar Paraiso, Sao Paulo, SP Brazil Tel : +55-11-5908-8331	China	Mitsubishi Electric Automation (Shanghai) Ltd. 4/F Zhi Fu Plazz, No.80 Xin Chang Road, Shanghai 200003, China Tel : +86-21-6120-0808
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