MITSUBISHI

Q2ASCPU
Q2ASCPU-S1
Q2ASHCPU
Q2ASHCPU-S1

User's Manual

(Hardware)

Thank you for buying the Mitsubishi general-purpose programmable controller MELSEC-QnA Series

Prior to use, please read both this manual and detailed manual thoroughly and familiarize yourself with the product.

QnA
MELSEC

MODEL	Q2ASCPU-U(H/W) JE
MODEL CODE	13JT12
IB(NA)-0800140-H(1312) MEE	

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REVISIONS

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

Print Date	*Manual Number	Revision
Jun., 2000	IB(NA) 0800140-A	First edition
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CONTENTS

1. OVERVIEW

This manual explains the performance specifications, names and settings of each part, and the error codes for the Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU and Q2ASHCPU-S1 (hereinafter, Q2ASCPU).
Refer to the Type A1SC24-R2/A1SH/A2SHCPU(S1)/A2ASCPU(S1/S30) User's Manual (Hardware) IB-66468 enclosed with the base unit for details on the Q2ASCPU safety precautions, general specifications, mounting and installation methods, EMC Directives, Low-voltage Directives and the input/output module specifications and connection methods.
When using the Q2ASCPU with the A1S38HB/A1S38HBEU, refer to the Q2AS(H)CPU (S1) User's Manual (Hardware) enclosed with the base unit. (All of the contents of this manual are given in the User's Manual.)

2. PERFORMANCE SPECIFICATION

2.1 Q2ASCPU Module Performance Specification

Performance specification of Q2ASCPU module is as follows:

Item		Model				Remark
		Q2ASCPU	Q2ASCPU-S1	Q2ASHCPU	Q2ASHCPU-S1	
Control method		Repetitive operation of stored program				
I/O control method		Refresh mode				I/O enabled by specifying direct I/O (DX□, DY□)
Programming language		Sequence control dedicated language				
		Relay symbol language, logic symbolic language, MELSAP3 (SFC)				
Processing speed (sequence instructions)	LD	0.2 us/step		0.075 us/step		
	MOV	0.6 us/step		0.225 us/step		
Constant scan (Function that makes scan time constant)		5 to 2000 ms (configurable in multiple of 5 ms module)				Set parameter values to specify
Memory capacity		Capacity of loading memory cards (2036 kbyte maximum)				
Program capacity	Number of steps	28 k steps maximum	60 k steps maximum	28 k steps maximum	60 k steps maximum	
	Number of files	28 files	60 files	28 files	60 files	
I/O device points		8192 points (X/Y0 to 1FFF)				Number of usable points in program

Item	Model				Remark
	Q2ASCPU	Q2ASCPU-S1	Q2ASHCPU	Q2ASHCPU-S1	
I/O points	512 points (X/Y0 to 1FF)	1024 points (X/Y0 to 3FF)	512 points (X/Y0 to 1FF)	1024 points (X/Y0 to 3FF)	Number of points accessible to actual I/O modules
Clock function	Year, month, date, hour, minute, second, day of week (auto-detects leap years) Accuracy : -1.7 to +4.9s (TYP. +1.7s) / d at 0 depress centigrade Accuracy : -1.0 to +5.2s (TYP. +2.2s) / d at 25 depress centigrade Accuracy : -7.3 to +2.5s (TYP. -1.9s) / d at 55 depress centigrade				
Allowable momentary power failure period	By power supply module				
5 VDC Internal current consumption	0.3 A	0.3 A	0.7 A	0.7 A	
Mass	0.5 kg	0.5 kg	0.5 kg	0.5 kg	
External dimension	130(H) mm × 54.5(W) mm × 110(D) mm (5.12 inch × 2.15 inch × 4.33 inch)				

3. PART NAMES AND SETTINGS

3.1 Part names and Settings

This section describes the name and setting of each part of the module.

Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU, Q2ASHCPU-S1

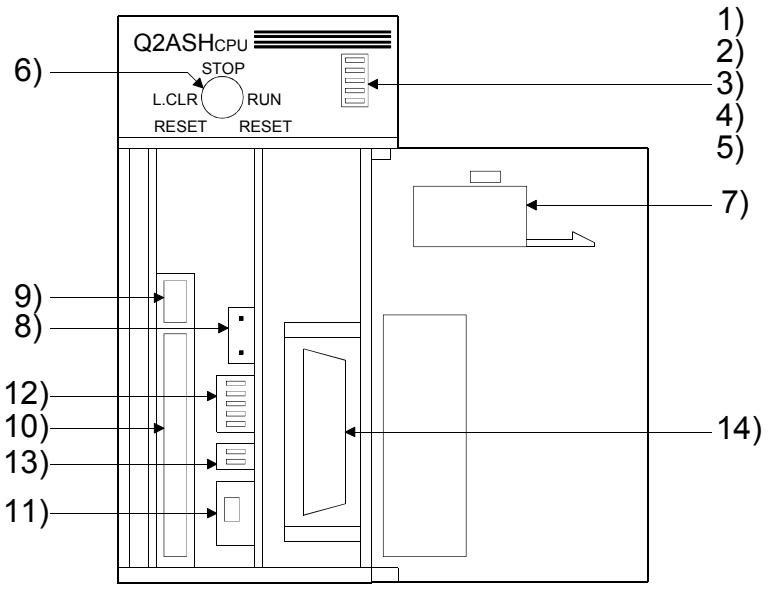
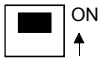
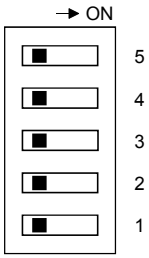
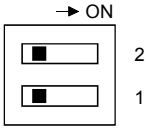


Illustration of the module with the front cover open

No.	Name	Application
1)	RUN LED	This LED indicates the CPU module operating condition. Lit :Operating with the RUN/STOP key switch set to RUN or STEP-RUN. Off :Stopped with the RUN/STOP key switch set to STOP, PAUSE, or STEP-RUN. Or, the CPU module has detected the error that would cause the operation to stop. Flash :The RUN/STOP key switch has been set from STOP to RUN after the program was written in stop mode. The CPU module is not in RUN mode. To engage the CPU module in RUN mode, set the RUN/STOP key switch to RUN, STOP, the RUN. Alternatively, reset the module using the key switch.
2)	ERROR LED	Lit :A self-diagnostic error (other than a battery error) that will not stop operation has been detected. (The parameter has been set to Continue operation at error detection.) Off :Normal Flash :An error that will stop the operation has been detected.
3)	USER LED	Lit :A error has been detected by the CHK instruction, or annunciator F has been turned ON. Off :Normal Flash :The latch clear operation has been executed.
4)	BAT. ALARM LED	Lit :Battery error has occurred due to a drop in the CPU module main unit/memory card battery voltage. Off :Normal
5)	BOOT LED	Lit :The boot operation has been completed. Off :The boot operation has not been executed.

<table>
<tr><th>No.</th><th>Name</th><th>Application</th></tr>
<tr><td>6)</td><td>RUN/STOP key switch</td><td>RUN/STOP :Executes/stops the operation of the sequence program.
L.CLR :Sets the entire data of the latch area specified by the parameter to OFF or 0. Clears the entry of the sampling trace and the status latch.
RESET :Executes the hardware reset operation and the reset at an operation error occurrence, and initializes the operation.</td></tr>
<tr><td>7)</td><td>Battery (A6BAT)</td><td>Backup battery to be used for the internal RAM and the power failure compensation function.</td></tr>
<tr><td>8)</td><td>Battery connector pin</td><td>Used to connect the battery lead wire. (The lead wire is removed from the connector at shipment in order to prevent battery consumption.)</td></tr>
<tr><td>9)</td><td>Memory card EJECT button</td><td>Used to eject the memory card from the CPU module.</td></tr>
<tr><td>10)</td><td>Memory card loading connector</td><td>This connector is used to load the memory card in the CPU module.</td></tr>
<tr><td>11)</td><td>Memory card Load/eject switch (LED equipped)
  </td><td>This switch setting determines whether or not you can load/eject the memory card during energizing. The factory default setting is OFF.
ON :Loading is prohibited. (LED is lit.)
OFF :Loading is allowed. (LED is turned off.)</td></tr>
<tr><td rowspan="5">12)</td><td rowspan="5">System setting switches 1
  </td><td>These switches allow you to set the items for the CPU module operation. The factory default setting of all switches is OFF.</td></tr>
<tr><td>SW5 :Boot setting. This switch allows you to select the memory for operation.
ON :Boot operation
OFF :Boot operation is not performed</td></tr>
<tr><td>SW2 to 4 :Parameter area. These switches allow you to select the memory into which to write the parameters.</td></tr>
<tr><td><table>
<tr><td></td><td rowspan="2">Internal RAM</td><td colspan="2">Memory card</td><td rowspan="4">SW2 to 4 are valid if SW1 is OFF.</td></tr>
<tr><td>RAM</td><td>ROM</td></tr>
<tr><td>SW4</td><td>OFF</td><td>ON</td><td>OFF</td></tr>
<tr><td>SW3</td><td>OFF</td><td>OFF</td><td>ON</td></tr>
<tr><td>SW2</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>SW1 :System protect. Writing to the CPU module and issuing the control instructions are prohibited.
ON :System protect is valid.
OFF :System protect is invalid.</td></tr>
<tr><td rowspan="3">13)</td><td rowspan="3">System setting switches 2
  </td><td>These switches allow you to set the items for CPU module operation. The factory default setting of all switches is OFF.</td></tr>
<tr><td>SW2 :Unused (Fixed to OFF)</td></tr>
<tr><td>SW1 :Peripheral protocol. This switch allows you to select the type of peripheral devices that are connected to the CPU modules peripheral interface.
(Set this switch to ON when you wish to access another stations ACPU from the ACPU peripheral device. The setting becomes effective as soon as you set the switch.)
ON :Peripheral device for the ACPU
OFF :Peripheral device for the Q2ASCPU</td></tr>
<tr><td>14)</td><td>RS-422 connector</td><td>Used to connect a peripheral device.</td></tr>
</table>

3.2 Relationship between switch operation and the LED indication

(1) Writing a program while the CPU module is stopped:

Follow the procedure below to write a program while the CPU module is stopped:

(a) RUN/STOP key switch: STOP
RUN LED: Off ..... CPU module is in STOP mode. → Write a program.

(b) RUN/STOP key switch: RESET
RUN LED: Off .....CPU module is in STOP mode.

(c) RUN/STOP key switch: STOP → RUN
RUN LED: Lit .....CPU module is in RUN mode.

POINT
• 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:

Operate the RUN/STOP key switch as follows to execute the latch clear operation:

(a) Turn the RUN/STOP key switch of the CPU module from the "STOP" position to the "L. CLR" position several times (three or four 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.

(b) 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.

(c) 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
• You can make latch clear valid or invalid for each device via the device setting in parameter mode. • Instead of using the RUN/STOP key switch, you can also execute the latch clear operation remotely from the peripheral device. (Refer to the Q2AS(H)CPU(S1) User's Manual.)

(3) Removing the memory card while the programmable controller power is on:

Operate the memory card load/eject switch as described below the memory card while the programmable controller power is still on:

(a) Load/eject switch: ON,
Load/eject switch internal LED:Lit ····· Ejecting the memory card is prohibited.

(b) Load/eject switch: OFF,
Load/eject switch internal LED:Off····· Ejecting the memory card is allowed.
····· → Remove the memory card.

POINT

- The load/eject switch internal LED may not be turned off when you are using the memory card for the CPU module system function (such as sampling trace and status latch) or for the program.
  In this case, quit the corresponding system function or program that is using the memory card. Then, make sure that the load/eject switch internal LED is turned off, and remove the memory card.
- Do not turn on the memory card load/eject switch after you have removed the memory card. Otherwise, on error will occur.
- When there are parameter-set file registers, local devices or failure history, the memory card cannot be the 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) Loading the memory card while the programmable controller power is on:

Operate the memory card load/eject switch as described below to load the memory card while the programmable controller power is still on:

(a) Load the memory card.

(b) Load/eject switch: ON,
Load/eject switch internal LED: Lit····· Ejecting the memory card is prohibited.

POINT

- Be sure to turn on the memory card load/eject switch after you have loaded the memory card. Otherwise, you will not be able to use the card.
- 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.

4. ABOUT FAIL-SAFE CIRCUITS

4.1 Fail-Safe Circuit Concept

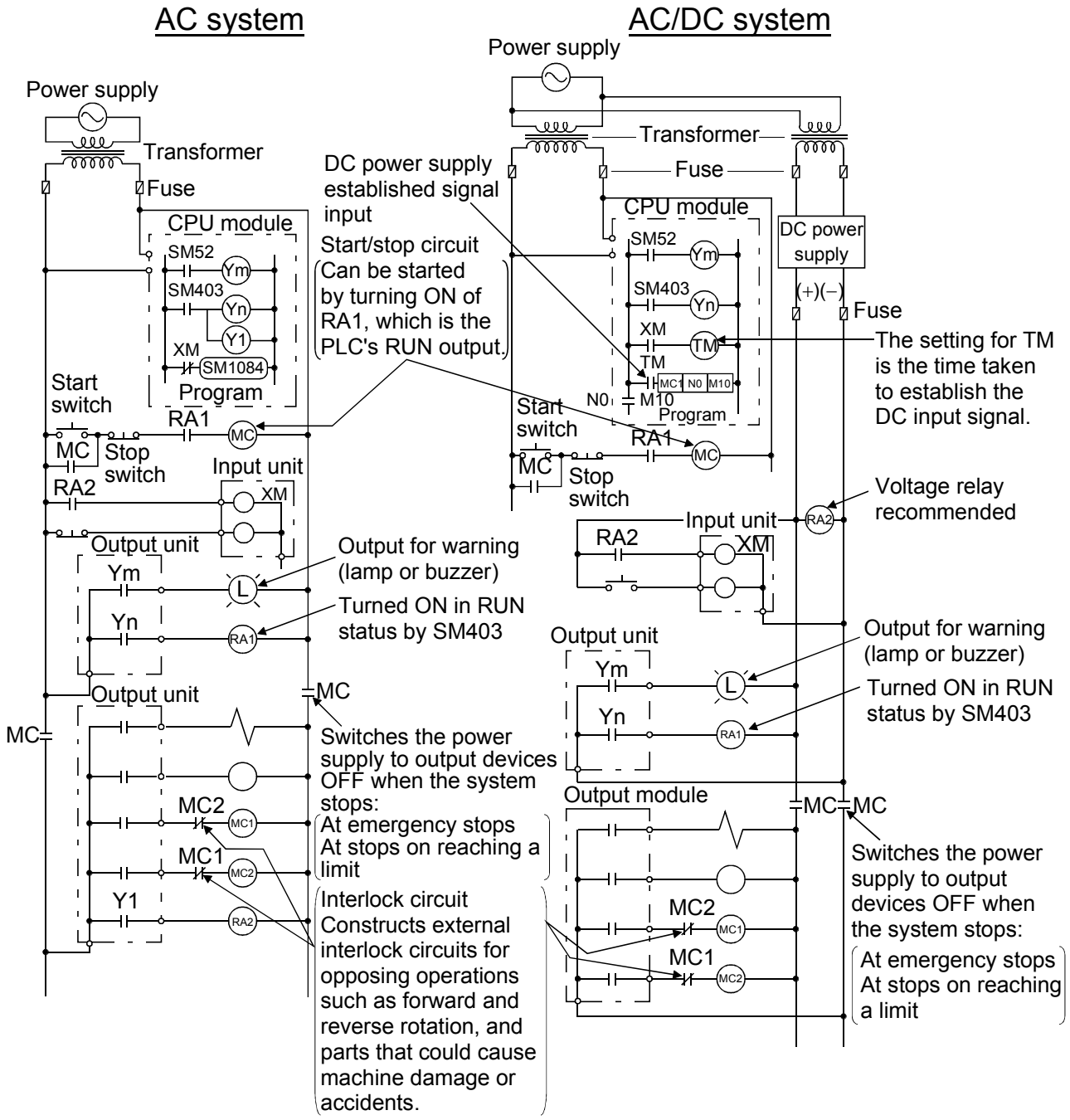
When the programmable controller is powered ON and then OFF, improper outputs may be generated temporarily depending on the delay time and start-up time differences between the programmable controller power supply and the external power supply for the control target (especially, DC).

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

The external power failure or programmable controller 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 programmable controller: 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.

(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 programmable controller failure

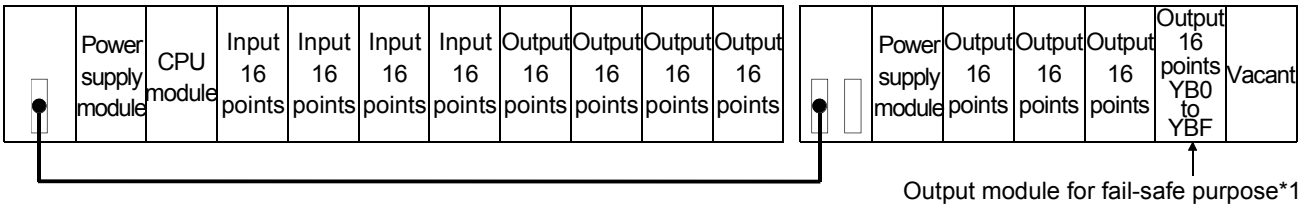
Problems with a CPU module and memory can be detected by the self diagnostics function. However, problems with I/O control area may not be detected by the CPU module.

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

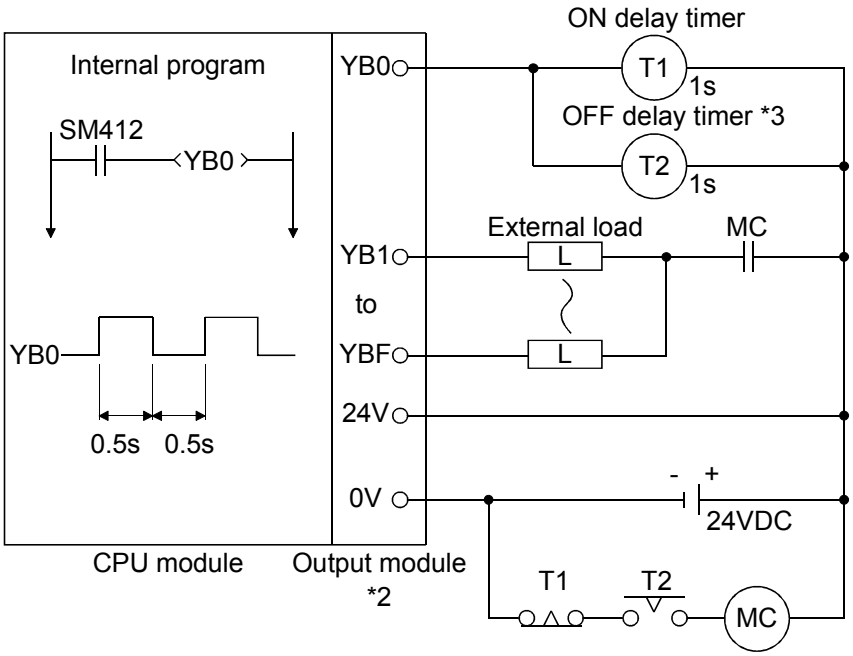
Though Mitsubishi programmable controllers are manufactured under strict quality control, they may fail or malfunction due to unspecified reasons. To prevent the whole system failure, machine breakdown, and accidents, build a fail-safe circuit outside the programmable controller.

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.

5. ERROR CODES

The Q2ASCPU uses the self-diagnostic function to display an error code (LED indicator) and store the error information in the special relay SM and the special register SD, if an error occurs when the power is turned on to the programmable controller or when the programmable controller starts or running.
Also, if an error occurs when a communication request is issued from a peripheral device, special function module or network system, the Q2ASCPU module returns the error code (4000H to 4FFFH) to the request source.
This chapter explains the details of errors that could occur on the Q2ASCPU and how to take a corrective action against them.

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.

5.1 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 5.3
Detection at communication with CPU module	CPU module	4000H to 4FFFH	Model Q2AS(H)CPU(S1) 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 5.3 "Error Code List".

5.2 Reading Error Codes

When an error occurs, the error code or error message, etc., can be read out using a peripheral device. For details regarding the a peripheral device operating procedure, refer to the GX Developer OPERATING MANUAL or SW□IVD-GPPQ OPERATING MANUAL.

5.3 Error Code List

The following information deals with error codes and the meanings, causes, and corrective measures of error messages.
<Relevant CPU>
QnA: Indicates the QnA series and Q2ASCPU series.
Each CPU module model name: Indicates the relevant specific CPU module. (Example: Q4AR, Q2AS)

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
1000	**[MAIN CPU DOWN]** Runaway or failure of CPU module or failure of main CPU • Malfunctioning due to noise or other reason • Hardware fault **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	• 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.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
1010	**[END NOT EXECUTE]** Entire program was executed without the execution of an END instruction. • 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. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • When an END instruction executed	• 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.)		
1101	**[RAM ERROR]** The sequence program storing built-in RAM/ program memory in the CPU module is faulty. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/ At reset/ When an END instruction executed	• 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	**[RAM ERROR]** • The work area RAM in the CPU module is faulty. • The standard RAM and extended RAM in the CPU module are faulty. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/ At reset/ When an END instruction executed	• 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.)		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
1103	**[RAM ERROR]** The device memory in the CPU module is faulty. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	• 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.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
1104	**[RAM ERROR]** The address RAM in the CPU module is faulty. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	• 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	**[RAM ERROR]** The system RAM in the CPU module is faulty. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	• 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.)		Q4AR
1200	**[OPE. CIRCUIT ERR.]** The operation circuit for index modification in the CPU module does not operate normally. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	This suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.)		
1201	**[OPE. CIRCUIT ERR.]** The hardware (logic) in the CPU module does not operate normally. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/At reset			QnA
1202	**[OPE. CIRCUIT ERR.]** The operation circuit for sequence processing in the CPU module does not operate normally. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/At reset			
1203	**[OPE. CIRCUIT ERR.]** The operation circuit for index modification in the CPU module does not operate normally. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • When an END instruction executed			Q4AR
1204	**[OPE. CIRCUIT ERR.]** The hardware (logic) in the CPU module does not operate normally. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • When an END instruction executed			

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

*2 The BAT.ALM LED turns on at BATTERY ERROR.

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
1205	**[OPE. CIRCUIT ERR.]** The operation circuit for sequence processing in the CPU module does not operate normally. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • When an END instruction executed	This suggests a CPU module hardware fault. (Contact your local Mitsubishi representative.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
1206	**[OPE. CIRCUIT ERR.]** The DSP operation circuit in the CPU module does not operate normally. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • When instruction executed			Q4AR
1300	**[FUSE BREAK OFF]** There is an output module with a blown fuse. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) [For Remote I/O network] Network No./Station No. • Individual Information:– **■Diagnostic Timing** • Always	• 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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue[*1]	QnA Q4AR
	[FUSE BREAK OFF] • There is an output module with a blown fuse. • External power supply for output load is turned off or disconnected. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) [For Remote I/O network] Network No./Station No. • Individual Information:– **■Diagnostic Timing** • Always	• 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
1310	**[I/O INT. ERROR]** An interruption has occurred although there is no interrupt module. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • During interrupt	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.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
1401	**[SP. UNIT DOWN]** 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.) **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	The CPU module, base unit and/or the special function module that was accessed is experiencing a hardware fault. (Contact your local Mitsubishi representative.)	RUN: Off ERR.: Flicker CPU Status: Stop[*2]	

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
1402	**[SP. UNIT DOWN]** 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.) **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:Program error location **■Diagnostic Timing** • During execution of FROM/TO instruction set	The CPU module, base unit and/or the special function module that was accessed is experiencing a hardware fault.(Contact your local Mitsubishi representative.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
1411	**[CONTROL-BUS. ERR.]** 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.) **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON / At reset	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.)		
1412	**[CONTROL-BUS. ERR.]** 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.) **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:Program error location **■Diagnostic Timing** • During execution of FROM/TO instruction set			
1421	**[SYS. UNIT DOWN]** Hardware fault at the system management module AS92R. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	This suggests a system management module AS92R hardware fault. (Contact your local Mitsubishi representative.)		Q4AR
1500	**[AC/DC DOWN]** • A momentary power supply interruption has occurred. • The power supply went off. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	Check the power supply.	RUN: On ERR.: Off CPU Status: Continue	QnA

*2 The BAT.ALM LED turns on at BATTERY ERROR.

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
1510	**[DUAL DC DOWN 5V]** 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.) **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	Check the supply voltage of the power supply module. If the voltage is abnormal then replace the power supply module.	RUN: On ERR.: On CPU Status: Continue	Q4AR
1520	**[DC DOWN 5V]** 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.) **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	Check the supply voltage of the power supply module. If the voltage is abnormal then replace the power supply module.	RUN: Off ERR.: Flicker CPU Status: Stop	
1530	**[DC DOWN 24V]** 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.) **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	Check the 24VDC power supplied to the system management module AS92R.	RUN: On ERR.: On CPU Status: Continue	
1600	**[BATTERY ERROR*2]** • The battery voltage in the CPU module has dropped below stipulated level. • The lead connector of the CPU module battery is not connected. **■Collateral informationmmon** • Common Information:Drive Name • Individual Information:– **■Diagnostic Timing** • Always	• Change the battery. • If the battery is for program memory, standard RAM or for the back-up power function, install a lead connector.	RUN: On ERR.: Off CPU Status: Continue	QnA
1601	**[BATTERY ERROR*2]** Voltage of the battery on memory card 1 has dropped below stipulated level. **■Collateral informationmmon** • Common Information:Drive Name • Individual Information:– **■Diagnostic Timing** • Always	Change the battery.		
1602	**[BATTERY ERROR*2]** Voltage of the battery on memory card 2 has dropped below stipulated level. **■Collateral informationmmon** • Common Information:Drive Name • Individual Information:– **■Diagnostic Timing** • Always	Change the battery.	RUN: On ERR.: On CPU Status: Continue	

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
2000	**[UNIT VERIFY ERR.]** I/O module information power ON is changed. • I/O module (or special function module) not installed properly or installed on the base unit. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) [For Remote I/O network] Network No./Station No. • Individual Information:– **■Diagnostic Timing** • When an END instruction executed	• 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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	QnA
2100	**[SP. UNIT LAY ERR.]** 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. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Reset the PLC parameter I/O allocation setting to conform with the actual status of the special function modules.	RUN: Off ERR.: Flicker CPU Status: Stop	
2101	**[SP. UNIT LAY ERR.]** 13 or more special function modules (not counting the A1SI61) capable of sending an interrupt to the CPU module have been installed. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	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.		
2102	**[SP. UNIT LAY ERR.]** Seven or more serial communication modules (excludes A (1S) J71QC24) have been installed. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Keep the number of serial communication modules (excludes A(1S)J71QU24) installed to six or fewer.		
2103	**[SP. UNIT LAY ERR.]** Two or more A (1S) I61 interrupt modules have been mounted. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Install only 1 A (1S) I61 module.		

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
2104	**[SP. UNIT LAY ERR.]** 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. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
2105	**[SP. UNIT LAY ERR.]** 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.) (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 *: When the expansion mode is used. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Reduce the number of special function modules installed.		
2106	**[SP.UNIT LAY ERR.]** • 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. **■Collateral informationmmon** • Common Information:Module No. (Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	• 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.		
2107	**[SP. UNIT LAY ERR.]** The start X/Y set in the PLC parameter's I/O assignment settings is overlapped with the one for another module. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Make the PLC parameter's I/O assignment setting again so it is consistent with the actual status of the special function modules.		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
2108	**[SP. UNIT LAY ERR.]** A(1S)J71LP21 or A(1S)J71BR11 for use with the AnUCPU network module has been installed. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Replace the network module to A(1S)J71QLP21 or A(1S)J71QBR11.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
2109	**[SP. UNIT LAY ERR.]** The control system and standby system module configurations are different when a redundant system is in the backup mode. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Check the module configuration of the standby system.	RUN: Off ERR.: Flicker CPU Status: Stop/ Continue*2	Q4AR
2110	**[SP. UNIT ERROR]** • The location designated by the FROM/TO instruction set is not the special function module. • The module that does not include buffer memory has been specified by the FROM/TO instruction. • The special function module, Network module being accessed is faulty. • Station not loaded was specified using the instruction whose target was the CPU share memory. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:Program error location **■Diagnostic Timing** • When instruction executed	• 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 special function module that was accessed is experiencing a hardware fault. Therefore, change the faulty module. Alternatively, contact your local Mitsubishi representative.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	QnA
2111	**[SP. UNIT ERROR]** • The location designated by a link direct device (J□ \□) is not a network module. • The I/O module (special function module) was nearly removed, completely removed, or mounted during running. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:Program error location **■Diagnostic Timing** • When instruction executed			
2112	**[SP. UNIT ERROR]** • 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. **■Collateral informationmmon** • Common Information:Module No.(Slot No.) • Individual Information:Program error location **■Diagnostic Timing** • When instruction executed/STOP → RUN	• 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.		

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

*2 The BAT.ALM LED turns on at BATTERY ERROR.

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
2113	**[SP. UNIT ERROR]** Data of special function module to be simulated is not set in the simulation date. **■Collateral informationmmon** • Common Information:FFFF$_H$ (fixed) • Individual Information:Program error location **■Diagnostic Timing** • When instruction executed/STOP → RUN	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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	QnA
2200	**[MISSING PARA.]** The parameter enabled drive does not exist in the drive designated by the parameter enabled drive switch of the DIP switch. **■Collateral informationmmon** • Common Information:Drive name • Individual Information:- **■Diagnostic Timing** • At power ON/At reset	• Check and correct the setting of the parameter enabled drive switch. • Put a parameter file in the drive designated by the parameter enabled drive switch.	RUN: Off ERR.: Flicker CPU Status: Stop	
2210	**[BOOT ERROR]** There is no boot file in the drive designated by the parameter enabled drive switch even though the Boot DIP switch is ON. **■Collateral informationmmon** • Common Information:Drive name • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	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.		
2300	**[ICM. OPE. ERROR]** • 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. **■Collateral informationmmon** • Common Information:Drive name • Individual Information:– **■Diagnostic Timing** • When memory card is inserted or removed/When memory card is inserted	• Remove memory card after placing the memory card in/out switch OFF. • Turn on the card insert switch after inserting a memory card.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	
2301	**[ICM. OPE. ERROR]** • The memory card has not been formatted. • Memory card format status is incorrect. **■Collateral informationmmon** • Common Information:Drive name • Individual Information:– **■Diagnostic Timing** • When memory card is inserted or removed/When memory card is inserted	• Format memory card. • Reformat memory card.		
2302	**[ICM. OPE. ERROR]** A memory card that cannot be used with the CPU module has been installed. **■Collateral informationmmon** • Common Information:Drive name • Individual Information:– **■Diagnostic Timing** • When memory card is inserted or removed	• Format memory card. • Reformat memory card. • Check memory card.		
2400	**[FILE SET ERROR]** The file designated at the PLC file settings in the parameters cannot be found. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/ At writing to progurammable controller	• 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.	RUN: Off ERR.: Flicker CPU Status: Stop	

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
2401	**[FILE SET ERROR]** The file specified by parameters cannot be made. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/ At writing to progurammable controller	• 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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
2402	**[FILE SET ERROR]** Though the file register has been set in the pairing setting/tracking setting, the file register does not exist. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/ At writing to progurammable controller	Confirm the file register and parameter.		Q4AR
2410	**[FILE OPE. ERROR]** • 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Program error location **■Diagnostic Timing** • When instruction 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. 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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	QnA
2411	**[FILE OPE. ERROR]** • 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Program error location **■Diagnostic Timing** • When instruction 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	**[FILE OPE. ERROR]** The SFC program file is one that cannot be designated by the sequence program. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Program error location **■Diagnostic Timing** • When instruction 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.		
2413	**[FILE OPE. ERROR]** No data has been written to the file designated by the sequence program. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Program error location **■Diagnostic Timing** • When instruction 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. Check to ensure that the designated file has not been write protected.		

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
2500	**[CAN'T EXE. PRG.]** • 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	• 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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
2501	**[CAN'T EXE. PRG.]** There are multiple program files although "none" has been set at the PLC parameter program settings. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Edit the PLC parameter program setting to "yes". Alternatively, delete unneeded programs.		
2502	**[CAN'T EXE. PRG.]** The program file is incorrect. Alternatively, the file contents are not those of a sequence program. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	Check whether the program version is ＊ ＊ ＊.QPG, and check the file contents to be sure they are for a sequence program.		
2503	**[CAN'T EXE. PRG.]** There are no program files at all. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:– **■Diagnostic Timing** • At power ON/At reset	• Check program configuration. • Check parameters and program configuration.		
2504	**[CAN'T EXE. PRG.]** Two or more SFC normal programs or control programs have been designated. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:– **■Diagnostic Timing** • At power ON/At reset			

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
3000	**[PARAMETER ERROR]** 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN/ At writing to progurammable controller	• 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.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
3001	**[PARAMETER ERROR]** The parameter settings in the error individual information (special register SD16) are illegal. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN/ At writing to progurammable controller			
3002	**[PARAMETER ERROR]** The parameter settings are corrupted. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN/ At writing to progurammable controller			
	[PARAMETER ERROR] 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN/ At writing to progurammable controller	• 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.)		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
3003	**[PARAMETER ERROR]** **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • When an END instruction executed **[PARAMETER ERROR]** The number of devices set at the PLC parameter device settings exceeds the possible CPU module range. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power-On/At reset/STOP ⟶ RUN/ At writing to progurammable controller	• 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 errorm of the CPU module's built-in RAM or program memory or the memory card. (Contact your local Mitsubishi representative.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
3004	**[PARAMETER ERROR]** The parameter file is incorrect. Alternatively, the contents of the file are not parameters. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power-On/At reset/STOP ⟶ RUN/ At writing to progurammable controller	Check whether the parameter file version is ＊ ＊ ＊.QPA, and check the file contents to be sure they are parameters.		
3100	**[LINK PARA. ERROR]** Although the QnACPU is a control station or master station, the network parameters have not been written. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN	• Correct and write the network parameters. • If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.)		
3101	**[LINK PARA. ERROR]** • 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN	• 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. When the GOT is bus-connected to the main base unit and extension base units, also check their connection status. 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.)		
3102	**[LINK PARA. ERROR]** • The network module detected a network parameter error. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN*3	• Correct and write the network parameters. • If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.)		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
3103	**[LINK PARA. ERROR]** • Although the number of modules has been set to one or greater number in the Ethernet network 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN	• Correct and write the network parameters. • If the error occurs after correction, it suggests a hardware fault. (Contact your local Mitsubishi representative.)	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
	[LINK PARA. ERROR] • 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. **■Collateral informationmmon** • Common Information:File name/Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN			
3104	**[LINK PARA. ERROR]** • The Ethernet 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. **■Collateral informationmmon** • Common Information:File name / Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN			
3105	**[LINK PARA. ERROR]** The contents of the Ethernet parameter are incorrect. **■Collateral informationmmon** • Common Information:File name / Drive name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN	Write after correcting parameters.		
3107	**[LINK PARA. ERROR]** • The CC-Link parameter setting is incorrect. • The set mode is not allowed for the version of the mounted CC-Link module. **■Collateral informationmmon** • Common Information:File name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN	Check the parameter setting.		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
3200	**[SFC PARA. ERROR]** The parameter setting is illegal. • Though Block 0 was set to "Automatic start" in the SFC setting of the PLC parameter dialog box, Block 0 does not exist. **■Collateral informationmmon** • Common Information:File name • Individual Information:Parameter number **■Diagnostic Timing** • STOP ⟶ RUN	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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
3201	**[SFC PARA. ERROR]** The block parameter setting is illegal. **■Collateral informationmmon** • Common Information:File name • Individual Information:Parameter number **■Diagnostic Timing** • STOP ⟶ RUN			
3202	**[SFC PARA. ERROR]** The number of step relays specified in the device setting of the PLC parameter dialog box is less than that used in the program. **■Collateral informationmmon** • Common Information:File name • Individual Information:Parameter number **■Diagnostic Timing** • STOP ⟶ RUN			
3203	**[SFC PARA. ERROR]** The execution type of the SFC program specified in the program setting of the PLC parameter dialog box is other than scan execution. **■Collateral informationmmon** • Common Information:File name • Individual Information:Parameter number **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN			

*3 The diagnostic timing of CPU modules except for Universal QCPU can be performed only when switching the CPU modules to run.

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4000	**[INSTRCT. CODE ERR]** • The program contains an instruction code that cannot be decoded. • An unusable instruction is included in the program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP → RUN When instruction executed	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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
4001	**[INSTRCT. CODE ERR]** The program contains a dedicated instruction for SFC although it is not an SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP → RUN When instruction executed			
4002	**[INSTRCT. CODE ERR]** • 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. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP → RUN When instruction executed			
4003	**[INSTRCT. CODE ERR]** The number of devices for the dedicated instruction specified by the program is incorrect. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP → RUN When instruction executed			
4004	**[INSTRCT. CODE ERR]** The device which cannot be used by the dedicated instruction specified by the program is specified. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP → RUN When instruction executed			

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4010	**[MISSING END INS.]** There is no END (FEND) instruction in the program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN	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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
4020	**[CAN'T SET(P)]** The total number of internal file pointers used by the program exceeds the number of internal file pointers set in the parameters. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN			
4021	**[CAN'T SET(P)]** • The common pointer Nos. assigned to files overlap. • The local pointer Nos. assigned to files overlap. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN			
4030	**[CAN'T SET(I)]** The allocation pointer Nos. assigned by files overlap. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP ⟶ RUN			
4100	**[OPERATION ERROR]** The instruction cannot process the contained data. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	
4101	**[OPERATION ERROR]** • 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. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4102	**[OPERATION ERROR]** • 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. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	QnA
4103	**[OPERATION ERROR]** The configuration of the PID dedicated instruction is incorrect. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4104	**[OPERATION ERROR]** The number of settings is beyond the range. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	Read the common information of the error using peripheral device, and check and correct the program corresponding to that value (program error location).		Q4AR
4107	**[OPERATION ERROR]** Numbers of execution to the CC-Link instruction are beyond 32. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	Set the numbers of execution to the CC-Link instruction to 32 or less.		QnA
4108	**[OPERATION ERROR]** The CC-Link parameter is not set when the CC-Link instruction is executed. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	Execute the CC-Link instruction after setting the CC-Link parameter.		
4200	**[FOR NEXT ERROR]** No NEXT instruction was executed following the execution of a FOR instruction. Alternatively, there are fewer NEXT instructions than FOR instructions. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off ERR.: Flicker CPU Status: Stop	

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4201	**[FOR NEXT ERROR]** A NEXT instruction was executed although no FOR instruction has been executed. Alternatively, there are more NEXT instructions than FOR instructions. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
4202	**[FOR NEXT ERROR]** More than 16 nesting levels are programmed. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	Keep nesting levels at 16 or under.		
4203	**[FOR NEXT ERROR]** A BREAK instruction was executed although no FOR instruction has been executed prior to that. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.		
4210	**[CAN'T EXECUTE(P)]** The CALL instruction is executed, but there is no subroutine at the specified pointer. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4211	**[CAN'T EXECUTE(P)]** There was no RET instruction in the executed subroutine program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4212	**[CAN'T EXECUTE(P)]** The RET instruction exists before the FEND instruction of the main routine program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4213	**[CAN'T EXECUTE(P)]** More than 16 nesting levels are programmed. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	Keep nesting levels at 16 or under.		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4220	**[CAN'T EXECUTE(I)]** Though an interrupt input occurred, the corresponding interrupt pointer does not exist. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
4221	**[CAN'T EXECUTE(I)]** An IRET instruction does not exist in the executed interrupt program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4223	**[CAN'T EXECUTE(I)]** The IRET instruction exists before the FEND instruction of the main routine program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4230	**[INST. FORMAT ERR.]** The number of CHK and CHKEND instructions is not equal. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4231	**[INST. FORMAT ERR.]** The number of IX and IXEND instructions is not equal. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4235	**[INST. FORMAT ERR.]** 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. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4300	**[EXTEND INST. ERR.]** The designation of a MELSECNET/MINI-S3 master module control instruction was wrong. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4301	**[EXTEND INST. ERR.]** The designation of an AD57/AD58 control instruction was wrong. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	QnA
4400	**[SFCP. CODE ERROR]** No SFCP or SFCPEND instruction in SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN	Write the program to the CPU module again using GX Developer.		
4410	**[CAN'T SET(BL)]** The block number designated by the SFC program exceeds the range. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN			
4411	**[CAN'T SET(BL)]** Block number designations overlap in SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN			
4420	**[CAN'T SET(S)]** A step number designated in an SFC program exceeds the range. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN			
4421	**[CAN'T SET(S)]** Total number of steps in all SFC programs exceed the maximum. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN			
4422	**[CAN'T SET(S)]** Step number designations overlap in SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN			

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4500	**[SFCP. FORMAT ERR.]** The numbers of BLOCK and BEND instructions in an SFC program are not equal. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN	Write the program to the CPU module again using the peripheral device.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
4501	**[SFCP. FORMAT ERR.]** The configuration of the STEP* to TRAN* to TSET to SEND instructions in the SFC program is incorrect. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN			
4502	**[SFCP. FORMAT ERR.]** The structure of the SFC program is illegal. • STEPI* instruction does not exist in the block of the SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN			
4503	**[SFCP. FORMAT ERR.]** 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. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN	• 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).		
4504	**[SFCP. FORMAT ERR.]** The structure of the SFC program is illegal. • The step specified in the TAND instruction does not exist. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP → RUN	Write the program to the CPU module again using GX Developer.		
4600	**[SFCP. OPE. ERROR]** The SFC program contains data that cannot be processed. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4601	**[SFCP. OPE. ERROR]** Exceeds device range that can be designated by the SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off/On ERR.: Flicker/On CPU Status: Stop/ Continue*1	QnA
4602	**[SFCP. OPE. ERROR]** The START instruction in an SFC program is preceded by an END instruction. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			
4610	**[SFCP. EXE. ERROR]** The active step information at presumptive start of the SFC program is incorrect. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP ⟶ RUN	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.	RUN: On ERR.: On CPU Status: Continue	
4611	**[SFCP. EXE. ERROR]** Key-switch was reset during RUN when presumptive start was designated for SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • STOP ⟶ RUN			
4620	**[BLOCK EXE. ERROR]** Startup was executed at a block in the SFC program that was already started up. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off ERR.: Flicker CPU Status: Stop	
4621	**[BLOCK EXE. ERROR]** Startup was attempted at a block that does not exist in the SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	• 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.		

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

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
4630	**[STEP EXE. ERROR]** Startup was executed at a block in the SFC program that was already started up. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
4631	**[STEP EXE. ERROR]** • 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 exit in the SFC program. Or, the transition condition for forced transition that does not exit in the SFC program was canceled. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	• 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.		
4632	**[STEP EXE. ERROR]** There were too many simultaneous active steps in blocks that can be designated by the SFC program. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed	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.		
4633	**[STEP EXE. ERROR]** There were too many simultaneous active steps in all blocks that can be designated. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:– **■Diagnostic Timing** • When instruction executed			

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
5000	**[WDT ERROR]** • 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. **■Collateral informationmmon** • Common Information:Time (value set) • Individual Information:Time (value actually measured) **■Diagnostic Timing** • Always	• 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.	RUN: Off ERR.: Flicker CPU Status: Stop	QnA
5001	**[WDT ERROR]** • The scan time of the program exceeded the WDT value specified in the PLC RAS setting of the PLC parameter. **■Collateral informationmmon** • Common Information:Time (value set) • Individual Information:Time (value actually measured) **■Diagnostic Timing** • Always			
5010	**[PRG. TIME OVER]** The program scan time exceeded the constant scan setting time specified in the PLC RAS setting of the PLC parameter. **■Collateral informationmmon** • Common Information:Time (value set) • Individual Information:Time (value actually measured) **■Diagnostic Timing** • Always	• 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.	RUN: On ERR.: On CPU Status: Continue	
	[PRG. TIME OVER] The low speed program execution time specified in the PLC RAS setting of the PLC parameter exceeded the excess time of the constant scan. **■Collateral informationmmon** • Common Information:Time (value set) • Individual Information:Time (value actually measured) **■Diagnostic Timing** • Always			
5011	**[PRG. TIME OVER]** 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. **■Collateral informationmmon** • Common Information:Time (value set) • Individual Information:Time (value actually measured) **■Diagnostic Timing** • Always	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.		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
6000	**[PRG. VERIFY ERR.]** 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.) **■Collateral informationmmon** • Common Information:File name • Individual Information:– **■Diagnostic Timing** • Always	Synchronise the programs and parameters of the control system and standby system.	RUN: Off ERR.: Flicker CPU Status: Stop	Q4AR
6010	**[MODE. VERIFY ERR.]** 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.) **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	Synchronise the operation statuses of the control system and standby system.		
6100	**[TRUCKINERR.]** 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.) **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • At power ON/At reset/STOP → RUN	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.)	RUN: On ERR.: On CPU Status: Continue	
6101	**[TRUCKIN ERR.]** 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.) **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • When an END instruction executed	Check the condition of the other stations.		
6200	**[CONTROL EXE.]** 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.) **■Collateral informationmmon** • Common Information:Reason(s) for system switching • Individual Information:– **■Diagnostic Timing** • Always	Check the control system condition.	RUN: On ERR.: Off CPU Status: Continue	

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
6210	**[CONTROL WAIT]** 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.) **■Collateral informationmmon** • Common Information:Reason(s) for system switching • Individual Information:– **■Diagnostic Timing** • Always	Check the control system condition.	RUN: On ERR.: Off CPU Status: Continue	Q4AR
6220	**[CAN'T EXE. CHANGE]** • 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.) **■Collateral informationmmon** • Common Information:Reason(s) for system switching • Individual Information:– **■Diagnostic Timing** • At switching request	Check the standby system condition.	RUN: On ERR.: On CPU Status: Continue	
6221	**[CAN'T EXE. CHANGE]** Switching is disabled because of a bus switching module error. (This can be detected from the control system of the redundant system.) **■Collateral informationmmon** • Common Information:Reason(s) for system switching • Individual Information:– **■Diagnostic Timing** • At switching request	This is a bus switching module hardware fault. (Contact your local Mitsubishi representative.)		
6230	**[DUAL SYS. ERROR]** The link module mounted on the standby system CPU module is the remote master station. **■Collateral informationmmon** • Common Information:– • Individual Information:– **■Diagnostic Timing** • Always	Check the system configuration status.		

Error Code	Error Contents and Cause	Corrective Action	LED Status CPU Status	Corresponding CPU
9000	**[F****]** Annunciator (F) was set ON **■Collateral informationmmon** • Common Information:Program error location • Individual Information:Annunciator number **■Diagnostic Timing** • When instruction executed	Read the individual information of the error using the peripheral device, and check the program corresponding to the numerical value (annunciator number).	RUN: On ERR.: On/Off *2 CPU Status: Continue	QnA
			RUN: USER LED On ERR.: USER LED On CPU Status: Continue	
9010	**[<CHK>ERR ***-***]** Error detected by the CHK instruction. **■Collateral informationmmon** • Common Information:Program error location • Individual Information:Failure No. **■Diagnostic Timing** • When instruction executed	Read the individual information of the error using the peripheral device, and check the program corresponding to the numerical value (error number) there.	RUN: On ERR.: Off CPU Status: Continue	
			RUN: USER LED On ERR.: USER LED On CPU Status: Continue	

*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.)

5.4 Canceling of Errors

Q2ASCPU 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.
→ Model Q2AS(H)CPU(S1) User's Manual

POINT

(1) 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. (Example) If error codes 2100 and 2101 occur, and error code 2100 to cancel error code 2101.If error codes 2100 and 2111 occur, error code 2111 is not canceled even if error code 2100 is canceled.(2) 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.(Example)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).Refer to the error code list and remove the error cause.

(2) 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. (Example)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).Refer to the error code list and remove the error cause.

6. TRANSPORTATION PRECAUTIONS

When transporting lithium batteries, make sure to treat them based on the transport regulations.

6.1 Controlled Models

The batteries for the MELSEC-QnA series CPU module (including memory cards) are classified as follows:

Product name	Model	Product supply status	Classification for transportation
QnA series battery	A6BAT	Lithium battery	Non-dangerous goods
QnA series 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-512SF, Q1MEM-64S, Q1MEM-64SE	Packed with lithium coin battery (BR2325)	

6.2 Transport Guidelines

Comply with IATA Dangerous Goods Regulations, IMDG code and the local transport regulations when transporting products after unpacking or repacking, while Mitsubishi ships products with packages to comply with the transport regulations.
Also, contact the transporters.

MEMO

WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.
However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated
place.
Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
    1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
    2. Failure caused by unapproved modifications, etc., to the product by the user.
    3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
    4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
    5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
    6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
    7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued.
    Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
(2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

Country/Region	Sales office/Tel
U.S.A	Mitsubishi Electric Automation Inc. 500 Corporate Woods Parkway Vernon Hills, IL 60061, U.S.A. Tel : +1-847-478-2100
Brazil	MELCO-TEC Representacao Comercial e Assessoria Tecnica Ltda. Av. Paulista, 1439, cj74, Bela Vista, Sao Paulo CEP: 01311-200 - SP Brazil Tel : +55-11-3146-2200
Germany	Mitsubishi Electric Europe B.V. German Branch Gothaer Strasse 8 D-40880 Ratingen, Germany Tel : +49-2102-486-0
U.K	Mitsubishi Electric Europe B.V. UK Branch Travellers Lane, Hatfield, Hertfordshire., AL10 8XB, U.K. Tel : +44-1707-276100
Italy	Mitsubishi Electric Europe B.V. Italian Branch Viale Colleoni 7-20041 Agrate Brianza (Milano), Italy Tel : +39-039-60531
Spain	Mitsubishi Electric Europe B.V. Spanish Branch Carretera de Rubi 76-80 E-08190 Sant Cugat del Valles (Barcelona), Spain Tel : +34-93-565-3131
France	Mitsubishi Electric Europe B.V. French Branch 25, Boulevard des Bouvets, F-92741 Nanterre Cedex, France Tel : +33-1-5568-5568
Czech Republic	Mitsubishi Electric Europe B.V.-o.s.-Czech office Avenir Business Park, Radlicka 714/113a CZ-158 00 Praha 5 Tel : +420-251-551-470
Poland	Mitsubishi Electric Europe B.V. Polish Branch ul. Krakowska 50 32-083 Balice, Poland Tel : +48-12-630-47-00
Russia	Mitsubishi Electric Europe B.V. Russian branch St.Petersburg office Piskarevsky pr. 2, bld 2, lit "Sch", BC "Benua", office 720; 195027, St. Petersburg, Russia Tel : +7-812-633-3497

Country/Region	Sales office/Tel
South Africa	Circuit Breaker Industries Ltd. 9 Derrick Road, Spartan, Gauteng PO Box 100, Kempton Park 1620, South Africa Tel : +27-11-977-0770
China	Mitsubishi Electric Automation (China) Ltd. No.1386 Hongqiao Road, Mitsubishi Electric Automation Center Shanghai China Tel : +86-21-2322-3030
Taiwan	Setsuyo Enterprise Co., Ltd. 6F., No.105, Wugong 3rd, Wugu Dist, New Taipei City 24889, Taiwan, R.O.C. Tel : +886-2-2299-2499
Korea	Mitsubishi Electric Automation Korea Co., Ltd. 1480-6, Gayang-dong, Gangseo-ku Seoul 157-200, Korea Tel : +82-2-3660-9530
Singapore	Mitsubishi Electric Asia Pte, Ltd-Industrial Division 307 Alexandra Road #05-01/02, Mitsubishi Electric Building, Singapore Tel : +65-6470-2480
Thailand	Mitsubishi Electric Automation (Thailand) Co., Ltd. Bang-Chan Industrial Estate No.111 Soi Serithai 54, T.Kannayao, A.Kannayao, Bangkok 10230 Thailand Tel : +66-2-906-3238
Indonesia	P. T. Autoteknindo Sumber Makmur Muara Karang Selatan, Block A / Utara No.1 Kav. No. 11, Kawasan Industri Pergudangan, Jakarta-Utara 14440, P.O.Box 5045, Indonesia Tel : +62-21-663-0833
India	Mitsubishi Electric India Pvt. Ltd. 2nd Floor, Tower A & B, Cyber Greens, DLF Cyber City, DLF Phase-III, Gurgaon-122002 Haryana, India Tel : +91-124-463-0300
Australia	Mitsubishi Electric Australia Pty. Ltd. 348 Victoria Road PO BOX11, Rydalmere, N.S.W 2116, Australia Tel : +61-2-9684-7777

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