









mitsubishi
Mitsubishi Industrial Robot

CR1/CR2/CR3/CR4/CR7/CR8/CR9 Controller
INSTRUCTION MANUAL
Troubleshooting

Safety Precautions

Always read the following precautions and the separate "Safety Manual" before starting use of the robot to learn the required measures to be taken.

-  **CAUTION** All teaching work must be carried out by an operator who has received special training. (This also applies to maintenance work with the power source turned ON.)
Enforcement of safety training
-  **CAUTION** For teaching work, prepare a work plan related to the methods and procedures of operating the robot, and to the measures to be taken when an error occurs or when restarting. Carry out work following this plan. (This also applies to maintenance work with the power source turned ON.)
Preparation of work plan
-  **WARNING** Prepare a device that allows operation to be stopped immediately during teaching work. (This also applies to maintenance work with the power source turned ON.)
Setting of emergency stop switch
-  **CAUTION** During teaching work, place a sign indicating that teaching work is in progress on the start switch, etc. (This also applies to maintenance work with the power source turned ON.)
Indication of teaching work in progress
-  **WARNING** Provide a fence or enclosure during operation to prevent contact of the operator and robot.
Installation of safety fence
-  **CAUTION** Establish a set signaling method to the related operators for starting work, and follow this method.
Signaling of operation start
-  **CAUTION** As a principle turn the power OFF during maintenance work. Place a sign indicating that maintenance work is in progress on the start switch, etc.
Indication of maintenance work in progress
-  **CAUTION** Before starting work, inspect the robot, emergency stop switch and other related devices, etc., and confirm that there are no errors.
Inspection before starting work

The points of the precautions given in the separate "Safety Manual" are given below. Refer to the actual "Safety Manual" for details.

- ⚠ CAUTION** Use the robot within the environment given in the specifications. Failure to do so could lead to a drop or reliability or faults. (Temperature, humidity, atmosphere, noise environment, etc.)
- ⚠ CAUTION** Transport the robot with the designated transportation posture. Transporting the robot in a non-designated posture could lead to personal injuries or faults from dropping.
- ⚠ CAUTION** Always use the robot installed on a secure table. Use in an instable posture could lead to positional deviation and vibration.
- ⚠ CAUTION** Wire the cable as far away from noise sources as possible. If placed near a noise source, positional deviation or malfunction could occur.
- ⚠ CAUTION** Do not apply excessive force on the connector or excessively bend the cable. Failure to observe this could lead to contact defects or wire breakage.
- ⚠ CAUTION** Make sure that the workpiece weight, including the hand, does not exceed the rated load or tolerable torque. Exceeding these values could lead to alarms or faults.
- ⚠ WARNING** Securely install the hand and tool, and securely grasp the workpiece. Failure to observe this could lead to personal injuries or damage if the object comes off or flies off during operation.
- ⚠ WARNING** Securely ground the robot and controller. Failure to observe this could lead to malfunctioning by noise or to electric shock accidents.
- ⚠ CAUTION** Indicate the operation state during robot operation. Failure to indicate the state could lead to operators approaching the robot or to incorrect operation.
- ⚠ WARNING** When carrying out teaching work in the robot's movement range, always secure the priority right for the robot control. Failure to observe this could lead to personal injuries or damage if the robot is started with external commands.
- ⚠ CAUTION** Keep the jog speed as low as possible, and always watch the robot. Failure to do so could lead to interference with the workpiece or peripheral devices.
- ⚠ CAUTION** After editing the program, always confirm the operation with step operation before starting automatic operation. Failure to do so could lead to interference with peripheral devices because of programming mistakes, etc.
- ⚠ CAUTION** Make sure that if the safety fence entrance door is opened during automatic operation, the door is locked or that the robot will automatically stop. Failure to do so could lead to personal injuries.
- ⚠ CAUTION** Never carry out modifications based on personal judgments, or use non-designated maintenance parts.
Failure to observe this could lead to faults or failures.
- ⚠ WARNING** When the robot arm has to be moved by hand from an external area, do not place hands or fingers in the openings. Failure to observe this could lead to hands or fingers catching depending on the posture.

⚠ CAUTION

Do not stop the robot or apply emergency stop by turning the robot controller's main power OFF. If the robot controller main power is turned OFF during automatic operation, the robot accuracy could be adversely affected. Moreover, it may interfere with the peripheral device by drop or move by inertia of the arm.

⚠ CAUTION

Do not turn off the main power to the robot controller while rewriting the internal information of the robot controller such as the program or parameters.

If the main power to the robot controller is turned off while in automatic operation or rewriting the program or parameters, the internal information of the robot controller may be damaged.

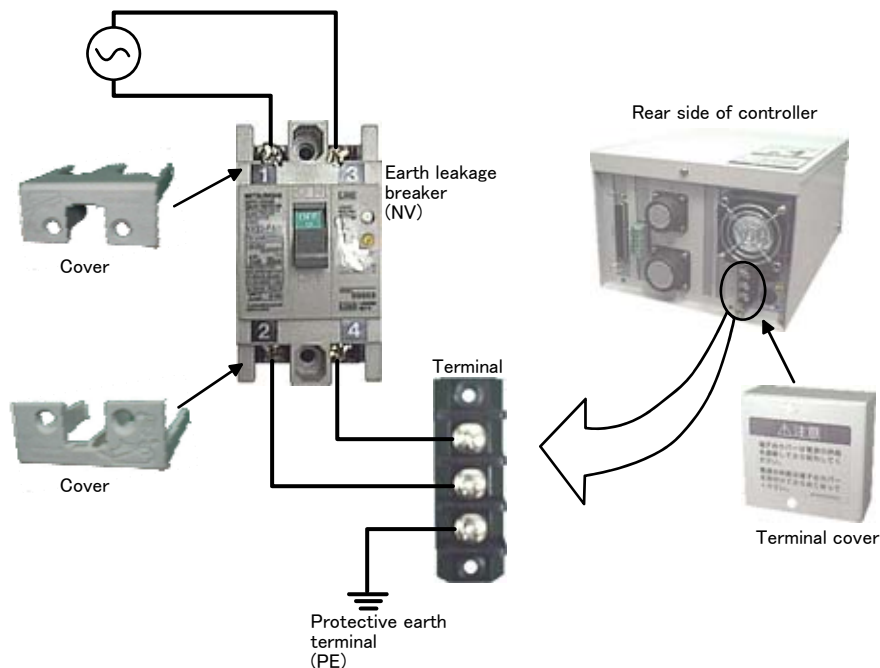
Precautions for the basic configuration are shown below. (When CR1-571/CR1B-571 is used for the controller.)

⚠ CAUTION

Provide an earth leakage breaker that packed together on the primary power supply of the controller as protection against electric leakage. Confirm the setting connector of the input power supply voltage of the controller, if the type which more than one power supply voltage can be used. Then connect the power supply.

Failure to do so could lead to electric shock accidents.

Power supply *RV-1A/2AJ series and RP-1AH/3AH/5AH series: Single phase 90-132VAC, 180-253VAC.
*Except the above: Single phase 180-253VAC.



⚠ WARNING

For using RH-5AH/10AH/15AH series or RH-6SH/12SH/18SH series. While pressing the brake releasing switch on the robot arm, beware of the arm which may drop with its own weight. Dropping of the hand could lead to a collision with the peripheral equipment or catch the hands or fingers.

Revision history

Date of print	Specifications No.	Details of revisions
1999-06-16	BFP-A5993Z-*	First print
1999-07-28	BFP-A5993Z-a	Change title.
1999-09-24	BFP-A5993Z-b	Error in writing correction.
1999-11-10	BFP-A5993	Error in writing correction.
1999-12-03	BFP-A5993-A	Error in writing correction. The error no. L1820 was added.
1999-12-17	BFP-A5993-B	Error in writing correction of L1820.
2000-08-17	BFP-A5993-C	Change title. Error in writing correction.
2000-09-19	BFP-A5993-D	Error in writing correction.
2001-03-21	BFP-A5993-E	Error in writing correction.
2002-06-25	BFP-A5993-F	The error number of software version H5 was added. Error in writing correction.
2002-09-20	BFP-A5993-G	The error no. was added. (H0027, L2804, L4201, L4920, L7071, C7310, L7330, L7331, L7332). The error was corrected. (H0025, H0026). Error in writing correction.
2003-07-02	BFP-A5993-H	The error number of software version J1 was added. Change title. Error in writing correction.
2003-09-24	BFP-A5993-J	The error number of software version J2 was added. Error in writing correction.
2005-01-21	BFP-A5993-K	The error number of software version K1 was added. Error in writing correction.
2009-01-09	BFP-A5993-L	Error in writing correction (L2803)
2009-09-30	BFP-A5993-M	The EC Declaration of Conformity was changed. (Correspond to the EMC directive; 2006/42/EC)

■ Introduction

Thank you for purchasing the Mitsubishi industrial robot. This instruction manual describes the causes and measures for errors that may occur while using the robot.

If an error should occur, refer to this manual and take appropriate measures.

- No part of this manual may be reproduced by any means or in any form, without prior consent from Mitsubishi.
- The details of this manual are subject to change without notice.
- An effort has been made to make full descriptions in this manual. However, if any discrepancies or unclear points are found, please contact your dealer.
- The information contained in this document has been written to be accurate as much as possible. Please interpret that items not described in this document "cannot be performed." or "alarm may occur".
Please contact your nearest dealer if you find any doubtful, wrong or skipped point.
- This Instruction Manual is original.

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1 Error list

When an error occurs, a 5-digit error No. (example: "C0010") will appear at the STATUS NUMBER display on the operation panel at the front of the controller, and the [RESET] switch lamp will light.

If any key, such as the T/B [MENU] key is pressed, a 4-digit error No. (number excluding first character, for example "0010" will appear for C0010) will appear on the T/B LCD display.

The message, cause and measures to be taken are displayed in [Table 1-1](#) for the error Nos. that may appear.

Also, a detailed message will be displayed on the Error History screen of the T/B, depending on the error No. of the error occurred. Check by displaying the Error History screen after resetting the error.

If the error recurs even after the measures in the table are taken, contact your dealer.

[Note] • The meaning of the error Nos. in Table 1-1 are shown below.

□ 0 0 0 0 *

- An error marked with a * reset by turning the power OFF and ON. Take the measures given.
- The error type is indicated with a 4-digit number.
- Three types of error classes are indicated.
 - H : High level error.....The servo turns OFF.
 - L : Low level errorThe operation will stop.
 - C : WarningThe operation will continue.

- The axis No. may be indicated at the last digit of the error No.

Example) H0931 No. 1 axis motor overcurrent.

Table 1-1 : Error list

Error No.	Error cause and measures	
H0001	Error message	Fail safe error (SRVOFF)
	Cause	The system may be abnormal.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0002	Error message	Fail safe error (STOP)
	Cause	The system may be abnormal.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0009 *	Error message	Version UP (ALL)
	Cause	Message at version up.
	Measures	Turn the power OFF and ON once.
C0010	Error message	Illegal Version (file)
	Cause	The version is inconsistent.
	Measures	The file has been automatically initialized. The program is being deleted.
C0011	Error message	Illegal Version (system data)
	Cause	The version is inconsistent.
	Measures	The file has been automatically initialized. Turn the power OFF and ON once.
C0012	Error message	Initialize (error log)
	Cause	The error log has been initialized because of version mismatch or the error log file is abnormal.
	Measures	Reset the alarm, and continue the operation.
C0013 *	Error message	Illegal file
	Cause	Data including programs may have been damaged.
	Measures	Contact the nearest dealer as the initialization operation is required.
H0014 *	Error message	System error (illegal MECHA)
	Cause	A character string cannot exceed 14 characters.
	Measures	Re-input the correct name.

Error No.	Error cause and measures	
H0015 *	Error message	Illegal Version (file)
	Cause	Illegal Version (file)
	Measures	Contact the maker.
L0016 *	Error message	Turn the power OFF and ON once
	Cause	The time from turning the power OFF to turning the power ON again is too short.
	Measures	Give more time before turning the power ON again after turning the power OFF.
C0018	Error message	Illegal Version (add memory)
	Cause	Version mismatch.
	Measures	The file has been automatically initialized.
H0020 *	Error message	System Error(same name is Backup data.)
	Cause	The same data name is already in use.
	Measures	Change the name.
H0021 *	Error message	System Error(Backup data is Count over.)
	Cause	The control region is overflowing.
	Measures	Change the software to increase the control region.
H0022 *	Error message	System Error(Backup data is no area.)
	Cause	The region is too small.
	Measures	Change the software to increase the region.
C0023	Error message	Add memory was detached/attached
	Cause	Add memory was detached/attached.
	Measures	Please check wearing of an add memory.
H0025 *	Error message	Files will be saved to ROM
	Cause	Program, parameter and log files will be saved to ROM.
	Measures	Turn the power OFF and power ON once.
H0026 *	Error message	Files will be loaded from ROM
	Cause	Program, parameter and log files will be loaded from ROM.
	Measures	Turn the power OFF and power ON once.
H0027 *	Error message	Backup or restore is canceled
	Cause	Backup or restore is canceled.
	Measures	Turn the power OFF and power ON once.
L0030	Error message	Hand error. LS release
	Cause	This is a user setting error.
	Measures	Reset the error after removing the cause.
L0031	Error message	Air pressure error
	Cause	This is a user setting error.
	Measures	Reset the error after releasing the cause.
H0039	Error message	Door Switch Signal line is faulty.
	Cause	The door switch open signal line is not stable.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0040	Error message	Door Switch Signal is Input
	Cause	The door switch is open.
	Measures	Close the door connected to the input signal of door switch.
H0041 *	Error message	Comm. error (Remote I/O #1)
	Cause	An error was found in the communication line for remote I/O channel 1.
	Measures	Confirm the communication cable or connected device's power supply.
H0042 *	Error message	Comm. error (Remote I/O #2)
	Cause	An error was found in the communication line for remote I/O channel 2.
	Measures	Confirm the communication cable or connected device's power supply.

Error No.	Error cause and measures	
H0043 *	Error message	Comm. error (Remote I/O #3)
	Cause	An error was found in the communication line for remote I/O channel 3.
	Measures	Confirm the communication cable or connected device's power supply.
H0050	Error message	EMG signal is input. (external)
	Cause	The external emergency stop is being input.
	Measures	Release the external emergency stop signal.
H0051	Error message	EMG line is faulty.(external)
	Cause	The emergency stop line isn't stable.
	Measures	When it comes back, contact to the dealer.
H0052	Error message	EMG signal is input.(Add.Axis1)
	Cause	The external emergency stop is being input to the additional axis card.
	Measures	Cancel the external emergency stop 1.
H0053	Error message	EMG signal is input.(Add.Axis2)
	Cause	The external emergency stop is being input to the additional axis amplifier.
	Measures	Cancel the external emergency stop 2.
H0060	Error message	EMG signal is input. (O.Panel)
	Cause	The operation panel emergency stop is being input.
	Measures	Cancel the operation panel emergency stop.
H0061	Error message	EMG line is faulty.(O.Panel)
	Cause	The emergency stop line isn't stable.
	Measures	When it comes back, contact to the dealer.
H0070	Error message	EMG signal is input. (T.Box)
	Cause	The T/B emergency stop is being input.
	Measures	Cancel the T/B emergency stop.
H0071	Error message	EMG line is faulty.(T.Box)
	Cause	The emergency stop line isn't stable.
	Measures	When it comes back, contact to the dealer.
H0072	Error message	An error was found in the T/B remove switch operation.
	Cause	The operation to mount/dismount the T/B was not performed normally.
	Measures	Operate again the following keys. "MODE key switch", "T/B remove switch", "T/B enable/disable changeover switch"
H0073	Error message	An error was found in the T/B remove switch line.
	Cause	The T/B remove switch line is not stable.
	Measures	When it comes back, contact to the dealer.
H0074	Error message	An error was found in the T/B [ENABLE/DISABLE] switch double-system.
	Cause	The T/B [ENABLE/DISABLE] switch isn't stable.
	Measures	When it comes back, contact to the dealer.
H0075	Error message	TB communication error
	Cause	Communication between the RC and TB was cut off.
	Measures	When it comes back, contact to the dealer.
H0082 *	Error message	Fuse is broken (air hand I/F)
	Cause	The pneumatic hand's fuse has broken.
	Measures	Exchange the fuse. Refer to the Page 33, "Appendix 1: Place where fuse replacement is required" for details.
H0083 *	Error message	Fuse is broken(hand input power)
	Cause	The pneumatic hand's power fuse has broken.
	Measures	Exchange the fuse. Refer to the Page 33, "Appendix 1: Place where fuse replacement is required" for details.

Error No.	Error cause and measures	
H0084 *	Error message	Fuse is broken(O/P)
	Cause	The operation panel's power fuse has broken.
	Measures	Exchange the fuse. Refer to the Page 33, "Appendix 1: Place where fuse replacement is required" for details.
H0085 *	Error message	Fuse is broken(External EMG)
	Cause	The external emergency stop's power fuse has broken.
	Measures	Exchange the fuse. Refer to the Page 33, "Appendix 1: Place where fuse replacement is required" for details.
H0086	Error message	Hand module overcurrent
	Cause	The motorized hand's motor or circuit board has broken.
	Measures	Exchange the motorized hand's motor or circuit board.
L0091	Error message	Can't access the Special signal
	Cause	The dedicated output signal is assigned to the specified signal. This signal cannot be used in duplicate.
	Measures	Change the output No., or change the dedicated output assignment parameter.
H0100 *	Error message	Temperature in the Controlle is too high
	Cause	The intake fan is not operating, or the fan filter is clogged.
	Measures	Check the operation of the intake fan, or clean or replace the fan filter if necessary.
L0101	Error message	Temperature in the Controlle is too high
	Cause	The intake fan is not operating, or the fan filter is clogged.
	Measures	Check the operation of the intake fan, or clean or replace the fan filter if necessary.
C0102	Error message	Temperature in the Controlle is too high
	Cause	The intake fan is not operating, or the fan filter is clogged.
	Measures	Check the operation of the intake fan, or clean or replace the fan filter if necessary.
L0110	Error message	Overload(UPS)The UPS is spent
	Cause	The UPS is spent.
	Measures	Replace the UPS.
C0111	Error message	No UPS's battery voltage.
	Cause	The UPS's battery is spent.
	Measures	Replace the UPS's battery.
C0112	Error message	Open the UPS's battery cover
	Cause	Open the UPS's battery cover
	Measures	Close the UPS's battery cover
C0460	Error message	Motor thermal error(Add.Axis)
	Cause	Overheating of the addition axis motor was detected
	Measures	Please exchange the cooling fan of the addition axis motor
H0470 *	Error message	Abnormality of DB(Add.Axis)
	Cause	The addition axis dynamic brake is abnormal
	Measures	Check the dynamic brake unit and the cable connection
L0480	Error message	THR-RR error(Add.Axis)
	Cause	Overheating of the regenerative resistor (Add.Axis) was detected
	Measures	Exchange the cooling fan of the regenerative resistor (Add.Axis)
C049n * (n indicates the axis number (1 to 8).)	Error message	Alarm of fan in the robot
	Cause	Fan in the robot might be out of order
	Measures	Please exchange the fan in the robot
H050n * (n indicates the axis number (1 to 8).)	Error message	Servo axis setting error
	Cause	The servo amplifier's axis setting rotary switch setting is illegal.
	Measures	Correctly set.
H0510 *	Error message	The converter setting is illegal
	Cause	The converter's rotary switch setting and parameter SVPTYP setting do not match.
	Measures	Correctly set.

Error No.	Error cause and measures	
H0520 *	Error message	Robot axis setting illegal
	Cause	The setting of the servo axis used by the mechanism is duplicated with another mechanism's axis.
	Measures	Correctly set.
H053n * (n indicates the axis number (1 to 8).)	Error message	Servo sys. error (memory)
	Cause	The servo amplifier memory IC's check sum is illegal.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H054n * (n indicates the axis number (1 to 8).)	Error message	Servo sys. error (over run)
	Cause	The servo amplifier software data process did not end within the specified time.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H055n * (n indicates the axis number (1 to 8).)	Error message	Servo sys. error (mag. pole pos)
	Cause	An error was detected in the magnetic pole position detection signal of the detector.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H056n * (n indicates the axis number (1 to 8).)	Error message	Servo sys. error (A/D)
	Cause	An error was found in the servo amplifier's A/D converter during initialization.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H057n * (n indicates the axis number (1 to 8).)	Error message	Encoder error (EEPROM)
	Cause	An error was detected in EEPROM data of the serial pulse encoder.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H058n * (n indicates the axis number (1 to 8).)	Error message	Encoder error (LED)
	Cause	The LED of the serial pulse encoder has been deteriorated.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H059n * (n indicates the axis number (1 to 8).)	Error message	Encoder error (position data)
	Cause	An error was detected in the position data within a single rotation of the encoder.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H060n * (n indicates the axis number (1 to 8).)	Error message	Encoder no-signal detection 1
	Cause	An error was detected in the operating input of the detector mounted on the edge of the motor.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H061n * (n indicates the axis number (1 to 8).)	Error message	Encoder no-signal detection 2
	Cause	An error was detected in the operating input of the detector mounted on the edge of the machine.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H062n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier LSI error
	Cause	An operation error was detected in the LSI of the servo amplifier.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H063n * (n indicates the axis number (1 to 8).)	Error message	Unused axis servo error
	Cause	A power module error occurred in an axis which not use the movement control.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.

Error No.	Error cause and measures	
H064n * (n indicates the axis number (1 to 8).)	Error message	System error (ABS CPU)
	Cause	An error in the CPU of the absolute position linear scale was detected.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H065n * (n indicates the axis number (1 to 8).)	Error message	Absolute position error
	Cause	An error was detected in the absolute position detection circuit within the absolute position linear scale.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H066n * (n indicates the axis number (1 to 8).)	Error message	Incremental position error
	Cause	An error was detected in the relative position detection circuit within the absolute position linear scale.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H067n * (n indicates the axis number (1 to 8).)	Error message	Encoder CPU error
	Cause	An error was detected in the CPU of the position detector.
	Measures	Turn the power OFF and ON once. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
H068n * (n indicates the axis number (1 to 8).)	Error message	Encoder LED error
	Cause	Deterioration of the position detector's LED was detected.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0690 *	Error message	Regeneration circuit error
	Cause	A regenerative transistor or resistor error was detected.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0700 *	Error message	P.S. external contactor fusing
	Cause	The contactor was turned ON even though READY is OFF.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0710 *	Error message	Power supply rush relay error
	Cause	The relay for the rush resistance short-circuit doesn't turn on.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0720 *	Error message	Power supply watch dog
	Cause	The converter software process did not end within the specified time.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0730 *	Error message	Power supply rush relay fusing
	Cause	The rush resistance short-circuit relay did not turn OFF.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0740 *	Error message	Power supply main circuit error
	Cause	The charge operation of the main circuit capacitor is not normal.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0750 *	Error message	Power supply memory error
	Cause	An error in the memory circuit of converter was detected.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H0760 *	Error message	Power supply/AD converter error
	Cause	An error was detected in the A/D converter of the converter.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.

Error No.	Error cause and measures	
H078n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier watch dog
	Cause	The servo amplifier software process is not operating correctly.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H079n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier board error
	Cause	An error was detected in the servo amplifier's PCB.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H080n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier clock error
	Cause	An error was detected in the servo amplifier's clock.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H081n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier undervoltage
	Cause	The PN bus voltage dropped to 200V or less. Momentary power failure may have occurred.
	Measures	Check the primary voltage.
H0820 * H082n * (n indicates the axis number (1 to 8).)	Error message	Motor ground fault
	Cause	A motor ground fault was detected. A connection or conductance error may have occurred in the motor cable.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H083n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier overvoltage
	Cause	The PN bus voltage rose to 400V or more.
	Measures	Check the primary power supply voltage. Turn the power OFF and ON once.
H0840 *	Error message	Instantaneous power failure(SRV)
	Cause	A power shutdown status of 50 msec or longer has occurred.
	Measures	Check the power voltage. Turn the power OFF and ON once.
H0850 *	Error message	Power supply voltage incorrect
	Cause	The input power (L1, L2, L3) has an open phase, the voltage is not within the specifications, or the 100V/200V specifications changeover setting is incorrect.
	Measures	Check the power connection, power state or the setting.
H0860	Error message	Power supply overvoltage
	Cause	The voltage across the converter's L+ and L- exceeded 410V.
	Measures	Check the power supply connection and power supply state.
H087n * (n indicates the axis number (1 to 8).)	Error message	Encoder thermal error
	Cause	The built-in thermal protector of the serial pulse encoder has been activated.
	Measures	Turn the controller power OFF, wait a while, and then turn ON again. When it comes back, contact to the dealer.
H0880 * H088n * (n indicates the axis number (1 to 8).)	Error message	Power module overheat
	Cause	Overheating of the power module regenerative resistor was detected.
	Measures	Turn the controller power OFF, wait a while, and then turn ON again. When it comes back, contact to the dealer.
H089n (n indicates the axis number (1 to 8).)	Error message	Servo amplifier motor overheat
	Cause	The position detector's thermal protector activated.
	Measures	Turn the controller power OFF, wait a while, and then turn ON again. Decrease the acceleration/ deceleration time of the operation speed, for instance. Refer to "Detailed explanation of command words"/"ACCEL (Accelerate)," "OVRD (Override)" and "SPD (Speed)," or "Detailed explanation of Robot Status Variable"/"M_SETADL," "M_LDFACT" and "Functions set with parameters"/"JADL (Optimum acceleration/deceleration adjustment rate)" of the Separate Volume, "INSTRUCTION MANUAL/Detailed Explanation of Functions and Operations."
H090n * (n indicates the axis number (1 to 8).)	Error message	Absolute position overspeed
	Cause	It moved 45 mm/sec or faster with the absolute position linear scale during initialization.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H091n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier overspeed
	Cause	A speed exceeding the motor's tolerable speed was detected.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.

Error No.	Error cause and measures	
H0920 * H092n * (n indicates the axis number (1 to 8).)	Error message	Power module overcurrent
	Cause	A servo amplifier or power supply overcurrent was detected. An error was detected in the servo amplifier's gate circuit. A connection or conductance error may have occurred in the motor cable .
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H093n * (n indicates the axis number (1 to 8).)	Error message	Motor overcurrent
	Cause	An excessive current flowed to the motor, or the A/D converter output is abnormal. An abnormality may have occurred in the connection of the motor's power line.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H094n (n indicates the axis number (1 to 8).)	Error message	Overload (over weight 1)
	Cause	Operation tight for a motor (operation with high duty) was performed more than fixed time.
	Measures	Decrease the acceleration/deceleration time of the operation speed, for instance. Refer to "Detailed explanation of command words"/"ACCEL (Accelerate)," "OVRD (Override)" and "SPD (Speed)," or "Detailed explanation of Robot Status Variable"/"M_SETADL," "M_LDFACT" and "Functions set with parameters"/"JADL (Optimum acceleration/deceleration adjustment rate)" of the Separate Volume, "INSTRUCTION MANUAL/Detailed Explanation of Functions and Operations."
H095n (n indicates the axis number (1 to 8).)	Error message	Overload (over weight 2)
	Cause	The maximum output current continued for more than one second.
	Measures	Check the load weight and the robot pressing, etc.
H096n (n indicates the axis number (1 to 8).)	Error message	Excessive error 1
	Cause	The position error exceeded at servo ON.
	Measures	Check the load weight and press, etc. If the surrounding temperature is low, or starting after stopping operation for an extended period of time, perform running-in operation at low speed or use the warm-up operation mode.
H097n (n indicates the axis number (1 to 8).)	Error message	Excessive error 2
	Cause	The position error exceeded at servo OFF.
	Measures	Check the moving robot arm by something power.
H098n (n indicates the axis number (1 to 8).)	Error message	Excessive error 3
	Cause	The motor current was not flowing when excessive error 1.
	Measures	Check the motor connection wire connection.
H101n (n indicates the axis number (1 to 8).)	Error message	Collision detection
	Cause	A collision was detected.
	Measures	Release the collision state.
H102n (n indicates the axis number (1 to 8).)	Error message	Servo AMP over-regeneration
	Cause	The additional axis exceeded the regenerative performance limit.
	Measures	Check the regenerative capacity and parameters for the additional axis.
H1030 *	Error message	Power supply over-regeneration
	Cause	The converter's regenerative performance limit was exceeded.
	Measures	Wait at least 15 minutes in the power ON state, and then turn the power OFF and ON.
H104n * (n indicates the axis number (1 to 8).)	Error message	Encoder init communication error
	Cause	An abnormality may have occurred in the position detector cable connection.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H107n * (n indicates the axis number (1 to 8).)	Error message	Encoder communication error
	Cause	Communication with the position detector was cut off.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H108n * (n indicates the axis number (1 to 8).)	Error message	Servo AMP communication error
	Cause	An abnormality may have occurred in the communication cable connection.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H1090 * H109n * (n indicates the axis number (1 to 8).)	Error message	Servo AMP initialization error
	Cause	An abnormality may have occurred in the servo axis settings (parameters, rotary switches).
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.

Error No.	Error cause and measures	
H1100 *	Error message	Servo AMP communication error
	Cause	An abnormality may have occurred in the communication cable connection.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H111n (n indicates the axis number (1 to 8).)	Error message	SRV-AMP RS-232C comm. error
	Cause	A communication error was detected between the servo amplifier and PC.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H112n * (n indicates the axis number (1 to 8).)	Error message	Encoder ABS position data lost
	Cause	The absolute position data in the position detector was lost.
	Measures	Check the battery voltage and position detector cable.
H113n * (n indicates the axis number (1 to 8).)	Error message	Encoder per rotation data error
	Cause	An error was detected in the position detector's one rotation data.
	Measures	Check the repeatability and ambient environment. When it comes back, contact to the dealer.
H114n * (n indicates the axis number (1 to 8).)	Error message	SRV-AMP Comm. data error (CRC)
	Cause	A CRC error was detected in the data from the RC.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H115n * (n indicates the axis number (1 to 8).)	Error message	Large command position
	Cause	The command position from the RC is abnormally large.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H116n * (n indicates the axis number (1 to 8).)	Error message	SRV-AMP Comm. error (frame)
	Cause	An error was detected in the communication frame from the RC.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H117n * (n indicates the axis number (1 to 8).)	Error message	SRV-AMP Comm. error (info)
	Cause	An error was detected in the communication information from the RC.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H118n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier feedback error 1
	Cause	Pulses skipped in the position detector's feedback signal.
	Measures	Check the detector cable connection and conductivity. When it comes back, contact to the dealer.
H119n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier feedback error 2
	Cause	Displacement occurred in the feedback amounts between the detectors on the motor edge and on the machine edge.
	Measures	Check the detector cable connection and conductivity. When it comes back, contact to the dealer.
H1200 *	Error message	SRV-AMP Comm. data error (CRC)
	Cause	A CRC error was detected in the communication data from the servo amplifier.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H121n * (n indicates the axis number (1 to 8).)	Error message	SRV-AMP Comm. data error (ID)
	Cause	A data ID error was detected in the communication data from the servo amplifier.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H122n * (n indicates the axis number (1 to 8).)	Error message	SRV-AMP Comm. data error(axisNo)
	Cause	An axis No. error was detected in the communication data from the servo amplifier.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H123n * (n indicates the axis number (1 to 8).)	Error message	SRV-AMP Comm. data error(SubID)
	Cause	A Sub ID error was detected in the communication data from the servo amplifier.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H1240 *	Error message	SRV-AMP Comm. data error(frame)
	Cause	An No. of received frames error was detected in the communication data from the servo amplifier.
	Measures	Check the communication cable connection and conductivity. When it comes back, contact to the dealer.
H125n * (n indicates the axis number (1 to 8).)	Error message	Servo amplifier parameter error
	Cause	An error was detected in the servo parameter.
	Measures	Contact the maker.

Error No.	Error cause and measures	
C126n (n indicates the axis number (1 to 8).)	Error message	Encoder communication error
	Cause	Initial communication could not be established with the low-speed serial type absolute position linear scale.
	Measures	Check the detector cable connection and conductivity. When it comes back, contact to the dealer.
C127n (n indicates the axis number (1 to 8).)	Error message	Encoder communication error
	Cause	The serial data of absolute position was abnormally transmitted.
	Measures	Check the detector cable connection and conductivity. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
C128n (n indicates the axis number (1 to 8).)	Error message	Encoder serial format error
	Cause	Absolute position serial data format was incorrect.
	Measures	Check the detector cable connection and conductivity. Also, carefully check whether there is no deviation in the operating position of the robot. If it is deviated, set the origin position (OP) again. For more information about the operating procedure, refer to the separate volume, "Instruction Manual/Robot Arm Setup to Maintenance." When it comes back, contact to the dealer.
C129n (n indicates the axis number (1 to 8).)	Error message	Absolute position fluctuation
	Cause	The absolute position data fluctuated when the power was turned ON.
	Measures	Check whether the axis moved due to arm dropping or external force when the power was turned ON.
C130n (n indicates the axis number (1 to 8).)	Error message	Servo AMP MP scale F/B error
	Cause	Excessive displacement was detected in the feedback amounts between the detector and the MP scale.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
C131n (n indicates the axis number (1 to 8).)	Error message	Servo AMP MP scale offset error
	Cause	Excessive displacement was detected in the feedback amounts between the detector and the MP scale.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
C132n (n indicates the axis number (1 to 8).)	Error message	Multi-rotation data error
	Cause	An error was detected in the position detector's multi-rotation data.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
C133n (n indicates the axis number (1 to 8).)	Error message	Encoder battery voltage low
	Cause	The battery voltage supplied to the position detector dropped.
	Measures	Replace the backup battery. For more information about the replacement procedure, refer to the separate volumes, "Instruction Manual/Robot Arm Setup to Maintenance".
C134n (n indicates the axis number (1 to 8).)	Error message	Over-regeneration warning
	Cause	The regenerative level of the additional axis has risen to 80% or more.
	Measures	Check the regenerative capacity and parameters for the additional axis.
C135n (n indicates the axis number (1 to 8).)	Error message	Overload warning
	Cause	The overload level reached 80% or more.
	Measures	Check the load weight and the robot for collisions, etc.
H136n * (n indicates the axis number (1 to 8).)	Error message	Absolute position counter error
	Cause	The counter of absolute position is illegal.
	Measures	Replace the batteries of both the robot arm and controller.
C137n (n indicates the axis number (1 to 8).)	Error message	Illegal parameter (servo)
	Cause	A parameter was set exceeding the setting range.
	Measures	The parameter has not been changed. Reset the correct value. When it comes back, contact to the dealer.
C138n (n indicates the axis number (1 to 8).)	Error message	Removing control axis (servo)
	Cause	An instruction to remove the axis was issued by the controller.
	Measures	Cancel the instruction of removing axis.
H139n (n indicates the axis number (1 to 8).)	Error message	Emergency stop (Servo amplifier)
	Cause	The controller emergency stop is being input.
	Measures	Release the emergency stop state.

Error No.	Error cause and measures	
C1400	Error message	Regeneration(AUX) frequency over
	Cause	Regeneration at the limit of the converter's regenerative performance has occurred frequently.
	Measures	Check the regeneration capacity. When it comes back, contact to the dealer.
H1410	Error message	Instantaneous power failure(SRV)
	Cause	Momentary power failure of 25 msec or longer has occurred.
	Measures	Check the power supply.
C1420	Error message	Over-regeneration warning
	Cause	The regeneration level reached 80% or more.
	Measures	Lower the robot's movement speed.
C143n (n indicates the axis number (1 to 8).)	Error message	Servo amplifier main circuit OFF
	Cause	The servo for the additional axis was turned ON when the main circuit power was OFF.
	Measures	Turn the additional axis' main circuit power ON.
H144n * (n indicates the axis number (1 to 8).)	Error message	System error (servo 2)
	Cause	Trouble occurred in the current processing processor.
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H1450 *	Error message	Instantaneous stop(DC24V)
	Cause	The 24V DC voltage has dropped at the power supply.
	Measures	Check CN22 connector.
H1460 *	Error message	Power supply overcurrent
	Cause	Overcurrent in the power module in the power supply.
	Measures	Check the AC power line. When it comes back, contact to the dealer.
H1470 *	Error message	Frequency error
	Cause	AC frequency is out of range.
	Measures	Check the AC power line frequency. When it comes back, contact to the dealer.
H1480 *	Error message	Power supply parameter error
	Cause	Illegal at the power supply parameter.
	Measures	Set the correct parameter.
H1490 *	Error message	Power supply overheat
	Cause	Overheating of the power module or regenerative resistance.
	Measures	Check the fan on rear of power supply.
H150n * (n indicates the axis number (1 to 8).)	Error message	Motor combination error
	Cause	Illegal combination with additional servo amp and motor.
	Measures	Use additional servo amp with correctly combination.
H156n (n indicates the axis number (1 to 8).)	Error message	Excessive error 4
	Cause	The axis moved while executing servo ON processing.
	Measures	When it comes back, contact to the dealer.
H157n (n indicates the axis number (1 to 8).)	Error message	Non-registered servo error
	Cause	A non-registered servo alarm occurred.
	Measures	If the alarm cannot be reset, turn the power OFF and ON. When it comes back, contact to the dealer.
C158n (n indicates the axis number (1 to 8).)	Error message	Non-registered servo warning
	Cause	A non-registered servo warning occurred.
	Measures	If the alarm cannot be reset, turn the power OFF and ON. When it comes back, contact to the dealer.
H1600 *	Error message	System error (No robot setted)
	Cause	None of the mechanisms are set.
	Measures	Set the mechanisms for at least one unit. When it comes back, contact to the dealer.
H1610 *	Error message	System error (illegal MEMECH)
	Cause	The mechanism module name is illegal or not registered.
	Measures	Correctly set. When it comes back, contact to the dealer. When it comes back, contact to the dealer.

Error No.	Error cause and measures	
C1620	Error message	Illegal robot No.
	Cause	The designated mechanism No. is incorrect.
	Measures	Set the correct mechanism No.
C1630	Error message	Cannot servo ON (during error)
	Cause	The servo cannot be turned ON during a servo error.
	Measures	Reset the servo error before turning the servo ON.
C1640	Error message	Cannot servo ON (DEADMAN OFF)
	Cause	The servo cannot be turned ON while the deadman switch is OFF.
	Measures	Turn the deadman switch ON before turning the servo ON.
C1650	Error message	Cannot servo ON (brake OFF)
	Cause	The servo cannot be turned ON when there is an axis with the brakes released.
	Measures	Lock the brakes for all axes before turning the servo ON.
C1660	Error message	Cannot servo ON (SRVON process)
	Cause	The servo cannot be turned ON during the servo ON process.
	Measures	Operate it after servo ON process is finished.
C1670	Error message	Cannot servo ON (SRVOFF process)
	Cause	The servo OFF process is being carried out.
	Measures	Operate it after servo OFF process is finished.
H1680	Error message	Cannot servo ON (timeout)
	Cause	The servo did not turn ON within the specified time.
	Measures	Check for errors in the servo amplifier. When it comes back, contact to the dealer.
H1681	Error message	Unexpected servo OFF
	Cause	The servo turned OFF unexpectedly.
	Measures	Check for errors in the servo amplifier. When it comes back, contact to the dealer.
C1690	Error message	Cannot brake operation (DEADMAN)
	Cause	The brakes cannot be released while the deadman switch is OFF.
	Measures	Turn the deadman switch ON before operating.
C1700	Error message	Cannot brake operation (EMG)
	Cause	The brakes cannot be released while the emergency stop is input.
	Measures	Release the emergency stop state before operating.
C1710	Error message	Cannot brake operation (SRVON)
	Cause	The brakes cannot be operated during servo ON.
	Measures	Turn the servo OFF before operating.
C1720	Error message	Cannot brake operation (BRK OFF)
	Cause	The brakes cannot be released during the brake release process.
	Measures	Operate it after brake is released.
C1730	Error message	Cannot brake operation (BRK ON)
	Cause	The brakes cannot be locked during the brake lock process.
	Measures	Operate it after brake is locked.
C1740	Error message	Servo parameter change failure
	Cause	Other parameters cannot be changed during the parameter change process.
	Measures	Carry out the parameter change process again.
C1750	Error message	Servo parameter change failure
	Cause	Changes of the servo parameter failed.
	Measures	Carry out the parameter change process again.
C1760	Error message	Illegal origin data
	Cause	The origin setting data is not correct.
	Measures	Set the correct origin setting data.

Error No.	Error cause and measures	
C1770	Error message	Origin setting incomplete
	Cause	The origin is not set.
	Measures	Re-execute after setting the origin.
C1780	Error message	Cannot set origin (illegal axis)
	Cause	The origin was not set simultaneously for the interference axis.
	Measures	Set the origin simultaneously for the interference axis.
C1781	Error message	Cannot set origin (SRVON)
	Cause	The origin was set during servo ON.
	Measures	Turn the servo OFF before setting the origin.
H1790 *	Error message	Illegal parameter (MEJAR)
	Cause	The operation range setting parameter MEJAR setting is incorrect.
	Measures	Correct the parameter MEJAR.
H1800 *	Error message	Illegal parameter (MEMAR)
	Cause	The ABS operation range setting parameter MEMAR setting is incorrect.
	Measures	Correct the parameter MEMAR.
H1810 *	Error message	Illegal parameter (USERORG)
	Cause	The user origin setting parameter USERORG setting is incorrect.
	Measures	Correct the parameter USERORG.
L182n (n indicates the axis number (1 to 8).)	Error message	Pos. data disagree.Check origin
	Cause	Position data changed during power off.
	Measures	Check the origin, re-install if shifting.
L1830	Error message	JRC. Exceeds the Pos. limit
	Cause	The JRC instruction exceeding the operation range was executed.
	Measures	Check the current position and the operating range.
L184n (n indicates the axis number (1 to 8).)	Error message	JRC Qty. Setting Too Large
	Cause	The movement amount setting of the JRC is excessive.
	Measures	Correct the JRCQTT parameter.
C1850	Error message	Instantaneous power failure
	Cause	A power failure status of 20 msec or longer has occurred.
	Measures	Check the power supply connection and power supply state.
L1860	Error message	Illegal parameter (TLC)
	Cause	The setting of the TLC parameter that sets the approach direction was incorrect.
	Measures	Correct the TLC parameter. (=X/Y/Z)
C1870 *	Error message	Cooling fan No.XX stopped
	Cause	Cooling fan No.XX in the controller might be out of order.
	Measures	Please exchange the cooling fan.
L2000	Error message	The servo is OFF
	Cause	Because servo is turned off, the robot can't move.
	Measures	Turn the servo ON and then restart.
L2010	Error message	Pulse output was not possible
	Cause	There is an error in the pulse output designation.
	Measures	Correct the program.
L2020	Error message	Reading external position data
	Cause	A command that cannot be executed while reading the external commands was executed.
	Measures	Correct the program.
L2030	Error message	JOG operation cannot be accepted
	Cause	The JOG operation request was issued when the JOG operation request could not be accepted.
	Measures	Set the JOG operation request unacceptable state.

Error No.	Error cause and measures	
H2031 *	Error message	"Illegal parameter(JOGTSJ,JOGJSP)"
	Cause	The parameter JOGTSJ, JOGJSP settings are not correct.
	Measures	Set the set dimension to 5 or less.
H209n (n indicates the zone number (1 to 8).)	Error message	In interference zone n
	Cause	Movement outside the user-defined area "n" range was attempted.
	Measures	Adjust the position.
H211n (n indicates the plane number (1 to 8).)	Error message	Free plane n overrun
	Cause	Movement outside the plane defined with free plane "n" was attempted.
	Measures	Adjust the position.
H2129	Error message	Free plane limit data illegal
	Cause	The free plane data setting value is illegal.
	Measures	Input correct data.
H2130	Error message	Speed is excessive (command)
	Cause	The speed limit was exceeded.
	Measures	Lower the speed.
H213n (n indicates the axis number (1 to 8).)	Error message	Jn Speed is excessive (command)
	Cause	The axis "n" speed limit was exceeded.
	Measures	Lower the speed.
H2140	Error message	ABS limit over
	Cause	The ABS limit was exceeded
	Measures	Referring to "Operation to Temporarily Reset an Error that Cannot Be Canceled" in the separate volume, "Instruction Manual/Detailed Explanation of Functions and Operations", reset the error and move within the operation range using JOG operation.
H214n (n indicates the axis number (1 to 8).)	Error message	Jn +ABS limit over
	Cause	The axis "n" + ABS limit was exceeded.
	Measures	Referring to "Operation to Temporarily Reset an Error that Cannot Be Canceled" in the separate volume, "Instruction Manual/Detailed Explanation of Functions and Operations", reset the error and move the axis "n" within the operation range using JOG operation.
H215n (n indicates the axis number (1 to 8).)	Error message	Jn -ABS limit over
	Cause	The axis "n" - ABS limit was exceeded.
	Measures	Referring to "Operation to Temporarily Reset an Error that Cannot Be Canceled" in the separate volume, "Instruction Manual/Detailed Explanation of Functions and Operations", reset the error and move the axis "n" within the operation range using JOG operation.
H2160	Error message	Joint angle exceeds the limit
	Cause	The joint limit was exceeded.
	Measures	Adjust the position.
H216n (n indicates the axis number (1 to 8).)	Error message	Jn (+) angle exceeds the limit
	Cause	The axis "n" + Joint limit was exceeded.
	Measures	Adjust the position.
H217n (n indicates the axis number (1 to 8).)	Error message	Jn (-) angle exceeds the limit
	Cause	The axis "n" - Joint limit was exceeded.
	Measures	Adjust the position.
H2180	Error message	"X,Y,Z data exceeds the limit"
	Cause	The XYZ limit was exceeded.
	Measures	Adjust the position.
H2181	Error message	X(+) data exceeds the limit
	Cause	The X axis + XYZ limit was exceeded.
	Measures	Adjust the position.
H2182	Error message	Y(+) data exceeds the limit
	Cause	The Yaxis + XYZ limit was exceeded.
	Measures	Adjust the position.

Error No.	Error cause and measures	
H2183	Error message	Z(+) data exceeds the limit
	Cause	The Z axis + XYZ limit was exceeded.
	Measures	Adjust the position.
H2191	Error message	X(-) data exceeds the limit
	Cause	X(-) data exceeds the limit
	Measures	Change the position data
H2192	Error message	Y(-) data exceeds the limit
	Cause	Y(-) data exceeds the limit
	Measures	Change the position data
H2193	Error message	Z(-) data exceeds the limit
	Cause	Z(-) data exceeds the limit
	Measures	Change the position data
H2500	Error message	Tracking encoder data error
	Cause	An error was detected in the data of tracking encoder.
	Measures	Check the repeatability and ambient environment.
L2600	Error message	Position data exceeds the limit
	Cause	The position data is outside the operation range.
	Measures	Adjust the position.
L2601	Error message	Start pos. exceeds the limit
	Cause	The start position is outside the operation range.
	Measures	Adjust the position.
L2602	Error message	DSTN pos. exceeds the limit
	Cause	The target position is outside the operation range.
	Measures	Adjust the position.
L2603	Error message	Med pos. data exceeds the limit
	Cause	The intermediate position is outside the operation range.
	Measures	Adjust the position.
L2700	Error message	CMP error (different mode)
	Cause	The designated mode is different from the current mode.
	Measures	Execute CMP OFF and then designate.
C2710	Error message	CMP error (displacement)
	Cause	The displacement magnitude of the compliance operation exceeded the specified value.
	Measures	Correct the program, position or other item so that the displacement magnitude can be reduced.
C2720	Error message	CMP error (joint angle)
	Cause	CMP Command exceeds the limit of a joint angle.
	Measures	Adjust the position data or reduce the displacement.
C272n (n indicates the axis number (1 to 8).)	Error message	CMP error (Jn joint angle)
	Cause	CMP Command exceeds the limit of joint angle of joint "n" axis
	Measures	Change the position data or reduce displacement.
C2730	Error message	CMP error (axis speed)
	Cause	CMP Command exceeds the limit of a speed.
	Measures	Change the position data or slow down.
C273n (n indicates the axis number (1 to 8).)	Error message	CMP error (Jn axis speed)
	Cause	CMP Command exceeds the limit of speed of joint "n" axis.
	Measures	Change the position data or slow down.
C2740	Error message	CMP error (coordinates conv.)
	Cause	An error was detected in the coordinates conversion of CMP command.
	Measures	Adjust the position data.

Error No.	Error cause and measures	
L2750	Error message	Cannot execute while tracking
	Cause	Cannot execute while tracking
	Measures	Execute the "TRK OFF" command, and then execute the "CMP OFF" command.
L2800	Error message	Illegal position data
	Cause	This may occur for a position to which the robot cannot reach.
	Measures	Adjust the position.
L2801	Error message	Illegal position data (start)
	Cause	This may occur for a starting position to which the robot cannot reach.
	Measures	Adjust the position.
L2802	Error message	Illegal position data (dstn)
	Cause	This may occur for a ending position to which the robot cannot reach.
	Measures	Adjust the position.
L2803	Error message	Illegal assisting position data (intmed)
	Cause	The position outside the operation range may exist in the middle of the path from the starting point to the destination.
	Measures	Adjust the position.
L2804	Error message	SPDOPT can't be operated
	Cause	A singular point area exists on the locus.
	Measures	Change an interpolation type or destination position.
L2810	Error message	Posture flag is disagree
	Cause	The structure flag of the start point and end point don't match.
	Measures	Adjust the position data.
H2820	Error message	Illegal ACCEL ratio
	Cause	This occurs when the acceleration/deceleration ratio is too small.
	Measures	Adjust the acceleration/deceleration ratio to a larger value.
H2830	Error message	System error(ipol posture type)
	Cause	The TYPE argument of the MOV instruction was set to -1 or a similar value.
	Measures	Change the TYPE argument of the MOV instruction to a correct value (0, 1, etc).
H2840	Error message	System error (ipol parameters)
	Cause	The parameter may have been damaged.
	Measures	When it comes back, contact to the dealer.
H2850	Error message	System error (ipol norm)
	Cause	The norm is illegal. A problem occurred in internal computation processing.
	Measures	When it comes back, contact to the dealer.
H2860	Error message	System error (ipol type)
	Cause	An illegal interpolation process method is being used. A problem occurred in internal computation processing.
	Measures	When it comes back, contact to the dealer.
H2870	Error message	System error(ipol data undef)
	Cause	The interpolation position data has not been defined. A problem occurred in internal computation processing.
	Measures	When it comes back, contact to the dealer.
H2880 *	Error message	System error (ipol data area)
	Cause	The memory is insufficient for the inside operation.
	Measures	When it comes back, contact to the dealer.
H2890	Error message	System error (undefined err)
	Cause	An undefined error number was generated in internal computation processing.
	Measures	When it comes back, contact to the dealer.

Error No.	Error cause and measures	
L2900	Error message	System ERROR M00
	Cause	An error occurred in the internal processing.
	Measures	When it comes back, contact to the dealer.
L3100	Error message	PROC stack over
	Cause	For example, if it jumped by GOSUB but did not return by the RETURN instruction, or if it escaped by GOTO using the FOR and NEXT instructions, stack memory decreased gradually.
	Measures	Correct so that in the case of GOSUB, return by RETURN, and in the case of FOR and NEXT, do not exit by GOTO.
L3110	Error message	Argument value range over
	Cause	The argument value is not within the range.
	Measures	Check the argument range and reinput.
L3120	Error message	No. of arguments is over
	Cause	The number of arguments in the command executed was incorrect.
	Measures	Check the No. of arguments and reinput.
L3130	Error message	COM file is already opened
	Cause	Opening of a file already opened was attempted.
	Measures	Check the file No. and re-execute.
L3140	Error message	Can't open COM file
	Cause	The file cannot be opened.
	Measures	Check the file No. and re-execute.
L3150	Error message	Cannot PTINT (INPUT mode)
	Cause	The file open mode is INPUT, so writing is not possible.
	Measures	Check the file No. and open mode, and re-execute.
L3170	Error message	Cannot INPUT (OUTPUT mode)
	Cause	The file open mode is OUTPUT, so writing is not possible.
	Measures	Check the file No. and open mode, and re-execute.
L3180	Error message	System error (array range over)
	Cause	System error (array range over)
	Measures	When it comes back, contact to the dealer
L3200	Error message	This file is read only
	Cause	The file cannot be read.
	Measures	Check the contents of the file.
L3210	Error message	This variable is write protected
	Cause	Writing of this variable is prohibited.
	Measures	Check the variable protection setting.
L3220	Error message	Nesting over
	Cause	A nest-over error occurred in IF of the IF instruction or FOR of the FOR instruction.
	Measures	Correct the program and re-execute.
L3230	Error message	FOR NEXT statements unmatched
	Cause	The No. of FOR and NEXT statements do not match.
	Measures	Correct the program and re-execute.
L3240	Error message	"Nesting over (FOR,WHILE)"
	Cause	The No. of nesting stages exceeded 16 stages (FOR,WHILE).
	Measures	Correct the program.
L3250	Error message	WHILE WEND statements unmatched
	Cause	The No. of WHILE and WHEN statements do not match.
	Measures	Correct the program and re-execute.
L3251	Error message	Number of jump destination exceeds 32
	Cause	The number of branches defined exceeded 32.
	Measures	Correct the program and re-execute.

Error No.	Error cause and measures	
L3252	Error message	IF ENDIF statements unmatched
	Cause	IF ENDIF statements unmatched.
	Measures	Correct the program and re-execute.
L3253	Error message	"Nesting over (IF,ENDIF)"
	Cause	The No. of nesting stages exceeded 8 stages (IF).
	Measures	Correct the program and re-execute.
L3254	Error message	SELECT END SELECT statements unmatched
	Cause	SELECT END SELECT statements unmatched.
	Measures	Correct the program and re-execute.
L3255	Error message	IF ELSE statements unmatched
	Cause	IF ELSE statements unmatched.
	Measures	Correct the program and re-execute.
L3260	Error message	Cannot exec for all slots
	Cause	Execution with all slots designated is not possible.
	Measures	Designate an individual slot and try again.
L3270	Error message	The command size is exceeded
	Cause	The command size is exceeded.
	Measures	Specify within single-byte 256 characters.
L3280	Error message	Cannot execute without GETM
	Cause	The command you attempted to execute cannot be executed without GETM. Or, a non-existing mechanical number was specified.
	Measures	Execute it after executing the RELM and GETM commands in another task slot.
L3281	Error message	Cannot execute during RUN
	Cause	Cannot execute during operation.
	Measures	Cannot execute during operation.
L3282	Error message	"Can't RUN(not select, attribute)"
	Cause	The program is not selected or the attribute is illegal.
	Measures	Load the program into the specified task slot. Or, change the program attributes.
L3283	Error message	Cannot execute during RUN
	Cause	The previous command is being executed.
	Measures	The previous command is being executed.
L3284	Error message	Cannot execute while editing
	Cause	Cannot execute while editing.
	Measures	Cannot execute while editing.
L3285	Error message	Cannot execute (RUN or WAI)
	Cause	can't execute in the state of stopping or executing.
	Measures	Reset the program (cancel the abort status).
L3286	Error message	Program is empty
	Cause	Execution of an empty program was attempted.
	Measures	Make the program or select the correct program.
L3287	Error message	Cannot execute (ERROR ALWAYS)
	Cause	This command cannot be used when the start conditions are ERROR and ALWAYS.
	Measures	Correct the program.
L3288	Error message	Cannot execute while editing
	Cause	That program cannot be executed because it is being edited.
	Measures	Finish editing the program first, and then start it.
L3289	Error message	Program does not exist (SLT*)
	Cause	The program designated in the slot table does not exist.
	Measures	Correct the slot parameter.

Error No.	Error cause and measures	
L3290	Error message	System slot cannot be executed
	Cause	The system slot cannot be executed.
	Measures	Check whether another slot (user slot) is being operated.
L3300	Error message	User slot cannot be executed
	Cause	A user slot cannot be executed.
	Measures	Check whether the system slot is being operated.
L3310	Error message	Cannot execute XRUN (Runing)
	Cause	XRUN is not possible as the designated slot is operating.
	Measures	Stop the specification slot, and execute.
L3320	Error message	Cannot execute XRUN (empty)
	Cause	XRUN is not possible as the program has not been selected.
	Measures	Specify program name to the argument or execute XLOAD.
L3330	Error message	Cannot execute XSTP (empty)
	Cause	XSTP is not possible as the program has not been selected.
	Measures	correct the program, and execute.
L3340	Error message	Cannot execute XRST (empty)
	Cause	XRST is not possible as the program has not been selected.
	Measures	Resetting is possible in the state of waiting only.
L3350	Error message	Cannot execute XRST (Running)
	Cause	XRST is not possible as the program is executing.
	Measures	Stop execution, and do it.
L3360	Error message	Cannot execute XLOAD (not PSA)
	Cause	XLOAD cannot be executed when the program cannot be selected.
	Measures	Execute XRST, and do it.
L3361	Error message	Can not load the program(SLT*)
	Cause	A non-existing program was specified in the slot parameter (SLTn).
	Measures	A non-existing program was specified in the slot parameter (SLTn).
L3370	Error message	Cannot execute XCLR (empty)
	Cause	XCLR is not possible as the program has not been selected.
	Measures	XCLR can only be executed to enable program selection.
L3380	Error message	Cannot execute XCLR (not PSA)
	Cause	Program selection is not enabled.
	Measures	Execute XCLR after resetting the program (canceling the abort status).
L3390	Error message	Cannot use arc pallet
	Cause	Cannot use arc pallet.
	Measures	Change to another method.
L3400	Error message	System error (PROC stack over)
	Cause	System error. (Processor stack overflow.)
	Measures	When it comes back, contact to the dealer
L3500	Error message	Illegal format input (INPUT)
	Cause	The type of the variable specified by INPUT and the type of the received data do not match.
	Measures	Check the format.
L3600	Error message	Jump destination does not exist
	Cause	No jump destination was found for the DEF ACT, ON COM and ON GOTO commands.
	Measures	Check the jump destination.
L3700	Error message	Undefined variable
	Cause	It was attempted to reference a variable that has not been initialized.
	Measures	Define a variable, enter an initial value, and then use it.

Error No.	Error cause and measures	
L3710	Error message	Nesting over (CALLP)
	Cause	Program CALL is used more than the limitation.
	Measures	Reduce the call count of CALLP (nesting).
L3720	Error message	RC NX statements unmatched
	Cause	RC NX statements unmatched
	Measures	Match the numbers of RC and NX.
L3810	Error message	Different argument type
	Cause	The type of an argument in an arithmetic operation, monadic operation, comparison operation or each function is different.
	Measures	Designate the correct argument.
L3820	Error message	Undefined intermediate code
	Cause	A program or system status variable may have been damaged.
	Measures	Restore using the backup data. If the backup data is not available, it is necessary to create a program again.
L3830	Error message	Cannot execute GETM
	Cause	GET of the mechanisms is not possible.
	Measures	Check whether the designated mechanisms are being used with a different slot.
L3840	Error message	RETURN without GOSUB
	Cause	RETURN was executed without using GOSUB.
	Measures	Check the program.
L3850	Error message	Undefined PLT
	Cause	The DEF PLT command was not executed.
	Measures	Use it after defining a pallet with the DEF PLT command.
L3860	Error message	Illegal position data defined
	Cause	There is an error in the position data.
	Measures	Check the position data definition.
L3870	Error message	Illegal mech No.
	Cause	The mechanical number specified in the argument of the system status variables was invalid.
	Measures	Input the correct mechanism No.
L3880	Error message	Illegal slot No.
	Cause	The task slot number specified in the argument of the system status variables was invalid.
	Measures	Input the correct slot No.
L3890	Error message	System error (make MCODE)
	Cause	An error has occurred when creating an operation instruction. The program may have been damaged.
	Measures	Restore using the backup data. If the backup data is not available, it is necessary to create a program again.
L3900	Error message	JRC Command is disable
	Cause	The JRCEXE parameter is disabled, so it cannot be used.
	Measures	Change the JRCEXE parameter, and then execute.
L3910	Error message	Cannot execute (JRC 0)
	Cause	JRC 0 can not execute for robot arm axis.
	Measures	Correctly set.
L3930	Error message	This command cannot be executed
	Cause	Collision detection is effective
	Measures	Repeal collision detection (execute COLCHK OFF)
L3940	Error message	COLCHK cannot be executed
	Cause	An exclusive function is performing with COLCHK
	Measures	Repeal the corresponding function
L3950	Error message	NOERR cannot be executed
	Cause	Interruption using M_COLSTS is invalid
	Measures	Define interruption using M_COLSTS and confirm it

Error No.	Error cause and measures	
L3960	Error message	This ACT No. cannot be repealed
	Cause	NOERR of collision detection is performed
	Measures	Repeal this interruption after canceling NOERR
L3970	Error message	COLCHK cannot be performed
	Cause	Collision detection serves as prohibition of use
	Measures	Change parameter COL into use permission
L3980	Error message	M_LDM cannot be executed
	Cause	PREC command is executed
	Measures	Repeal high accuracy mode (execute PREC OFF)
L3981	Error message	PREC cannot be executed
	Cause	M_LDM command is executed
	Measures	Set load mode 1 (execute M_LDM=0)
L4000	Error message	System error (time out)
	Cause	There is a problem in the program's exclusive process.
	Measures	When it comes back, contact to the dealer.
L4100	Error message	No. of registered file is full
	Cause	The No. of program has been exceeded.
	Measures	Delete any unnecessary programs.
L4110	Error message	Memory area is full
	Cause	The program and data have exceeded the capacity.
	Measures	Delete any unnecessary programs or data. Or, purchase an optional extension memory cassette.
L4120	Error message	Too long program name
	Cause	The program name is a maximum of 12 characters with 3 extension characters.
	Measures	Set the program name to within 12 characters and 3 extension characters.
L4130	Error message	Illegal program name
	Cause	An illegal character was used in the program name.
	Measures	Only numbers and alphabetic characters can be used.
L4140	Error message	The program was not found
	Cause	The designated program was not found.
	Measures	Designate a different program, or create the designated program.
L4150	Error message	Program is faulty
	Cause	Power shutdown may have occurred during the write operation.
	Measures	The file may have been damaged. Delete the file.
L4160	Error message	Not a robot program
	Cause	The designated program is not a robot program.
	Measures	Designate a different program.
L4170	Error message	The program is being edited
	Cause	The program is being edited.
	Measures	Close the program being edited.
L4180	Error message	Program is running
	Cause	The program is running.
	Measures	Stop the program.
L4190	Error message	The program is selected
	Cause	The program is preparing to execute.
	Measures	Reset the program.
L4200	Error message	Cannot write to file
	Cause	Write operation is prohibited, or the file capacity is insufficient.
	Measures	1. Enable file writing. 2. Delete unnecessary files.

Error No.	Error cause and measures	
L4201	Error message	Can't operate in ROM mode
	Cause	Can't operate in ROM mode.
	Measures	Change to RAM mode.
L4210	Error message	Too long statement
	Cause	The command statement length is limited to 127 characters.
	Measures	Delete the No. of characters in the command statement to within 127 characters.
L4220	Error message	Syntax error
	Cause	There is an error in the syntax of the input command statement.
	Measures	Re-input in the correct syntax after checking the contents.
L4230	Error message	The line No. does not exist
	Cause	There is no specified line number.
	Measures	Check the contents, and reinput the correct line No.
L4240	Error message	The statement is write protected
	Cause	The command statement is write protected.
	Measures	Cancel the write protection.
L4250	Error message	No more lines or variables
	Cause	Reading of lines and variables exceeding the registered ones.
	Measures	Check the programs.
L4300	Error message	Too long variable name
	Cause	The variable name length is limited to 8 characters.
	Measures	Shorten the variable name to within 8 characters.
L4310	Error message	Illegal character is used
	Cause	A character other than A to Z or 0 to 9 was used.
	Measures	Use the character which can be used.
L4320	Error message	The variable is write protected
	Cause	The variable is write protected.
	Measures	1. Use a writable variable. 2. Cancel the write protection.
L4330	Error message	The variable is read protected
	Cause	The variable is read protected.
	Measures	1. Use a writable variable. 2. Cancel the write protection.
L4340	Error message	The variable is not defined
	Cause	The variable has not been defined.
	Measures	Define the variable.
L4350	Error message	Duplicate definition (Val.)
	Cause	Variables already defined cannot be redefined with the DIM or DEF statements.
	Measures	1. Change the variable name and define. 2. Delete the defined variable.
L4360	Error message	Same variable used (65535 times)
	Cause	Example: 10 P1=P1+P2 references P1 twice and P2 once.
	Measures	Change the program to reduce the No. of times the same variable is used.
L4370	Error message	Error in the array element
	Cause	1. The array elements exceeds the define range, or 2. The specified variable is not an array.
	Measures	1. Correct the number of array elements within one to the maximum elements. 2. Do not specify array elements.
L4380	Error message	Cannot delete variables (used)
	Cause	Variables used in a command statement cannot be deleted.
	Measures	Delete the command statement using the variable.
L4390	Error message	Variable type combination error
	Cause	The type of the user-defined external variable is different.
	Measures	Match the variable types.

Error No.	Error cause and measures	
L4400	Error message	Program is faulty.
	Cause	The content of the program is abnormal.
	Measures	Delete the program.
L4410	Error message	Renumbering data error
	Cause	There is an error in the data designated with renumbering.
	Measures	Reset the data.
L4420	Error message	Line No exceeds 32767
	Cause	The new line No. or line gap is large.
	Measures	Do not use line Nos. exceeding 32767.
L4430	Error message	Not found the string searched
	Cause	The character string searched for was not found.
	Measures	Check the program.
L4440	Error message	Duplicate definition (label)
	Cause	A label already defined cannot be redefined.
	Measures	1. Change the label name. 2. Delete the defined label line.
L4450	Error message	The variable No. is out of range
	Cause	Position/counter/string No. is out of range.
	Measures	Change the variable number within the allowable range.
L4460	Error message	Argument value range over
	Cause	Argument value range over.
	Measures	Confirm the argument range, and correct the value.
L4800	Error message	System error (System base prog)
	Cause	The base program for the system could not be opened. Or, the system base program name was not specified correctly in the parameter.
	Measures	When it comes back, contact to the dealer.
L4810	Error message	The global variable defined by user is not available
	Cause	The parameter "PRGUSR" is not correct.
	Measures	To use user-defined external variables, it is necessary to set the name of the program describing only variable definitions in the PRGUSR parameter.
L4811 *	Error message	The global variable redefined
	Cause	A system global variable is defined in user global.
	Measures	Correct the program.
L4820	Error message	No editing program
	Cause	The program was closed while editing. For example, the program being edited is closed when a key switch enable/disable operation is performed via the T/B during online editing on a PC.
	Measures	Try editing the program again.
L4900	Error message	System error (Prog Hndl)
	Cause	The program name used by internal processing is not normal.
	Measures	When it comes back, contact to the dealer.
L4910	Error message	Robot Language is mismatched
	Cause	The parameter RLNG is mismatched. (1:MELFA-BASIC IV , 0:MOVEMASTER command)
	Measures	Re-set RLNG or select an other program.
L4920	Error message	There is no backup data in ROM
	Cause	There is no backup data in ROM.
	Measures	Please operate after backup.
H5000	Error message	TB Enable key is ON
	Cause	The [T/B ENABLE/DISABLE] switch is "ENABLE", when the [MODE] switch of the operation panel is "AUTO".
	Measures	Invalidate the T/B Enable key, or enter the teach mode of operation panel.

Error No.	Error cause and measures	
L5010	Error message	AUTOENA signal is OFF
	Cause	The automatic operation possible signal is OFF.
	Measures	Turn the automatic operation possible signal ON, or enter the teach mode.
L5100	Error message	No program is selected
	Cause	A program is not selected for the designated slot.
	Measures	Select a program for the designated slot.
L5110	Error message	Continuous RUN is not possible
	Cause	A different program name has been designated.
	Measures	Designate the correct program name.
L5120	Error message	Cannot select program (not PSA)
	Cause	The specified slot is not in the program selection state.
	Measures	Reset the program.
L5130	Error message	Cannot execute servo on
	Cause	A servo OFF process is taking place.
	Measures	Wait for the servo to turn OFF before turning the servo ON.
L5140	Error message	Cannot read the file
	Cause	Reading is being carried out, or editing is being carried out.
	Measures	Close the file being edited, or read after the reading is completed.
L5150	Error message	The origin has not been set
	Cause	The origin has not been set.
	Measures	Set the origin.
L5200 *	Error message	Parameter error (TASKMAX)
	Cause	The TASKMAX parameter setting value has been exceeded (initial value: 8, maximum value: 32).
	Measures	Reduce the number of multi tasks, or change the TASKMAX parameter.
L5210 *	Error message	Parameter error (MECHAMAX)
	Cause	The No. of multi mechanisms has exceeded the limit.
	Measures	Reduce the No. of multi mechanisms.
L5400	Error message	All robot cannot be designated
	Cause	All mechanisms cannot be specified.
	Measures	Specify an independent mechanism number.
L5410	Error message	Non-existent mode
	Cause	It has been changed to a mode other than Auto/Teach.
	Measures	Contact the maker.
L5420	Error message	Illegal slot No.
	Cause	A task slot number other than 1 through TASKMAX (parameter) is specified.
	Measures	Designate the correct task slot.
L5430	Error message	Illegal robot No.
	Cause	The mechanism designation is illegal.
	Measures	Designate the correct mechanism.
L5600	Error message	Cannot execute during an error
	Cause	Cannot execute during an error.
	Measures	Reset the error.
C5610	Error message	Cannot execute during STOP ON
	Cause	Cannot execute during stop signal input.
	Measures	Turn the stop signal OFF and execute.
L5620	Error message	Cannot execute during CSTOP ON
	Cause	Cannot execute during cycle stop signal input.
	Measures	Turn the cycle stop signal OFF.

Error No.	Error cause and measures	
L5630	Error message	Cannot execute during SRVOFF ON
	Cause	Cannot execute during servo OFF signal input.
	Measures	Turn the servo OFF signal OFF.
L5640	Error message	Cannot execute during RUN
	Cause	Cannot execute during operation.
	Measures	Stop the operation, and then execute.
L5650	Error message	Cannot execute during STOP
	Cause	Cannot execute during stop operation.
	Measures	Complete the stop, and then execute.
L5660	Error message	Edit during RUN(include ALWAYS)
	Cause	Editing cannot be performed while in operation (including continuous execution).
	Measures	Stop the program, and then execute.
L5990	Error message	System error (Illegal command)
	Cause	Not exist command was executed.
	Measures	Execute the correct command.
L6010	Error message	Illegal command
	Cause	This may have occurred because data was sent before the communication line was opened via a data link, or an unregistered communication command was sent due to the mismatch between the versions of the controller and support software.
	Measures	Send after the communication line is opened. Or, match the versions.
L6020	Error message	The Operation is disable
	Cause	The operation rights have not been acquired.
	Measures	Acquire the operation rights.
L6030	Error message	The editing operation is disable
	Cause	The editing operation rights have not been acquired.
	Measures	Acquire the editing operation rights.
L6040	Error message	System error (illegal device No)
	Cause	A non-registered device No. was set.
	Measures	Set a valid device.
C6050	Error message	The file cannot be opened
	Cause	The block file cannot be opened.
	Measures	Check the file, and designate the correct file.
C6060	Error message	The mode is not TEACH
	Cause	Carry out parameter writing in the teach mode.
	Measures	Change to the teaching mode, and then execute.
C6070	Error message	The time cannot be set
	Cause	The time setting can only be executed when the program is stopped and the servo is OFF.
	Measures	Stop the program and turn the servo OFF, and then set the time.
C6080	Error message	Com mesg is too long
	Cause	The character string of a communication text exceeded the maximum number allowed.
	Measures	Verify the number of characters in a comment in various settings such as parameters.
C6500	Error message	Not opened COM line
	Cause	OPEN was not executed by the program.
	Measures	Execute OPEN, and then send PRN.
H6510	Error message	RS232C Parameter illgal
	Cause	Confirm the parameter, and correct.
	Measures	Adjust the communication setting parameters, and then turn the power ON again .
H6520	Error message	RS422 Parameter illgal
	Cause	Setup the parameter
	Measures	Adjust the communication setting parameters, and then turn the power ON again.

Error No.	Error cause and measures	
H6530 *	Error message	COMDEV parameter is illegal
	Cause	Illegal parameter (COMDEV).
	Measures	Correct COMDEV parameter.
L6600	Error message	Signal number is out of range.
	Cause	The designated signal No. has not been defined.
	Measures	Change the signal No. to the correct No.
L6610	Error message	Cannot output (hand input)
	Cause	The hand input signal cannot be written.
	Measures	Use the correct output signal.
L6620	Error message	Cannot write (special INPUT)
	Cause	The input signal cannot be written into the robot dedicated area.
	Measures	Use an actual signal.
L6630	Error message	Input signal cannot be written
	Cause	This is the actual signal input mode.
	Measures	Set a pseudo-input signal.
H6640	Error message	Illegal param (special signal)
	Cause	The parameter setting is illegal.
	Measures	Correct the parameter you changed.
H6641	Error message	Duplicate setting (special IN)
	Cause	The parameter setting is illegal.
	Measures	Correct the parameter of the dedicated input signal you changed.
H6642	Error message	STOP is fixed signal No. 0
	Cause	The parameter setting is illegal.
	Measures	Set the parameter STOP(input) to 0.
H6643	Error message	Illegal parameter (special Sig.)
	Cause	The parameter setting is illegal.
	Measures	Make the ending number larger than the starting number.
L6650 *	Error message	Duplicate setting (special OUT)
	Cause	The parameter setting is illegal.
	Measures	Correct the parameters.
L6651 *	Error message	Duplicate setting (HANDTYPE)
	Cause	The parameter setting is illegal.
	Measures	Correct the parameter.
L6660	Error message	Cannot output (SPECIAL OUT)
	Cause	The program setting is illegal.
	Measures	Correct the program.
L6670	Error message	Illegal OUT reset pattern
	Cause	The parameters are not defined in sets of 8 characters.
	Measures	Correct the parameters.
L6800 *	Error message	"Cancel pseudo-input mode, PW OFF"
	Cause	If pseudo input was canceled, it is necessary to turn the power ON again in order to prevent the erroneous operation of the robot by external input signals.
	Measures	Turn the power OFF and then ON once. It switches to an external input signal.
C6900	Error message	Pseudo-input signal mode
	Cause	Set with the parameters.
	Measures	To set a real signal, reset the parameter and then turn the power ON again.
C7000	Error message	Copy source file was not found
	Cause	The copy source file was not found.
	Measures	Input the correct file name.

Error No.	Error cause and measures	
C7010	Error message	Delete target file was not found
	Cause	The delete target file was not found.
	Measures	Input the correct file name.
C7020	Error message	Rename target file was not found
	Cause	The rename target file was not found.
	Measures	Input the correct file name.
H7030 *	Error message	System error (param size over)
	Cause	The change capacity is too large.
	Measures	Contact the maker.
C7040	Error message	Parameter changes prohibited
	Cause	Changing this parameter is prohibited as it is a dangerous parameter.
	Measures	Contact the maker.
H7050	Error message	File is illegal
	Cause	This file is damaged.
	Measures	Contact the maker.
H7060 *	Error message	System error (RAM area full)
	Cause	The capacity has been exceeded.
	Measures	Contact the maker.
C7070	Error message	Memory area is full
	Cause	The program and data have already exceeded the capacity.
	Measures	Delete any unnecessary programs or data.
L7071	Error message	Not enough memory area for CTN
	Cause	Continue function needs more than 100Kbytes memory area.
	Measures	Delete any unnecessary programs.
C7080	Error message	Can not read parameter
	Cause	Non-existent parameter or illegal password.
	Measures	1. Input the correct parameter name 2. Input the correct password
C7081	Error message	Can not write parameter
	Cause	Non-existent parameter or illegal password.
	Measures	1. Input the correct parameter name 2. Input the correct password
C7090	Error message	Parameter comment illegal
	Cause	The number of parameter comment characters exceeded the limit.
	Measures	Operation will not be affected, so continue the operation.
C7100 *	Error message	Add memory has not enough.
	Cause	Data is left in the extended memory.
	Measures	Perform program initialization using the TB to clear all data.
C7200 *	Error message	Add memory has same file.
	Cause	Add memory has same file name.
	Measures	Perform program initialization using the TB to clear all data.
H7300 *	Error message	Loading the parameter file.
	Cause	It is necessary to turn the power ON again to reflect the parameters.
	Measures	Turn the power OFF and ON once.
C7310	Error message	Changed variables weren't saved
	Cause	The power was OFF during program execution.
	Measures	Don't turn the power OFF during program execution.
L7311	Error message	The power was OFF during file saving
	Cause	The power was OFF during file saving.
	Measures	Don't turn the power OFF during file saving.

Error No.	Error cause and measures	
L7330	Error message	Can't change in RAM mode
	Cause	When in RAM mode, the language selection (RLNG) and the enable/disable setting of continuity (CTN) cannot be changed.
	Measures	Please change to RAM mode and perform again.
L7331	Error message	Can't change memory size in RAM mode
	Cause	Can't change memory size in RAM mode.
	Measures	Please change to RAM mode and perform again.
L7332	Error message	Can't change to RAM mode in CTN mode
	Cause	Can't change to RAM mode in continue mode.
	Measures	Please change to RAM mode and perform again.
L7340	Error message	Contine function cannot be used in DRAM mode
	Cause	Contine function cannot be used in DRAM mode
	Measures	Please change to RAM mode and perform again
L7341	Error message	Can't change to DRAM mode in CTN mode
	Cause	Can't change to DRAM mode in CTN mode
	Measures	Please change to RAM mode and perform again
L7342	Error message	Global extension cannot be used in DRAM mode
	Cause	Global extension cannot be used in DRAM mode
	Measures	Please change to RAM mode and perform again
L7343	Error message	Can't change to DRAM mode in PRGGBL mode
	Cause	Can't change to DRAM mode in PRGGBL mode
	Measures	Please change to RAM mode and perform again
C7410	Error message	1 month inspection is now
	Cause	Carry out the monthly inspection.
	Measures	Carry out the 1 month inspection.
C7420	Error message	3 month inspection is now
	Cause	Carry out the 3 month inspection.
	Measures	Carry out the 3 month inspection.
C7430	Error message	6 month inspection is now
	Cause	Carry out the 6 month inspection.
	Measures	Carry out the 6 month inspection.
C7440	Error message	1 year inspection is now
	Cause	Carry out the 1 year inspection.
	Measures	Carry out the 1 year inspection.
C7500	Error message	No battery voltage
	Cause	The battery is spent.
	Measures	Replace the battery of controller and load the data. For more information about the replacement procedure, refer to the separate volumes, "Controller setup, basic operation, and maintenance."
C7510	Error message	Battery voltage low (R/C)
	Cause	The battery will be spent soon.
	Measures	Replace the battery of controller. For more information about the replacement procedure, refer to the separate volumes, "Controller setup, basic operation, and maintenance."
C7530	Error message	Replenishment time of grease
	Cause	It seems that grease reached longevity
	Measures	Replenish grease
C7540	Error message	Exchange time of the belt
	Cause	It seems that the belt reached longevity
	Measures	Execute the check and the exchange of the belt

Error No.	Error cause and measures	
C7520	Error message	Battery consumption time is over
	Cause	The battery will be spent soon.
	Measures	Replace the batteries of both the robot arm and controller. For more information about the replacement procedure, refer to the separate volumes, "Instruction Manual/Robot Arm Setup to Maintenance" and "Controller setup, basic operation, and maintenance."
H7600 *	Error message	Illegal parameter (AXMENO)
	Cause	The additional axis mechanism No. is incorrect.
	Measures	Correct parameter AXMENO and AXUNUM.
H7601 *	Error message	Illegal parameter (AXJNO)
	Cause	The additional axis No. is incorrect.
	Measures	Correct parameter AXJNO.
H7602 *	Error message	Duplicate parameter (AXJNO)
	Cause	The additional axis No. has been used in duplicate.
	Measures	Correct parameter AXJNO.
H7603 *	Error message	Illegal parameter (AXUNT)
	Cause	The additional axis unit is incorrect.
	Measures	Correct parameter AXUNT.
H7604 *	Error message	Illegal parameter (AXACC)
	Cause	The additional axis acceleration time is incorrect.
	Measures	Correct parameter AXACC.
H7605 *	Error message	Illegal parameter (AXDCC)
	Cause	The additional axis deceleration time is incorrect.
	Measures	Correct parameter AXDEC.
H7606 *	Error message	Illegal parameter (AXGRTN)
	Cause	The additional axis gear ratio numerator is incorrect.
	Measures	Correct parameter AXGRTN.
H7607 *	Error message	Illegal parameter (AXGRD)
	Cause	The additional axis gear ratio denominator is incorrect.
	Measures	Correct parameter AXGRD.
H7608 *	Error message	Illegal parameter (AXMOTSET)
	Cause	The additional axis motor setting validity flag is incorrect.
	Measures	Correct parameter AXMOTSET.
H7609 *	Error message	Illegal parameter (AXMREV)
	Cause	The additional axis motor rated speed is incorrect.
	Measures	Correct parameter AXMREV.
H7610 *	Error message	Illegal parameter (AXJMX)
	Cause	The additional axis motor limit speed is incorrect.
	Measures	Correct parameter AXJMX.
H7611 *	Error message	Illegal parameter (AXENCR)
	Cause	The additional axis No. of encoder pulses is incorrect.
	Measures	Correct parameter AXENCR.
H7612 *	Error message	Illegal parameter (AXJOGTS)
	Cause	The additional axis JOG time constant is incorrect.
	Measures	Correct parameter AXJOGTS.
H7613 *	Error message	Turn the power OFF and ON once
	Cause	It is necessary to turn the power ON again because user mechanism setting has been performed.
	Measures	Turn the power OFF and ON once.
H7620 *	Error message	Plural Add-AxisI/F are installed
	Cause	This card can install one.
	Measures	Use only one of these interface cards.

Error No.	Error cause and measures	
C7630	Error message	No additional-axis card
	Cause	No additional-axis card
	Measures	Install the additional axis interface card.
H7700 *	Error message	Illegal OPTION Slot No.(CC-Link)
	Cause	CC-Link Card is installed SLOT1/3.
	Measures	Install CC-Link Card in SLOT2.
H7710 *	Error message	Can't set the Master Station
	Cause	The CC-Link interface card of the robot cannot be set at the master station.
	Measures	Set the rotary switch except 0.
H7720 *	Error message	Plural CC-Link Cards are installed
	Cause	This card can install one.
	Measures	Use only one of these interface cards.
L7730	Error message	CC-Link Data link error
	Cause	A communication line error has occurred, or parameter settings on the master station side are invalid.
	Measures	Check the wiring, or re-examine parameter settings on the master station side.
L7731	Error message	CC-Link Data link error
	Cause	A communication line error has occurred, or parameter settings on the master station side are invalid.
	Measures	Check the wiring, or re-examine parameter settings on the master station side.
L7750	Error message	(CC-Link)No connect cable or illegal parameter
	Cause	The cable is not connected, or parameter settings on the master station side do not match.
	Measures	Check the cable connection, or power off the system and then restart.
H7760 *	Error message	CC-Link initialization error
	Cause	The parameters in the master station do not match.
	Measures	Match parameter settings on the master station side, and then restart.
L7780	Error message	Illegal CC-Link register number
	Cause	The register number entered was out of the range.
	Measures	Enter a correct register number according to the station number.
L7781	Error message	INPUT signal No. is for CC-Link
	Cause	A CC-Link signal number was specified although no CC-Link interface was mounted.
	Measures	Install CC-Link card.
H7799 *	Error message	CC-Link System error
	Cause	CC-Link System error
	Measures	Contact the maker.
H7800	Error message	Ethernet card initialization Err
	Cause	The Ethernet card is broken.
	Measures	Check the Ethernet board.
H7802 *	Error message	Illegal OPTION Slot No. (Ether)
	Cause	Ethernet Card is installed SLOT2/3.
	Measures	Install the Ethernet Card in SLOT1.
H7803 *	Error message	Plural ethernet cards are installed
	Cause	This card can install one.
	Measures	Use only one of these interface cards.
H7810	Error message	Ethernet NETIP parameter ERR (NETIP,NETGW,NETPORT,NETPROC,NETLOGIN,NETPSSWD,NETTOUTR,NETTOUTS,MXTCOM1-3)
	Cause	Parameter settings are incorrect.
	Measures	Correct the parameters.
H7820	Error message	MXT/MXScommand timeout
	Cause	The setting time of the MXTTOUT parameter has been exceeded.
	Measures	Make the MXTTOUT parameter value larger.

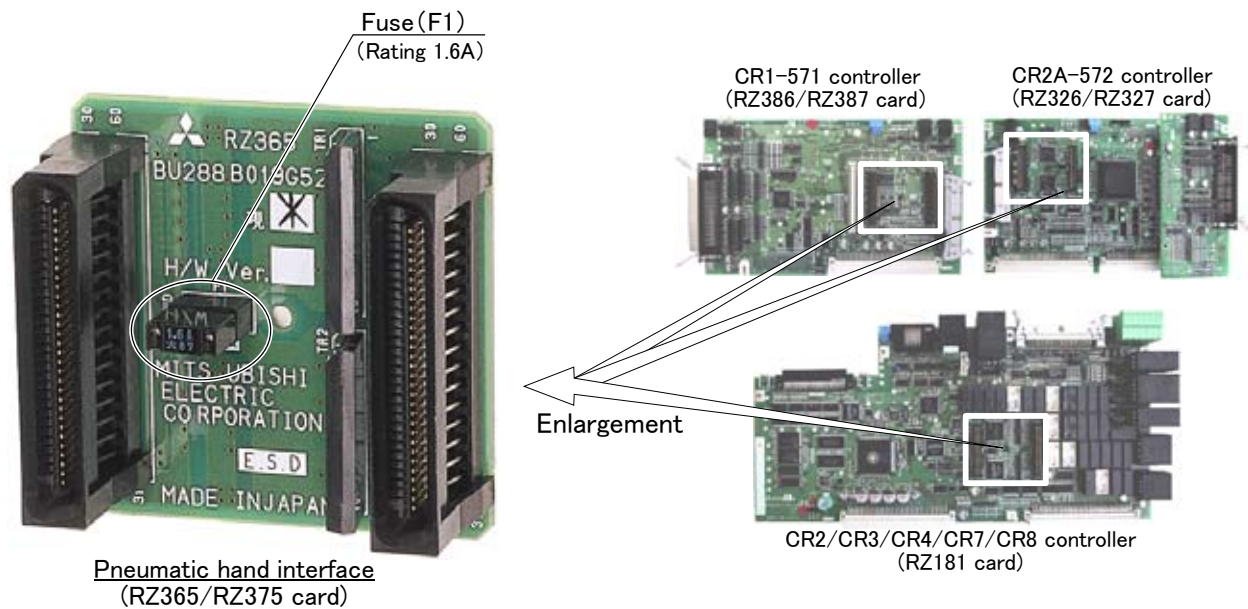
Error No.	Error cause and measures	
H7830	Error message	"Ethernet card is not installed, or command disable"
	Cause	Ethernet card is not installed, or command disable.
	Measures	Install Ethernet interface card.
H7840	Error message	MXT/MXS command Illegal received data
	Cause	The command argument and the data type do not match.
	Measures	Check the command and the data you are sending.
H7901	Error message	OPTION1#1 Parameter illegal
	Cause	Correct the parameters.
	Measures	Correct the parameters, and then turn the power ON again.
H7902 *	Error message	OPTION1#2 Parameter illegal
	Cause	Correct the parameters.
	Measures	Correct the parameters, and then turn the power ON again.
H7903	Error message	OPTION1#3 Parameter illegal
	Cause	Correct the parameters.
	Measures	Correct the parameters, and then turn the power ON again.
H7911	Error message	OPTION2#1 Parameter illegal
	Cause	Correct the parameters.
	Measures	Correct the parameters, and then turn the power ON again.
H7912	Error message	OPTION2#2 Parameter illegal
	Cause	Correct the parameters.
	Measures	Correct the parameters, and then turn the power ON again.
H7913	Error message	OPTION2#3 Parameter illegal
	Cause	Correct the parameters.
	Measures	Correct the parameters, and then turn the power ON again.
H7920 *	Error message	Three EX-SIO Cards are installed
	Cause	This card can install one or two.
	Measures	Reduce these interface cards to one or two.
H7930 *	Error message	Illegal OPTION Slot No.(EX-SIO)
	Cause	EX-SIO Card is installed SLOT3.
	Measures	Install Expansion Serial Card in SLOT1/2.
H7990 *	Error message	OptionCard illegal insert
	Cause	Check SLOT number
	Measures	Turn the power OFF, and then change the slot to mount it.
H8015 *	Error message	Plural Vision I/F are installed
	Cause	This card can install one.
	Measures	Use only one of these interface cards.
H8201	Error message	Illegal param (TPTMMG)
	Cause	The TPTMMG parameter setting is illegal.
	Measures	Correct the TPTMMG parameter.
H8202	Error message	Illegal param (TPERRNO)
	Cause	The TPERRNO parameter setting is illegal.
	Measures	Correct the TPERRNO parameter.
H8203	Error message	Illegal param (TPSIGNO)
	Cause	The TPSIGNO parameter setting is illegal.
	Measures	Correct the TPSIGNO parameter.
H8204	Error message	Illegal param (TRAP)
	Cause	The TRAP parameter setting is illegal.
	Measures	Correct the TRAP parameter.

Error No.	Error cause and measures	
H8206	Error message	Failed in initialization (trap function)
	Cause	Failed in initialization (trap function)
	Measures	Turn the power OFF and ON once. When it comes back, contact to the dealer.
H8207	Error message	Failed in writing the data(trap function)
	Cause	Failed in writing the data.
	Measures	Please do the operation over again.
C8208	Error message	There is a possibility of the flash ROM breakdown
	Cause	The rewriting count of the flash ROM has exceeded 100,000.
	Measures	Disable the trap function.
L8300	Error message	There are a lot of GETPOS define
	Cause	GETPOS function are up to 8.
	Measures	Please use the same ACT No. or reset an unnecessary program.
L8310	Error message	GETPOS undefined
	Cause	GETPOS undefined.
	Measures	Please define GETPOS.
H8320	Error message	System Error (GETPOS)
	Cause	Internal data of GETPOS is illegal.
	Measures	Turn the power OFF and ON once.
H8400	Error message	CTN data is illegal (PREC or M_LDM)
	Cause	CTN data is illegal. It changed to PREC OFF and M_LDM=0.
	Measures	Try to set be a PREC mode and M_LDM again.
H9000 ~ H9099	Error message	User High level error
	Cause	A high-level alarm was issued from the robot program.
	Measures	Check the program.
L9100 ~ L9199	Error message	User Low level error
	Cause	A low-level alarm was issued from the robot program.
	Measures	Check the program.
C9200 ~ C9299	Error message	User Caution level error
	Cause	A warning was issued from the robot program.
	Measures	Check the program.

2 Appendix

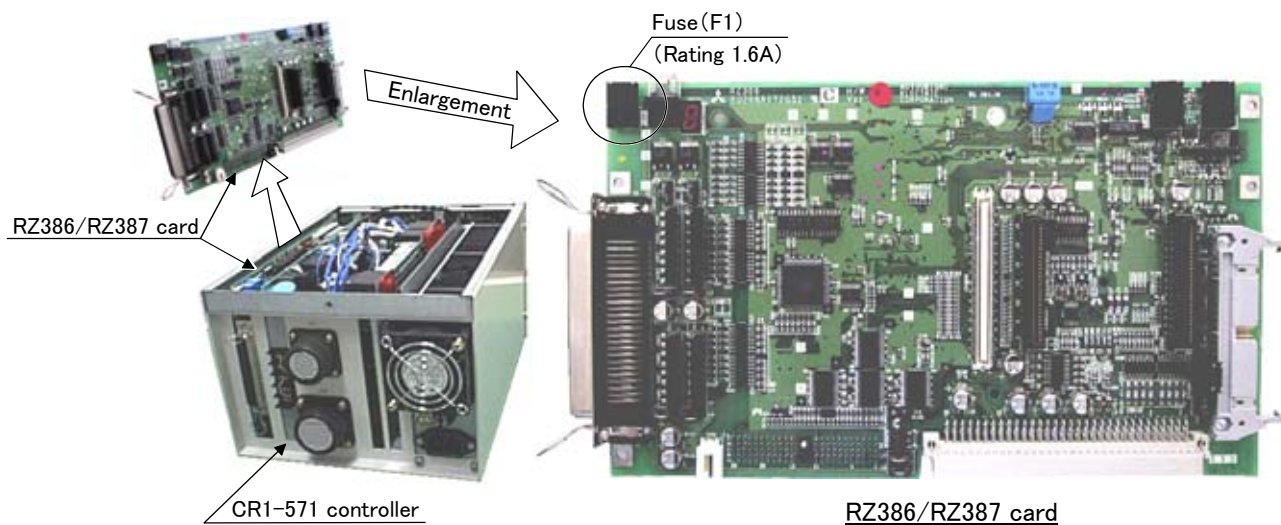
Appendix 1: Place where fuse replacement is required

- (1) Place where fuse replacement is required in the event of error No. H0082 *
 Replace the fuse (F1) of the pneumatic hand interface (RZ365/RZ367 card).

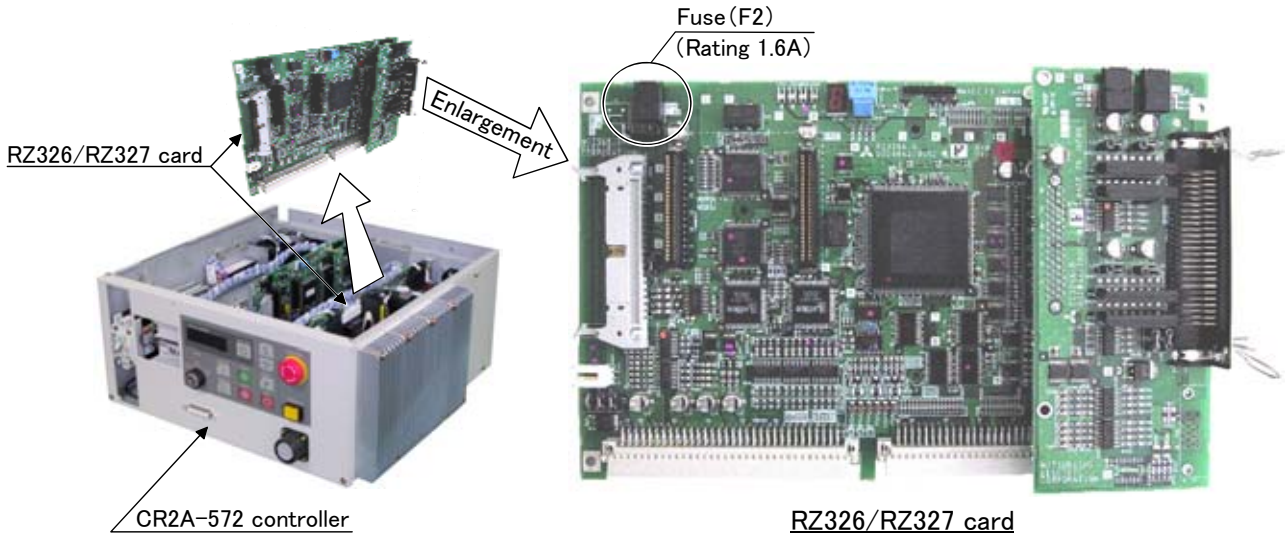


- (2) Place where fuse replacement is required in the event of error No. H0083 *

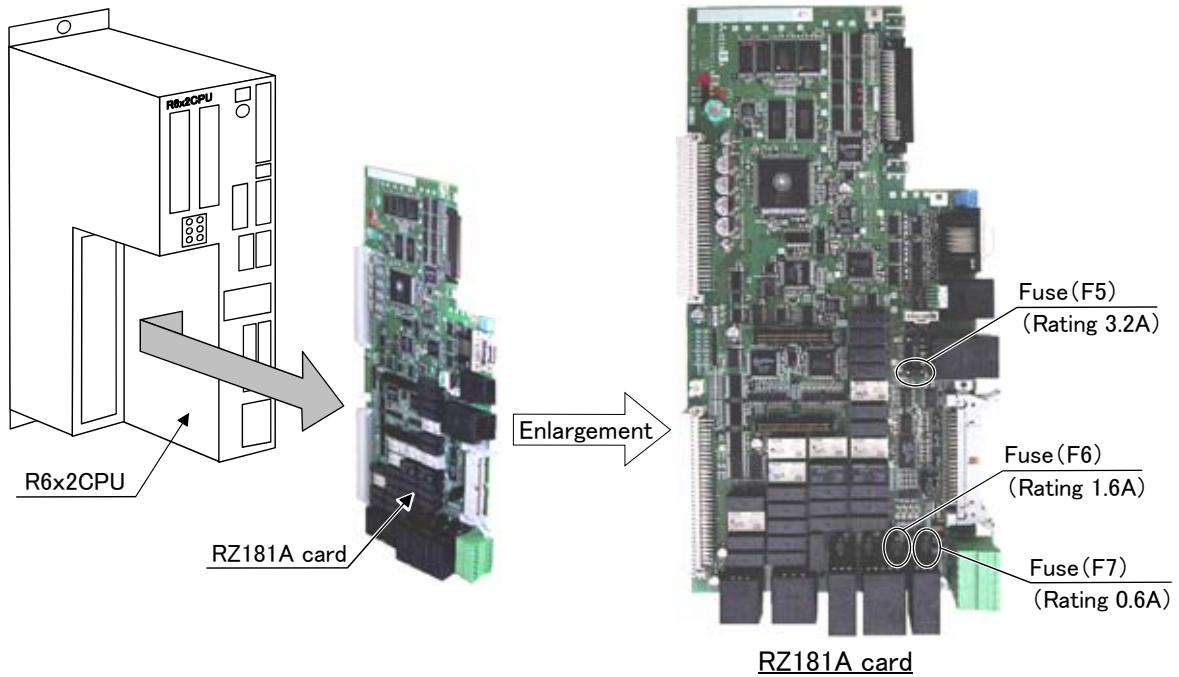
- When using the CR1-571 controller
 Replace the fuse (F1) of the RZ386/RZ387 card.



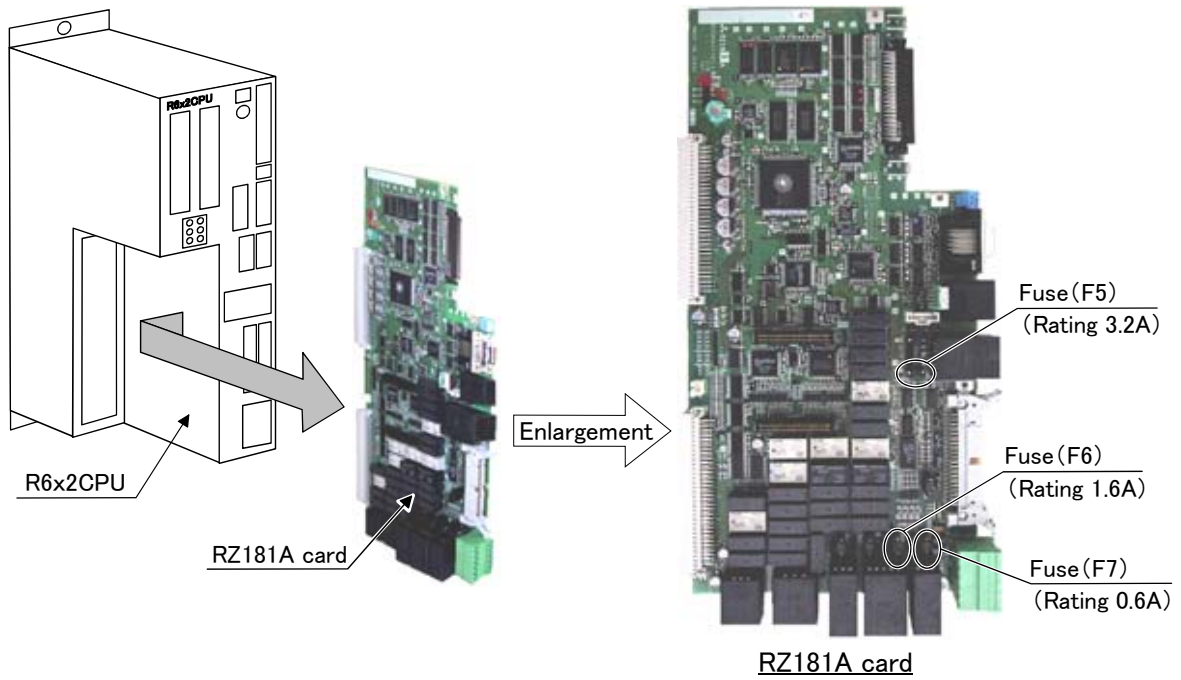
- When using the CR2A-572 controller
Replace the fuse (F2) of the RZ326/RZ327 card.



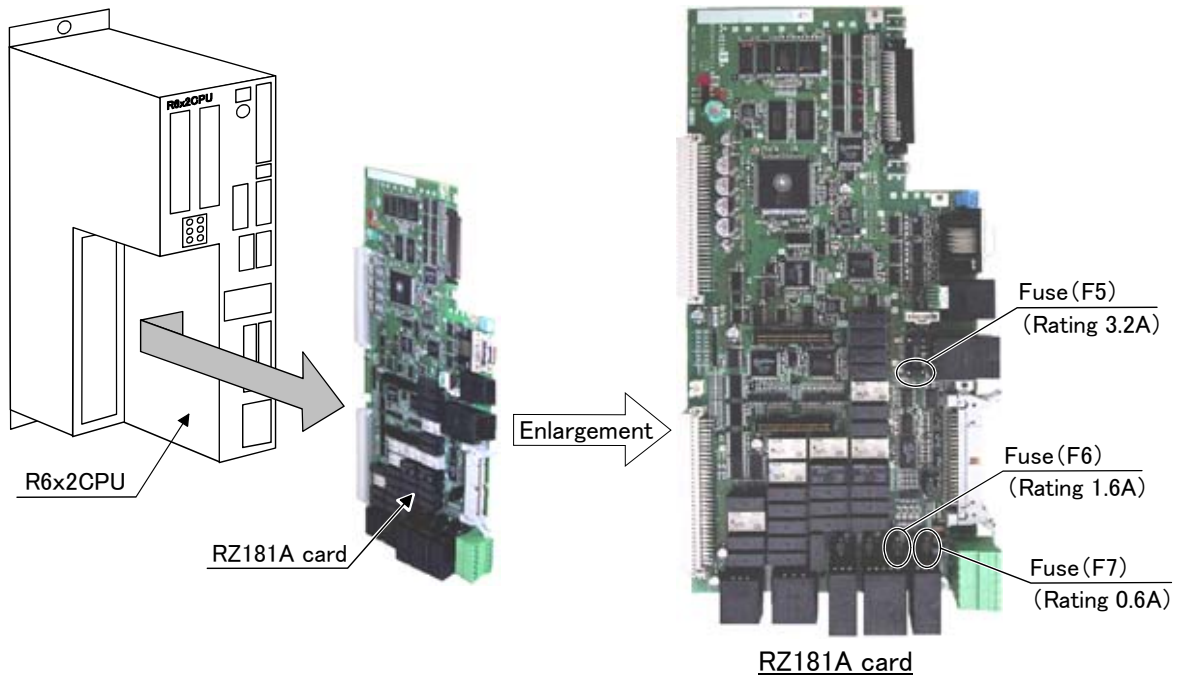
- When using the CR2/CR3/CR4/CR7/CR8 controller
Replace the fuse (F6) of the RZ181A card.



- (3) Place where fuse replacement is required in the event of error No. H0084 *
 Replace the fuse (F5) of the RZ181A card.



- (4) Place where fuse replacement is required in the event of error No. H0085 *
 Replace the fuse (F7) of the RZ181A card.





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