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WARNING

THE INSTALLATION SHALL BE MADE BY QUALIFIED INSTALLATION PERSONNEL AND SHOULD CONFORM TO ALL NATIONAL AND LOCAL CODES

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Hi5a-S210701CDEN4

Hi5a Controller Maintenance Manual

Error code and warning

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Error code and warning

1. Error code and warning

Errors are classified into system errors and operation errors. System errors are to call user's attentions, and operation errors indicates that operator made a mistake or trouble.

Controller, with its built-in self-diagnostic function, displays the details of errors on LCD screen of Teach pendant. Thus, you may check error code, and confirm it in the error code table for troubleshooting.

In case of troubleshooting, read carefully 『troubleshooting cases』 & 『Instructions in Parts Replacement』, and be fully understood on your working details before getting down to work. In addition, fully inform us of the followings when contacting with our A/S office.

① Robot type name on robot specification plate and controller type of specification plate

② Happened date

③ Symptoms & error code

④ Details conducted by user's company

⑤ Software version of robot controller (Main, I/O, DSP, T/P)

⑥ Environment conditions in the occurrence of errors (power failure, collision with Jig, etc.)

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1.1 System error

Code	Message	Cause	Remedy
E0001	Power failure detected	Power failure or CB (circuit brake) off while in the Motor On state	Not required to take measures considering that this is for storing the power failure state in the error history.
E0002	Hardware limit switch signal inputted	The limit switch signal, installed at the end of the moving area of each of the robot's axis, is inputted.	In the system menu, after Motor Or (pressing the Motor On button after grabbing the Enable switch), move to within the moving area using the jog key. Refer to the fault repair methods.
E0003	Brake power overload (brake power) generated	The fuse generating brake power was disconnected by Overcurrent in the AC 220 V power line.	Refer to the troubleshooting manual.
E0004	Arm interference limit switch signal inputted	The limit switch signal, installed to prevent robot arm interference, is inputted	In the system menu, after Motor Or (pressing the Motor On button after grabbing the Enable switch), move to within the moving area using the jog key. Refer to the troubleshooting manual.
E0005	DSP version not existent in the main board flash ROM	When power on, It is generated if there is no saved DSP execution code in main board flash ROM.	Upgrade the DSP version using the system version-up function (R286) or IVUF.(Intergraded Version Up Function)
E0006	Collision sensor operating	Collision sensor signal is inputted.	Check whether the robot end-effector tool is transformed. Start up after removing all the error causes.
E0007	Stick signal detected	Stick signal inputted when the welding sequence ends.	1) Check the stick detection signal. 2) Remove the stick.
E0008	Motor temperature increased (hardwiring)	Excessive increase of the motor temperature is detected through the temperature sensor wired to each axis of the robot.	Refer to the troubleshooting manual.

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Code	Message	Cause	Remedy
E0009	Verification error after #%u DSP version downloaded	There is something wrong with the data of the execution code transmitted through the servo board HPI port.	1) Check whether a servo board is mounted. 2) Check the servo board DIP switch by referring to the troubleshooting manual.
E0010	AMP regenerative discharge resistor overheated	The regenerative discharge resistor temperature increased above the reference value and the overheating detection sensor is abnormal.	Refer to the troubleshooting manual.
E0011	AMP overvoltage (P-N) generated	The motor voltage (P-N) set value exceeded.	Check the controller panel AC input power (Usable in the rated power). Check the connection state of the regenerative discharge resistor.
E0012	Brake power abnormal	Brake voltage lowered.	1) Check the brake power and boos the voltage to 24 - 26V. 2) The CNPB wiring may be defective. Check the connection. 3) Replace the brake SMPS inside electronic module. 4) Replace the system board.
E0013	PWM error!!; Sequence line contact defective	Because of PWM off-line's defective contact between AMP and sequence board PWM command signal is not inputted into the drive system	1) Check the drive system CNSG cable. 2) Even after taking the above measures, if the error should occur again, contact our company for inquiries
E0014	Safety switch (EM, OTR, TS, and others) instant contact generated	Safety switch (emergency stop, motor overheating, limit switch, and others) instant contact generated.	1) Check the safety switch. 2)Even after taking the above measures, if the error should occur again, contact our company for inquiries.
E0015	Teaching pendant operation abnormal	Communication disconnection detected between the teaching pendant and the main board.	Simply ignore it.

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Code	Message	Cause	Remedy
E0017	Conveyor pulse line abnormal	Conveyor pulse not inputted.	1) Check the conveyor encoder power. 2) Check the access of the conveyor encoder pulse line. 3) Replace the conveyor I/F board.
E0018	Arc board access abnormal	Problem with the connection to the arc board.	Check the communication and power lines between the arc board and the main board.
E0019	Conveyor pulse allowable frequency exceeded	Conveyor pulse count inputted a larger value than the allowable frequency.	1) Check the allowable frequency set value. 2) Check whether signal noise is being inputted into the pulse line.
E0020	Conveyor I/F board access abnormal	Problem with the connection to the conveyor I/F board.	Check the communication and power lines between the conveyor I/F board and the main board.
E0021	Conveyor pulse allowable speed exceeded	Conveyor allowable speed high	1) Check the conveyor allowable speed set value. 2) Check whether signal noise is being inputted into the pulse line.
E0022	Intermodule communication abnormal	Communication error generated between the main board and system I/O(BS530) module.	Refer to the troubleshooting manual.
E0031	Mode switch fault	Teach Pendant(T/P) mode switch fault or access state abnormal.	Check the access state of the mode switch or of the line.
E0032	User IO board (#%d) communication abnormal	Communication error generated among the main board and user I/O modules.	Refer to the measures for the relevant items of the user I/O modules.
E0033	AMP undervoltage generated	Servo amp P-N voltage lowered.	Check the state of the regenerative discharge and the servo amp input power.
E0034	AMP overcurrent generated	Surge voltage inflow into the servo amp, disconnecting F1 or F2.	Check the connection state of the controller external and internal power.

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Code	Message	Cause	Remedy
E0035	Hardware limit (additional axis)	The limit switch signal, installed at the end of the moving area of the additional axis (including the traverse axis), is inputted.	In the system menu, after Motor Or (pressing the Motor On button after grabbing the Enable switch), move to within the moving area using the jog key. Refer to E0002 of the troubleshooting manual.
E0036	Hardware limit (expansion 16 axes)	The limit switch signal, installed at the end of the moving area of of expansion 16 axes, is inputted.	In the system menu, after Motor Or (pressing the Motor On button after grabbing the Enable switch), move to within the moving area using the jog key. Refer to E0002 of the troubleshooting manual.
E0037	Control power overload (control power) generated	The control power fuse was disconnected by Overcurrent in the AC 220 V power line.	Remove the causes of fuse disconnection, and then replace the fuse.
E0038	Motor power overload (motors power) generated	Overcurrent generated in the RST line for the motor power, tripping CP(Circuit Protector).	Remove the causes of CP trip, and then recover the CP switch.
E0039	SMPS power overload (SMPS power) generated	The fuse generating SMPS power was disconnected by overcurrent in the AC48 V power line.	Remove the causes of fuse disconnection, and then replace the fuse.
E0041	(%s axis) motor temperature increased (hardwiring)	Additional axis motor temperature increased excessively.	Refer to E0008 of the troubleshooting manual.
E0042	General guard switch access error	General safety guard connection is abnormal	Check the access state of the general safety guard or of the line.
E0043	Safety plug access error	Safety guard(auto guard) switch access in auto mode is abnormal	Check the access state of the safety plug switch or of the line.
E0044	Lift axis belt breaking detection sensor operating	Lift axis motor driving belt broken. Or, sensor cable broken inside the robot.	Replace the motor driving belt, or check the sensor cable inside the robot.
E0045	Shift to auto mode remotely requested	Change to auto mode requested remotely while the controller in manual mode.	Change the mode switch to auto mode on the teach pendant.

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Code	Message	Cause	Remedy
E0046	Shift from auto mode to manual performed remotely	Operation mode of the teach pendant changed to manual mode while in the remote auto mode.	Try after changing the remote mode to manual.
E0047	Motion processing time exceeded	It is not enough processing time for robot motion.	If much time is assigned to the embedded PLC, reduce the assigned time by making a request to the engineers of our company.
E0048	Remote mode (system) signal not inputted.	1) Motor On tried in remote mode while the remote mode signal in the BD530 board not inputted. 2) Mode switch manipulated in remote mode while remote mode signal in the BD530 board not inputted.	1) Check the remote mode(system) signal in private input monitoring window. 2) If not inputted, check the remote signal(pin 3,5) of TBRMT terminal block in BD530 board.
E0049	External startup possible after joystick mode deactivated	Possible to external start command of the LCD inspection robot only after the joystick mode released	1) Release the joystick mode. 2) Even after release the joystick mode, if external start command is impossible, check whether the joystick mode signal is normal.
E0050	Light curtain detection signal inputted.	Light curtain detection signal inputted.	Check the access state of the light curtain or of the line.
E0051	Expansion brake board communication abnormal	The communication problem between the expansion brake board and the main board has occurred.	Refer to the troubleshooting for the related item.
E0052	PRM board communication abnormal	The communication problem between the PRM and the main board has occurred.	1) Check after inputting the controller power again. 2) Check the cable for CAN1 of the PRM BD592 board.
E0053	PRM PN overcurrent generated	The PRM PN current has exceeded the error reference value above the PRM regenerative capacity.	Check the error by lowering the robot playback speed.
E0054	PRM 3-phase overcurrent generated	Beyond the PRM regenerative capacity, the PRM 3-phase current has exceeded the error reference value.	Check the error by lowering the robot playback speed.
E0055	PRM IPM fault signal detected	Fault signal has been detected at PRM IPM.	1) Check the PRM fan. 2) Check the error by lowering the robot playback speed.

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Code	Message	Cause	Remedy
E0101	Servo board count insufficient	Total axis number has set above the axis count can be controlled by the servo board.	1) Check the total count of the axes to control 2) Add a servo board.
E0102	Robot type not matched	Unsupported robot type.	Check the set robot type.
E0103	(%s axis) encoder abnormal: Communication processing time exceeded	Encoder data has not been received within the encoder communication processing time.	Refer to the troubleshooting manual
E0104	(%s axis) encoder abnormal: Data frame incomplete	Data received but not in the set type Incomplete data frame has received in encoder communication.	Refer to the troubleshooting manual
E0105	(%s axis) encoder abnormal: Encoder disconnected	Encoder comminication cable has disconnected.	Refer to the troubleshooting manual
E0106	(%s axis) encoder abnormal: Received data defective	Invalid data frame(invalid data format) has received in encoder communication.	Refer to the troubleshooting manual
E0107	(%s axis) encoder abnormal: Invalid bit sequence	Invalid data frame(invalid bit sequence) has received in encoder communication.	Refer to the troubleshooting manual
E0108	(%s axis) encoder abnormal: Encoder reset required	Encoder data is out of valid range.	Refer to the troubleshooting manual
E0112	(%s axis) IPM fault signal detected	Fault signal generated at IPM of the faulty axis.	1) Check the motor-driven parts. 2) Check the robot operation. 3) Check the controller cooling fan. 4) Refer to the troubleshooting manual
E0113	(%s axis) overcurrent generated	Current, above the allowable value, flowing through the motor or the drive system.	Refer to the troubleshooting manual
E0114	(%s axis) drive system control voltage lowered	+15 V, the control power supplied to the servo drive system, lowered.	Refer to the troubleshooting manual

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Code	Message	Cause	Remedy
E0115	(%s axis) received command code abnormal	Wrong command code has received by the servo board from the main board.	Refer to the troubleshooting manual
E0117	(%s axis) position deviation set value exceeded	Position deviation is larger than the setting value.	Refer to the troubleshooting manual
E0118	(%s axis) speed deviation set value exceeded	Speed deviation is larger than the setting value.	Refer to the troubleshooting manual
E0119	(%s axis) overload generated	Motor is being operated above the setting overload level.	Refer to the troubleshooting manual
E0122	Servo on time limit exceeded	Servo On has not executed within the time limit when servo on operated or power saving deactivated.	Refer to the troubleshooting manual
E0123	Servo off time limit exceeded	Servo Off has not executed within the time limit when Servo Off operated or power saving activated.	1) Replace the servo board. 2) Contact our maintenance team.
E0124	Servo error clear time limit exceeded	Motor On is impossible because of pending servo error.	Take measures for the servo errors that are the causes.
E0125	Target position reach time exceeded	Within 10 seconds, the current value could not reach the target position.	Refer to the troubleshooting manual
E0126	Trying manipulating outside the operation area	Case of trying a work outside the robot operation area.	Check whether the robot can reach the work target position.
E0127	MSHP operation abnormal	MSHP is not operable.	Refer to the troubleshooting manual
E0131	(%s axis) bit jump (normal operation) error	While in normal speed operation, the current speed exceeded the high-speed detection level (BJH).	1) Check the servo board CNEC connector. 2) Check CNR4. 3) Check whether the setting of BJH is 1.5 times the max. speed.

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Code	Message	Cause	Remedy
E0132	(%s axis) bit jump (low-speed operation) error	While in low speed operation (Jog, step forward/backward, and the low-speed command signal input set in the input signal assignment), the current speed exceeded the low-speed detection level (BJL).	1) Check the servo board CNEC connector. 2) Check CNR4. 3) Check whether the setting of BJL is 1.5 times the max. speed.
E0133	(%s axis) command value abnormal	The servo board has received invalid position command.	Refer to the troubleshooting manual
E0134	(%s axis) max. speed exceeded	Position command, transmitted to the servo board, exceeded the max. speed.	Refer to the troubleshooting manual
E0135	(%s axis) PWM off when servo on	PWM error! Due to defective contact in PWM off-line between AMP and sequence board, the PWM command could not be transfered to the drive system.	Check the CNSG cable in the drive system. If the error could not be cleared, contact our maintenance team.
E0136	Servo AMP control voltage lowered	Control power +15 V lowered, and abnormality with SMPS for the regenerative control in the drive system.	Refer to the troubleshooting manual
E0137	(%s axis) encoder pulse setting improper	In the servo parameter, the ""PULS"" value for setting the encoder pulse is a value that cannot be used.	Check "PULS" of the servo parameter.
E0138	Prior position recovery time limit exceeded	Prior position recovery time out has occurred.	1) Check the servo loop gain setting value. 2) Check the encoder power voltage. 3) Check the encoder wiring.
E0139	Filter change time limit exceeded	Communication defective between the main board and the servo board.	1) Check the connection state of the main board or of the servo board. 2) Replace the main board or the servo board.
E0140	MSPR operation abnormal	Drive system main power supply relay is not operable.	Check the CNPC cable and the MSPR relay of the drive system.

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Code	Message	Cause	Remedy
E0150	Fault by CPU exception	CPU fault has occurred and the controller has terminated abnormally.	Execute the backup of all files of the controller, and send them to our maintenance team.
E0151	Step command execution impossible	Wrong step information created, making robot operation impossible.	Contact our maintenance team.
E0154	%2d gun) max. tip consumption amount exceeded	The total tip consumption amount detected by gun search exceeded the maximum tip consumption amount in the servo gun parameter. 1)The servo gun does not work properly. 2)The brake is not released.	1) Check the max. tip consumption amount of the servo gun parameter. 2) Replace the tip. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and powei system(motor, amp). 4)Check related parts such as brakes and brake boards.
E0155	%2d gun) max. moving tip consumption amount exceeded	The moving tip consumption amount detected by gun search exceeded the maximum moving tip consumption amount in the servo gun parameter. 1)The servo gun does not work properly. 2)The brake is not released.	1) Check the max. moving tip consumption amount of the servo gun parameter. 2) Replace the tip. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and powei system(motor, amp). 4)Check related parts such as brakes and brake boards.
E0156	%2d gun) max. fixed tip consumption amount exceeded	The fixed tip consumption amount detected by gun search exceeded the maximum moving tip consumption amount in the servo gun parameter. 1)The servo gun does not work properly. 2)The brake is not released.	1) Check the max. fixed tip consumption amount of the servo gun parameter. 2) Replace the tip. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and powei system(motor, amp). 4)Check related parts such as brakes and brake boards.
E0157	(%s axis) torsion deviation excessive	May be generated with a gantry-type robot that supports 2-axis sync. Traverse axis torsion amount larger than the amount set in the 2-axis sync servo parameter.	Adjust the torsion deviation level of the 2-axis sync servo parameter.

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Code	Message	Cause	Remedy
E0158	Torsion recovery time limit exceeded	In the 2-axis sync supportable gantry-type robot, the torsion recovery operation time limit of 5 seconds was exceeded while in the Motor On state.	1) Check whether an interfering object exists on the traverse axis. 2) Check the power voltage and wiring of the encoder. 3) Replace the motor.
E0159	(%s axis) axis speed limit value exceeded	Posture in which the axis rotates rapidly during interpolation operation.	1) Lower the step record speed. 2) Change the relevant step posture.
E0160	(%s axis) collision detected	Disturbance torque has exceeded the collision detection level.	1) Remove the cause of collision when collision is occurred. 2) Adjust the collision detection level.
E0161	(%s axis) shock detected	Disturbance torque variation rate has exceeded the shock detection level.	1) Remove the cause of collision when collision is occurred. 2) Adjust the collision detection level.
E0162	(%s axis) current sensor abnormal	AMP current feedback offset value is too large.	1) Check +/-15 V power of the complex power unit. 2) Replace the servo board. 3) Replace AMP.
E0163	Axis slipped while in power-saving mode	Axis has slipped while in power saving mode.	Replace the system input and output boards.
E0164	Dynamic brake abnormal	Abnormality generated with the AMP dynamic brake. Dynamic brake in AMP is abnormal	1) Check the CNBS cable connected between the servo board and AMP. 2) Replace AMP.
E0165	(%s axis) impossible to maintain servo lock for the %s phase	Impossible to supply current to the motor. It is Impossible to supply current to the motor.	Check the motor wire, AMP, the servo board, and the CNBS cable between AMP and the servo board.
E0170	Stopping time (5 seconds) exceeded	When the stop signal is inputted while operating, the time from deceleration to stopping completely exceeded 5 seconds.	Ensure that the sum of the acceleration time and the deceleration rate ,which is converted in time domain, is below 5 seconds. Refer to the acceleration and deceleration parameter of the operation manual.

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Code	Message	Cause	Remedy
E0171	Gun opening time (5 seconds) exceeded	In the spot welding and gun search function, the time taken from squeeze to opening exceeded 5 seconds.	1) Check whether the gun is stuck to the welding workpiece or interfered with. 2) Check whether the gun of the moving side is stuck or interfered with.
E0172	(%s axis) endless rotation position abnormal	Difference between the backed-up endless axis encoder value and the value read during initialization is above 0x 20000.	1) Calibrate the endless axis encoder offset again. 2) Reset the endless axis encoder and calibrate the encoder.
E0173	Endless rotation amount overflow	Endless step record position exceeded the encoder use range.	Adjust the step position after manually resetting the position of the endless using the R350 code.
E0174	DSP 1 initialization abnormal	No initialization completion response in DSP 1 of the servo board 1.	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E0175	DSP 2 initialization abnormal	No initialization completion response in DSP 2 of the servo board 1.	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E0176	DSP 3 initialization abnormal	No initialization completion response in DSP 1 of the servo board 2	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E0177	DSP 4 initialization abnormal	No initialization completion response in DSP 2 of the servo board 2.	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E0178	DSP 1 version not matched	Impossible to use the robot because of the DSP 1 ROM version of the servo board 1 not matching the main version.	Contact our company for inquiries.

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Code	Message	Cause	Remedy
E0179	DSP 2 version not matched	Impossible to use the robot because of the DSP 2 ROM version of the servo board 1 not matching the main version.	Contact our company for inquiries.
E0180	DSP 3 version not matched	Impossible to use the robot because of the DSP 1 ROM version of the servo board 2 not matching the main version.	Contact our company for inquiries.
E0181	DSP 4 version not matched	Impossible to use the robot because of the DSP 2 ROM version of the servo board 2 not matching the main version.	Contact our company for inquiries.
E0182	DSP 1 communication abnormal	Communication fault between the main CPU and DSP 1 of the servo board 1.	1) Check the mounting state of the servo board. 2) Replace the servo board.
E0183	DSP 2 communication abnormal	Communication fault between the main CPU and DSP 2 of the servo board 1.	1) Check the mounting state of the servo board. 2) Replace the servo board.
E0184	DSP 3 communication abnormal	Communication fault between the main CPU and DSP 1 of the servo board 2.	1) Check the mounting state of the servo board. 2) Replace the servo board.
E0185	DSP 4 communication abnormal	Communication fault between the main CPU and DSP 2 of the servo board 2.	1) Check the mounting state of the servo board. 2) Replace the servo board.
E0186	DSP 1 detected the main watchdog	DSP 1 of the servo board 1 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E0187	DSP 2 detected the main watchdog	DSP 2 of the servo board 1 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E0188	DSP 3 detected the main watchdog	DSP 1 of the servo board 2 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.

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Code	Message	Cause	Remedy
E0189	DSP 4 detected the main watchdog	DSP 2 of the servo board 2 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E0190	(%s axis) undefined servo error occurred in initialization	Unknown error code received from the servo board during the reception of the encoder initial absolute position data.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E0191	(%s axis) undefined servo error occurred	Unknown error code received from the servo board during operation.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E0192	Additional axis drive system number designation error	Additional axis drive system number designation duplicated.	In the additional axis parameter setting, check whether the BD, DSP, and AXIS numbers are designated in duplication.
E0193	(%s axis) encoder type that does not support the endless	The number of pulse of endless axis encoder is set incorrectly.	In the menu of Servo Parameter/Motor, Encoder type, check whether the PLUS value is 1024, 2048, 4096, and 8192.
E0194	Allowable tool load value exceeded	Tool load exceeded the range of allowable load for the robot.	1) Check the weight, moment, and inertia capacity in the tool data. 2) Depending on the check result, replace the tool with another one that has lower tool weight, inertia values and closer center of mass. If impossible to replace the tool, consider the replacement of the robot.
E0195	Sync axis not designated using the same DSP	To execute the sync control, both sync axes should be configured in a way in which they can be controlled by one DSP.	Change the system configuration to allow 1 DSP to control 2 sync axes. When adding a sync axis to a robot with 5 or less axes, it is possible to configure a structure in which sync control can be executed through 1 DSP. However, when adding a sync axis to a robot with 6 or more axes, it is impossible to assign 1 DSP to 2 sync axes, meaning that another servo board should be used.

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Code	Message	Cause	Remedy
E0196	System board servo brake error	Servo not clearing the servo brake signal while in the Motor On state.	Check whether Motor On cannot be executed because there is an error generated with initialization or the encoder. Considering that signals are inputted through the BD542 board, AMP, and the BD530 board, check the boards and the relay cables.
E0197	Expansion system board servo brake error	Servo not clearing the servo brake signal while in the Motor On state.	Check whether Motor On cannot be executed because there is an error generated with initialization or the encoder. Considering that signals are inputted through the BD542 board, AMP, and the expansion system boards BD53E and BD530, check the boards and the relay cables.
E0198	(%s axis) Motor command exceeded allowable position deviation value	Difference between the motor command and the current position generated above the position deviation level.	Check whether there is any excessive physical interference with the robot manipulator.
E0199	ENDLESS RESET is impossible (robot locked)	Endless command executed while in the robot lock state.	Deactivate the robot lock state, and execute the command.
E0200	(%s axis) max. speed exceeded during the cooperative operation	Command exceeding the max. speed of the robot is inputted during tracking for cooperative operation	At the reference position of the slave in cooperative operation, change the robot posture or the cooperation record position, or lower the record speed for playing back.
E0201	Cooperative operation initiation error	Error with the transmission and reception of sync signals between cooperative robots. Played back in mutually different modes.	Check the communication state. Set the cooperative robots into the same mode first, and then operate them.
E0203	Cooperative counterpart robot abnormal-Emergency stop	Counterpart robot Motor Off during cooperative operation. Motor Off and stops.	Take measures for the causes related to the counterpart robots first and the turn the Motor On anc start up again.

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Code	Message	Cause	Remedy
E0204	Robot 0 cooperative control communication disconnected	Communication off with the robot during cooperative jog and playback.	Check whether the connection between the communication line and the communication card is smooth. May find abnormality through diagnosis of HiNet.
E0205	System HiNet communication abnormal	Cooperative control HiNet communication not operating.	Check whether the connection between the communication line and the communication card is smooth. May find abnormality through diagnosis of HiNet.
E0210	%s)axis servo tool access initialization failed	Failed in the initialization process for accessing the servo tool.	Check whether the DSP version is 4.13 or higher. Check whether the ATC access is defective or the encoder power is not inputted.
E0211	%s) axis servo tool servo on time limit exceeded	Servo of the servo tool not on within the time limit.	
E0212	%s) axis servo tool filter clear time exceeded	Failed to clear the filter while trying servo tool access.	Communication defective between the main board and the servo board. Check the connection first, and, if nothing abnormal, replace the board for use.
E0213	%s) axis servo tool servo off time limit exceeded	Servo Off not executed within the time limit during the servo tool separation process.	Check the ATC connection. Replace the servo board.
E0214	%s) axis servo tool encoder power connection failed	Encoder power connection processing failed during the servo tool axis connection processing.	Check for abnormality with the servo tool axis encoder power control system, and replace the relevant part.
E0215	%s) axis servo tool encoder power separation failed	Encoder power separation trial failed while processing servo tool axis separation.	Check for abnormality with the servo tool axis encoder power control system, and replace the relevant part.
E0216	%s) axis servo tool encoder data abnormal	Encoder reception result abnormal during the servo tool axis connection processing.	Check whether the battery of the connected encoder is discharged, and reset the encoder before retrying. After resetting the encoder, calibrate the offset.

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Code	Message	Cause	Remedy
E0217	Traverse sync axis acceleration/decelerati on parameters error	While sync control of 2 traverse axes will be possible only when the max. speed, acceleration time, and deceleration rate are identical, the above parameter has different values.	Check the acceleration and deceleration parameters of the robot parameter, and set the same acceleration and deceleration parameters in the traverse sync axes.
E0218	%2d axis) overload detected	Overloading generated with the axis. Large volume of current, more than the rated current (Ir) set in the servo parameter, continued sufficiently enough to cause damage to the motor.	In case of the servo gun axis, check whether there is abnormality with the overload detection level setting and also whether there is any mechanical problem with the servo gun. Do not allow squeezing to take place continuously above the rated current.
E0219	SMOV impossible for the unselected station	If not selected using the SELSTN command, which is designed for the positioner independent operation, a station cannot execute the positioner sync command (SMOV).	Select a correct station that is to be used in the SELSTN command. Set in a way in which the station number of the SMOV command is identical to the number set in SELSTN.
E0220	%2d axis) encoder noise inflow	Current robot position not the same as the position read again in the encoder. Noise inflow into the encoder.	Check the related to encoder voltage, the connection of cables, and the field grounding(FG) status of the robot.
E0221	%2d axis) absolute value encoder data reception failed	Tried but failed to receive the absolute encoder data from the encoder to check the state of noise inflow into the encoder.	Check the related to encoder voltage, the connection of cables, and the field grounding(FG) status of the robot.
E0222	Same cube simultaneous entry detected	Current position, which the robot TCP entered, is the cube area where other robot is working. Robots entering the same cube simultaneously are in deadlock, making it impossible to play back.	In manual mode, move the robot outside the cube area using the jog. To avoid deadlock during playback, correct the program.
E0223	(%s axis) encoder disconnected or communication failed	Error generated while receiving position data from the serial encoder.	Check the related to encoder voltage, the connection of cables, and the field grounding(FG) status of the robot.
E0224	(%s axis) encoder state abnormality generated	Error state, such as errors related to overflow, overspeed, internal condenser voltage, and LED, received from the encoder.	If errors continue to be generated even when resetting in the encoder reset function, replace the encoder (motor).

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Code	Message	Cause	Remedy
E0225	(%s axis) soft limit encoder use range exceeded	Soft limit, currently set, exceeded the range usable by the encoder.	When a machine parameter file is newly loaded into the controller, execute initialization in the order of resetting the relevant axis encoder, calibrating the encoder offset, setting the axis origin, and setting the soft limit. Otherwise, check the limit and carry out setting for a proper position.
E0226	(%s axis) encoder allowable use range exceeded	Impossible to move to a commanded position that exceeds the encoder use range	In manual mode, convert to the axis coordinate system, and then, in the system setting mode, manipulate the jog in the direction of the encoder origin. If the encoder allowable range is abnormal, reset the encoder, and then initialize the relevant axis again.
E0227	Cooperative control sync sequence error	Robot command sequence difference generated between the master robot and the slave robot.	Check the state of the cooperative control network. Check whether the slave is executing the power saving function. Set the slave robot power saving function as disabled.
E0228	Step target outside the operating range	Target position of the current or next step outside the robot operation area.	Check the problematic step through the step go. Check all shift registers. Change the step target position.
E0229	(%s axis) encoder overheating detected	Encoder internal temperature increased to the limit value.	Check the motor temperature, and adjust the robot operation speed.
E0230	%2d axis) encoder disconnected / communication failed during servo tool access	In the servo tool to access, the error state, such as errors related to overflow, overspeed, internal condenser voltage, and LED, is received from the encoder.	Access the encoder power by force using the R359 function of the servo gun, and then execute the encoder reset function. If the error not cleared, replace the motor of the servo gun.
E0231	%2d axis) encoder disconnected / communication failed during servo tool access	In the servo tool to access, an error is generated while receiving position data from the serial encoder.	Check the related to encoder voltage, the connection of cables, and the field grounding(FG) status of the robot.

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Code	Message	Cause	Remedy
E0232	%2d axis) encoder battery replacement and reset required	Encoder battery separated or voltage too low, causing the encoder alarm.	Check the state related to encoder battery voltage and the connection of cables, and then replace the battery before resetting the encoder.
E0233	Step target position analyzed as the collision position	Taught or calculated step target position judged to be a position of collision.	Change the step position. In case o generating a step through calculation, it is necessary to program in a way to avoid collision.
E0234	(%s axis) average speed limit value exceeded	Operating while exceeding the average speed limit.	Lifetime of the robot may be significantly reduced if the robot is operated exceeding the average speed set for each robot axis. Use the robot by lowering the operatior speed.
E0235	Restarting failed. Take precautions about trajectory when restarting!	After stopping, start up after performing other operations such as step backward.	Take precautions because the recalculated trajectory may be different from the previous one. To maintain the same path as the previous one, execute the program again from the initial step.
E0236	Motion plan failed	Motion plan failed, processing the robot as in the stopped state.	Contact our R & D center. Adjust the speed or the step position as a temporary method.
E0237	Detection of interference with the robot 0) arm area	Arm interference detection function is operating. Interference with the robot 0) detected through HiNet.	Change the arm interference detection function to the disabled mode to avoid the robot, and then change the arm interference detection function back to the enabled mode.
E0238	Sensor speed tracking impossible	Sensor speed too fast to track during the sensor (press) sync operation.	Adjust the sensor speed.
E0239	A sensor's recorded position of Step data do not increasing sequentially.	When applying sensor sync, a sensor's position data in the step data should be recorded increasing as the step data increases.	Check recorded sensor's position in the Step-data through the Quick-Open function, and please modify the recorded sensor's position.

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Code	Message	Cause	Remedy
E0241	CmdManagerISR in main cpu board software exceeded the allowable time.	Error to be generated when CmdManagerISR not finished within the allowable time.	Carry out backup of all files of the controller, and send them to our company.
E0242	MainISR in main cpu board software exceeded the allowable time.	Error to be generated when MainISR not finished within the allowable time.	1) Check whether the PLC executior time value set in the control environment setting is too large. The default value is 2ms/20ms. 2) Carry out backup of all files of the controller, and send them to our company.
E0243	CPU Exception detected on the main cpu board.	A CPU Exception is a type of main cpu hardware/software error that occurs when a robot contoroller's central processing unit detects a hardware/software problem.	Carry out backup of all files, and send them to our company.
E0244	Counterpart robots in the arm-interference prevention funtion are not prepared.	Problem with the arm-interference prevention condition or the cooperative control state of the counterpart robot.	Check the arm-interference prevention condition and cooperative control state of the counterpart robot.
E0245	The step setting for using spline interpolation is not proper.	Distance in recorded position data is too short between the current-step and the previous step.	Make the distance between the relevant step and the previous step longer.
E0246	The step setting for using spline interpolation is not proper.	The position data between Current-step and Pre/Post-step is almost opposite.	Adjust in a way to ensure that directions before and after the relevant step are not opposite.
E0247	Path recovery impossible.	Distance outside the path deviation point exceeded the set path recovery allowable distance. System -> Control parameter -> Control environment setting -> Auto mode path recovery allowable distance	Shift to manual mode, and recover the path; then, enter the set path recovery allowable distance before starting up again.
E0248	Robot operation expected on a different path from the previous path.	Causes by including unexpected step data correction or errors of software.	Must manually check the path when starting up. When an error with software is suspected, carry out backup of the files of the controller, and then contact our company.

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Code	Message	Cause	Remedy
E0249	(%s axis)Torque, larger than the setting value, applied to the relevant axis reducer	Possibility of shock to mechanism, vibration, or abnormality with encoder data	If not in the case of the causes described above, lower the speed of the relevant step. If other causes are suspected, contact the A/S department of our company.
E0251	0) axis AXISCTRL CUR allowable distance exceeded	After the AXISCTRL CUR function is executed, the movement distance from the reference position exceeded the allowable value.	End the AXISCTRL CUR function.
E0252	Roller hemming force error exceeded the allowable tolerance.	Roller hemming speed is too fast to control the roller hemming force in real time.	Lower the roller hemming speed, or increase the TOL_E value.
E0253	Roller hemming force has been exceeded 2.5 kN.	Roller hemming speed is too fast to control the roller hemming force in real time.	Lower the roller hemming speed, or check whether there is any problem with the recored step data.
E0254	Collision detected.	The robot controller detected collision in external force between robot and peripheral systems. The robot controller also can detected collision by highly sensitivity setting value in the robot external force.	If the error is generated frequently even when it is not the case of external collision, disable the collision detection function temporarily first, and contact the A/S department of our company.
E0255	Safespace violated	Deviated from the robot safety area.	Move the robot to the safety setting area.
E0256	Output torque limit exceeded	Torque saturation has been occurred during the error detection time.	Check the 3-phase input voltage. (based on 220 V, tolerance range 10%) Initialize the servo parameter of the robot parameter.
E0257	Acceleration/decelerati on torque insufficient	Cause 1: Tool dynamics abnormal, Cause 2: Torque application factor inputted at very low level	If the causes 1 and 2 are normal, contact the A/S department of our company for inquiries.
E0258	Network (EN2, User Ethernet port) setting error	EN2 network (IP address, subnet mask, and gateway) set wrongly	Reset the EN2 network by referring to the function manual.
E0259	Force sensor communication failed	Cable disconnected or Net-box power cut off.	Check the cable between the sensor and the controller, and the Net-box power connection.

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Code	Message	Cause	Remedy
E0260	Force control function use disabled	Force control function use set as disabled.	In [Force control]-[Use environment setting], set the function use as enabled.
E0261	Undefined motion error	Robot stopped because of an undefined motion error.	Contact the A/S department of our company for inquiries.
E0262	0) axis bit constant abnormal	The additional axis number setting is wrong.	Reset the axis number in the additional axis parameter setting.
E0263	0) main version lower	The software version in the main CPU board is lower. Then it's impossible to use the robot.	Contact our company for inquiries. Please upgrade the software version in the main CPU board.
E0264	(%s axis) filter change value not matched	Filter change result different from the requested filter value.	Contact our company for inquiries.
E0265	(%s axis)Undesirable motion detected	Abnormal movement in the relevant axis is detected.	Contact our company for inquiries.
E0266	Dual motor axes are not assigned using the same DSP unit	To execute the dual motor control, both related axes should be configured in a way in which they can be controlled by one DSP unit.	Change the system configuration sc that one DSP can control two motor axes.
E0267	Too many motors are assigned to the same joint.	More than two motors assigned to the same joint.	Contact our company for inquiries.
E0268	(%sAxis) A high-speed collision occurred.	A rapid external force was applied to the axis.	Check the cause of the impact.
E0269	(%sAxis) A low-speed collision occurred.	A slow external force was applied to the axis.	Check the cause of the impact.
E0270	(%s axis) Current limit exceeded.	Force has been applied to the axis, causing the limit motor load ratio to be exceeded.	Check the cause of the impact.

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1.2. Operation error

Code	Message	Cause	Remedy
E1001	Selected Job program not existent	Relevant program not existent in the controller.	Check the program number, and then make a selection.
E1002	Selected step not existent	Step number, larger than the total step count of the current program, selected.	Check the step number, and then make a selection.
E1003	Total Job file counter exceeded over 703	The max. count of Job files in a controller limited to 703.	Delete unnecessary files, and then prepare.
E1004	Job Program and machine parameters different in axis count	Value in the selected job program is different from the robot axis count registered in the machine parameter.	It seems that a program of another type of robot or of a robot with a different additional axis count is selected. Please check.
E1005	Job Program and machine parameters different in manipulator	Value in the selected job program is different from the robot type registered in the machine parameter.	It seems that a program of another type of robot is selected. Please check.
E1006	File storage area capacity insufficient	File memory capacity insufficient.	Delete unnecessary files, and then prepare.
E1007	Brake slipped: Exceeded over 50 mm	Brake slip exceeded over 50 mm during stud welding squeeze.	1) Check the squeeze. 2) Check all axis motors for slip, and replace those with a significant slip compared with others.
E1008	Brake slip counter exceeded	The count of brake slip due to stud welding squeeze exceeded the set count of deviation detection frequency.	1) Check the squeeze. 2) Check all axis motors for slip, and replace those with a significant slip compared with others.
E1009	File on robot controller is not access simultaneously.	Impossible to execute controller external side -> internal copying and internal -> external copying for the same file. (RS-232C, Ethernet, and USB)	Wait for a moment, and retry when other user complete copying.

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Code	Message	Cause	Remedy
E1010	Taught step count insufficient	Insufficient step count in the record program for conveyor angle auto setting or user coordinate system setting.	1) Conveyor angle auto setting: 2 steps (linear), 3 steps (circular) needed 2) User coordinate system setting: 3 steps needed
E1011	Recorded Step position too close	Individual step positions of the program recorded for conveyor angel auto setting are too close, making it impossible to acquire the conveyor angle.	In case of a linear conveyor, please record 2 points while keeping an interval of 1 m.
E1012	Recorded points existent on a linear line	3 steps in the program prepared for setting the user coordinate system are on a linear line, making it impossible to acquire the coordinate system data.	By referring to the operation manual, make sure that 3 points are located on the same plane surface area but not on the same linear line.
E1013	Selected function not existent	Function of the relevant number is not existent.	Check the step function number.
E1014	File handle assignment failed	More than 4 copy operations tried through multiple paths. (RS-232C, Ethernet, USB memory)	Wait for a moment, and retry when other people finish copying.
E1015	Impossible to edit protected programs	Impossible to edit a protected program by unit of step.	Deactivate protection of the relevant file, and then execute.
E1016	Functions impossible to correct individually	Tried selecting and correcting functions, while they had no parameter to be corrected, in the individual function correction function.	Check the function to correct.
E1017	No data existent in the selected program	Tried deleting or correcting unexistent programs.	Check the selected program is exist
E1018	The step data does not exist	The step number selected does not exist.	Check the step number.
E1021	Unassigned welding condition signal existent	Count of the welding condition signals to be outputted larger than the assigned value.	Check the assigned welding condition signal in the setting of System / Control parameter / Input and output signal.
E1023	Checksum abnormal in the selected step	Checksum of the taught step wrong.	Delete the selected step, and add one again.

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Code	Message	Cause	Remedy
E1024	Palletize program changed	Impossible to change and start up again a program in the middle of palletizing.	Initialize the palletize counter, and then reset the counter value for use.
E1025	The Axis count in POSE/SHIFT variable(or constant) is different in machine parameter(Robot.MCH)	Axis count of the POSE/SHIFT variable(or constant) does not match the axis count of the ROBOT.MCH file set while initializing the system.	Set the Axis count of the POSE/SHIFT variable(or constant) file to match the system setting.
E1026	Auto calibration requires 4 steps or more	Step count recorded in the auto calibration program should be 4 or higher.	When preparing a program for autc calibration, record more than 6 steps, if possible, and program in a way in which various postures can be acquired.
E1027	Program damaged	Auto calibration setting program damaged because of the backup memory damage.	With the help of the A/S staff of our company, initialize the memory.
E1028	Auto calibration tool number different	Auto calibration targeted tool different from the tool number recorded in the setting program.	Match the tool number.
E1029	Robot that does not support auto calibration	Auto calibration function will be supported only for 6-axis multijoint robots.	1) Check again Service / System diagnosis / System version / Robot type. 2) TCP and the origin of axis shoulc be input by users only.
E1030	Additional axis operated	Should not move the additional axis when recording an auto calibration program for a robot with additional axes.	The porgoram for auto calibration requries only robot axes be moved. Modify the program not to move the additional axis.
E1031	Teaching posture poor	Impossible to execute auto calibration because the postures recorded in the auto calibration program are similar to each other.	If possible, record mutually different postures, and carry out teaching in a way in which the wrist axis can vary significantly at individual steps.

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Code	Message	Cause	Remedy
E1032	Axis origin calibration value too large	Could be dangerous when operating the robot because the axis origin calibration value acquired from the result of executing auto calibration is too large.	1) Check whether the robot type is selected correctly. 2) Move the root to the reference pin position, and then set the axis origin. After that, reexecute the autocalibration function. 3) Prepare a program for auto calibration in a way in which the interstep position error can be minimized.
E1033	Auto calibration error	Wrong calculation for auto calibration.	Contact our company for inquiries.
E1034	Collision sensor operating	Collision sensor input generated.	1) Check whether the tool form is abnormal. 2) If there are no more causes of errors, reoperate the robot. 3) If collision does not occur, check the signal algorithm in the setting of System / User environment / Collision sensor.
E1035	Number of entered workpieces exceeded the allowable count	In the setting menu of System / Application parameter / Conveyor / Conveyor parameter, if "Allow" in the menu of Multiple Workpiece Entry = <Allow, Error, Ignore> is selected, the robot will allow multiple workpieces to enter during conveyor sync operation. In this case, the total count of entered workpieces is larger than 10.	Stop the system, and clear the process; then, restart the line.
E1036	Welding completion wait time(WI) exceeded	In conducting servo-gun welding, no welding completion (WI) signal was input for the WI input standby time of the system, application parameter, spot and stud, servo-gun welding data (condition, sequence), and welding sequence menu.	Check the wire connection diagram of welding execution signal / welding condition signal / welding completion signal, and the peripheral facilities. When an error is generated, refer to the method, regarding how to process in case of no input of WI signal, described in the menu of System / Application parameter / Spot & Stud / Servo gun welding data (condition, sequence) / Common data, to decide whether to wait until the welding completion (WI) signal is inputted.

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Code	Message	Cause	Remedy
E1038	Impossible robot posture to compensate tip consumption amount	The root posture you recorded can not reach the posture after compensate the tip consumption amount.	Avoid the robot posture near B-Axis dead zone and limit of the robot work space.
E1039	Sync axis torsion deviation exceeded the allowable value	When operating the robot with a traverse axis capable of 2-axis sync, the torsion of the mechanical positions of the two axes exceeded the allowable value set in the 2-axis sync servo parameter.	1) Set the same servo gain for the servo gain. 2) Increase the Kp gain of the delayed axis.
E1040	Robot that does not support interpolation ON	Impossible to use interpolation on (linear line, circular curve) for a robot capable of 2-axis sync.	Correct the step by making interpolation off, and then start up the robot.
E1041	The positioner group axis count exceeded	The axis count, designated with the positioner group, exceeded 2.	Set a value of 2 or lower for the relevant group in the setting of the System/Initialize/Positioner group.
E1042	Reference point recorded in the program	Impossible to record a reference point (REFP) in the positioner calibration program.	Record the reference point (REFP), of the steps of the calibration program, as the step.
E1043	Impossible to calibrate: Required to correct the position	Floating-point operation error generated while operating for calibration.	Correct the step record position of the calibration program. In order to perform accurate calibration, carry out teaching in a way in which the angle between points can be 30 degrees or wider.
E1044	Trying Motor On without calibrating the encoder offset	After selecting in the menu of System/Initialize/Robot type, it will be impossible to try Motor On without calibrating the encoder offset.	After selecting in the setting of System / Initialize / Robot type, the user must execute the motor in operation after calibrating the encoder offset.
E1045	Any value has not been input in a condition/palletize counter.	When setting the count or palletize counter using the external input, there is no input of counter value, which is to be set 800ms earlier after selecting the register.	After selecting of the registers, Please be input the value before 800msec.
E1046	Auto mode selection signal input while servo gun opening by an external signal	Auto operation signal inputted during the servo gun manual operation through external signals.	Execute the operation after the servo gun manual operation is completed.

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Code	Message	Cause	Remedy
E1047	FIFO register exceeded 20	Reservation of more than 20 programs is being tried while the (1) applicable count is set at <20> in the system/control parameter/program reserved execution menu.	Check the number of reserved programs in the system/control parameter/program reserved execution menu.
E1048	Welding access number selection signal abnormal	Value that is to be inputted as the gun access number during the welding gun manual/auto access through external signals, is selected wrongly.	Check the value inputted as the gun access number.
E1049	(%s axis) impossible to execute while the servo tool is accessed	Tried while the servo tool already attached to the system.	Check the state of attachment of the servo tool.
E1050	(%s axis) impossible to execute while the (%s axis) servo tool is separated	Tried while the servo tool already separated from the system.	Check the state of attachment of the servo tool.
E1051	Spot gun change environment improper	While the spot gun change count is 0, the GUNGHNG command or the manual gun access or separation is executed.	Set the spot gun change count when the user wants to use the spot gun change function.
E1052	Gun change manual execution time exceeded	The relevant command is not completed within 5 seconds when executing the welding access or separation command manually.	Contact our company for inquiries.
E1056	(%s axis) servo tool change environment improper	Case of executing the relevant command while not in the servo tool change environment.	Reset the controller into the servo tool change environment.
E1057	Same additional axis designated in duplication	Additional axis which the parameters, recorded in the relevant command, will refer to is designated in duplication.	Check the relevant command statement.
E1101	(%s axis) soft limit exceeded	Each robot axis encoder data reached the set soft limit during teaching or auto operation.	Move the robot within the set range.
E1102	Trying Motor On while inputting through the axis operating key	The Motor On operation while pressing the axis operation key.	Do not press the axis manipulation key when executing Motor On.

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Code	Message	Cause	Remedy
E1105	Trying jumping to an inexistent step	The step number to be executed is larger than the currently selected program's final step number.	Check the final step number of the current program.
E1106	Trying jumping to an inexistent function	The function number to be executed is larger than the currently selected program's final function number.	Check the final function number of the current program.
E1107	Retract step number improper	Step to retract not existent in the timer conditional shift function.	Check the final step number of the current program.
E1108	Retract condition generated	The condition is irrational in executing the conditional function.	Check the state of various received data of the program.
E1109	Improper robot posture for interpolation ON	An interpolation operation was executed in a posture in which the robot cannot process interpolation.	Operate after changing the posture through axis independent operation.
E1110	Tried to move outside the operation area	Movement to a unreachable position by the robot tool end was tried.	Rereview whether the workpiece and the robot position are proper.
E1111	Arm-formed angle too wide	H- and V-axes reached an interfering state.	Move the robot in an interference-free direction.
E1112	Arm-formed angle too narrow	H- and V-axes reached an interfering state.	Move the robot in an interference-free direction.
E1113	No step existent to jump	The target step of the step jump function is not existent while in playback operation.	Check the parameter of the current program.
E1114	Inexistent step called	The target step of the step call function is not existent while in playback operation.	Check the parameter of the current program.
E1115	Impossible to call a step more than 9 times without return	Step call was executed more than 9 times without return.	Do not call a step more than 9 times without return.
E1116	Impossible to return without calling a step	The step return function is existent while the step call function not.	Must use step return together with step call.

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Code	Message	Cause	Remedy
E1117	Return program and current program different	A program to execute step return does not match the number of the program currently being executed.	Check whether there is an occurrence of a step call before step return of the current program.
E1118	No step existent to return	The target step of the step return function is not existent while in playback operation.	Check the parameter of the current program.
E1119	No program existent to jump	The target program of the program jump function is not existent while in playback operation.	Check the existence/inexistence of the program, and check the parameter of the current program
E1120	Axis count different in the program to jump	A target program axis count of the program jump function is different from the robot axis count while in auto operation.	Check the program to jump.
E1121	No program existent to call	The target program of the program call function is not existent while in auto operation.	Check the existence/inexistence of the program, and check the parameter of the coded program
E1122	Axis count different in the program to call	A target program axis count of the program call function is different from the robot axis count while in playback operation.	Check the program to call.
E1123	Impossible to call a program more than 9 times without return	Program calling was executed more than 9 times without return.	Do not call a step more than 9 times without return.
E1124	No program existent to return	Target program of the program return function is not existent while in playback operation.	Check the existence/inexistence of the program, and check the parameter of the current program
E1125	The number of axes is different from the program to return	Target program axis count of the program return function is different from the robot axis count while in playback operation.	Check the existence/inexistence of the program, and check the parameter of the current program
E1126	Circular interpolation position improper	The recorded steps are too close or on a linear line, making it impossible to make a circular curve.	Correct the step position to make a circular curve.
E1127	Undefined playback error.		

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Code	Message	Cause	Remedy
E1128	Unexecutable output (DO) signal	Case of designating a DO signal that cannot be outputted while in playback operation.	Check the number for the output signal.
E1129	Undefined speed unit	Operation was executed using other units of speed than [%] and mm/sec.	Check the condition of the current step.
E1130	END command not existent	Case of operating a program that does not include the END command.	Add the END command to the program.
E1133	Unexecutable function	Case of designating a function that cannot be executed while playback operation.	Check the parameter of the current program.
E1135	END relay output abnormal	The END relay time gets longer than 15 seconds. This error would not be generated normally because the set time is within 10 seconds.	Abnormality is generated with the parameter. Check the control parameter file.
E1136	Playback operating protection activated program	1) Playback operation impossible from the step 0. 2) Make sure that step forward/backward will not take place.	Execute after deactivating the playback operating protection of the relevant program.
E1139	GI signal number improper	The timer conditional GI signal number is wrong while in playback operation.	Check and change the parameter of the current program.
E1140	Port number improper	A port to be designated in the sift data request function was designated as the one for T/P.	Designate universal port in the port designation section of the shift data request function.
E1141	Serial port #1 usage improper	The usage of the serial port (RS232C) is different.	Check the usage of the serial port in the menu of System / Control parameter / Serial port.
E1142	Shift data request duplicated	While the shift data request function is already being executed, the shift data request function is reexecuted before the previously requested shift data comes in from outside first.	1) Check whether the shift data function of the current program is duplicated. 2) Check the state of the connection with external sensors.

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Code	Message	Cause	Remedy
E1143	Recommended to add the function jump end function	Will be generated when executing the function jump function without the end function while in playback operation.	Check and change the parameter of the current program.
E1144	Recommended to add the function jump function	Will be generated when executing the end function without the function jump function while in playback operation.	Check and change the parameter of the current program.
E1145	Function jump range exceeded	Will be generated when exceeding the jump range calculated in the function jump.	Check the function jump parameter
E1146	The register number of Palletize functions is over 4.	More than 5 of the register number in palletize functions are existent in the program to be executed.	Please use lower value of the register count in the palletize function.
E1147	Palletize start and end not matched	Palletize end is existent while palletize start not.	Check the content of the current program.
E1148	Palletize function already in execution	A palletize start command is given in the middle of the palletize function being executed.	Check the content of the current program.
E1149	Recommended to hold palletizing and to start up	Selected other program and started up from the step 0 in the middle of the palletize function being executed.	Reset, and start up the palletize function.
E1150	Impossible to use during the palletize operation	The P reset command was executed in the middle of the palletize function being executed.	Execute after ending palletize.
E1151	No function existent to jump	The function jump function does not include a function number to jump.	Check the parameter of the made program.
E1152	Search function use improper	The search on and off operations are not matched.	Check the parameter of the made program.
E1153	Required to set the reference position data record mode	The search function was executed without setting the search reference position in the search function.	Turn on the ""Robot search ref. pose record"" in application condition [App. cnd], and excute after record the reference position by operating with 1Cycle.

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Code	Message	Cause	Remedy
E1154	Possibly only in 1Cycle mode of playback operation	While the search reference position data can be recorded only in 1 cycle operation in auto mode, this will be generated when this rule is violated.	Execute after setting 1 cycle for the auto mode in the condition setting.
E1155	Search range exceeded	Robot interrupt was not generated even when exceeding the search range.	Check the search target, or the search range setting in the application condition.
E1156	3 points for coordinate conversion on the same linear line	In the coordinate conversion function, the 3 points are taught on the same linear line, making it impossible to execute conversion calculation.	Check the teaching point.
E1157	Impossible to input the data in the shift register	Function executed while no data inputted through the RS232C port for online XYZ shift and online coordinate conversion.	Change the program to ensure that data can be inputted through the RS232C port before executing online XYZ shift and online coordinate conversion.
E1158	Setting step for the coordinate conversion not existent	The reference step number in the coordinate conversion function parameter is for an inexistent step.	Check the coordinate conversion function parameter in the current program.
E1159	Impossible to take the coordinate converted posture	Coordinate conversion result exceeded the robot operation range.	Correct the recorded step position.
E1161	Posture that makes the interpolation processing impossible	Robot operated in a posture in which an interpolation operation cannot be processed.	Carry out teaching after changing the robot posture.
E1162	3 points for coordinate conversion too close	3 points taught in the coordinate conversion function too close, making it impossible to carry out conversion calculation.	Check the teaching point.
E1163	Shift calculation result deviated from the operation area	Shift position deviated from the robot operation area.	Check the shift amount, and inspect the work process to ensure the work can be executed within the operation area.
E1164	XYZ shift reference coordinate setting inaccurate	Reference coordinate system setting in the XYZ shift function is inaccurate.	Check the XYZ shift function parameter in the current program.

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Code	Message	Cause	Remedy
E1165	Search reference coordinate setting inaccurate	Reference coordinate system setting in the search function is inaccurate.	Check the search function parameter in the current program.
E1166	Palletize reference coordinate setting inaccurate	Reference coordinate system setting in the palletize function is inaccurate.	Check the palletize function parameter in the current program.
E1167	Search target position deviated from the operation area	Search range deviated from the robot operation area.	Lower the search range value in the condition setting
E1168	Search function is only available in linear interpolation.	A searching step is not a linear interpolation.	Change the interpolation type of the searching step to linear one.
E1169	Step content error while in playback	Error with the step data that are read to execute the program.	Delete the error step and record it again.
E1171	Coordinate transformation result deviated from the workspace	When executing the on/off-line coordinate transformation function, the transformation result exceeded the robot workspace.	Retry by changing the robot pose or the robot installation position or the workpiece position.
E1189	WCR not detected when welding starts	Arc was not ignited in welding start. (Retry count exceeded)	Check the welding power source.
E1190	Unsupported command	Command, not proper for the current setting, used	Change the command or the setting.
E1192	Arc sensing error (current range exceeded).	The detected welding current exceeded the range. In other words, the abnormal detecting margin is exceeded during the abnormal detecting time.	1) Check the welding current detection circuit. 2) If it is the case of the end point, set the processing method for abnormal current as the end point. 3) If not the case of an end point, adjust the current abnormal detecting margin and time.
E1193	Arc sensing error (current detection value too unstable)	The count of curve fitting error weaving from the detected welding current was exceeded the curve fitting failure permitted cycle in arc sensing with curve fitting algorithm.	1) Check the welding current detection circuit. 2) Set the bead detecting curve value in the direction of - at a slightly lower level. 3) When using the bead detection function, set bead detection to 'Welding stop'.

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Code	Message	Cause	Remedy
E1194	Arc sensing error (Sensing range exceeded)	This error will be occurred when the calculated side tracking distance cannot be catched up for a certain cycle.	Adjust the voltage coefficient or the tracking distance per sampling/cycle.
E1195	Arc sensing error (upper and lower sensing ranges exceeded)	This error will be occurred when the calculated height tracking distance cannot be catched up for a certain cycle.	Adjust the voltage coefficient or the tracking distance per sampling/cycle.
E1196	Shift limit exceeded	Shift amount exceeded the set shift limit value.	Reduce the shift amount, or adjust the shift limit value again.
E1197	Invalid step use for circular-Interpolation	There should be more than 2 steps at least to operate the circular interpolation.	Add a step.
E1198	No approach step for calculating the weaving coordinate	Weaving tried without an approach step or REFP 2.	Input an approach step or REFP 2.
E1199	Impossible to read the step currently set	Failed to calculate, in the retry or restart function, the pose for robot movement.	Add one step after the arc end step.
E1200	Impossible to read the immediate previous step	Failed to calculate, in the retry or restart function, the pose for robot movement.	Add one step before the arc start step.
E1201	General error	Internal error.	If the problem repeats itself, contact our company for inquiries.
E1202	Robot language syntax error	General syntax error with the robot language.	Check whether the robot language syntax is wrong.
E1203	Label length limit exceeded	Label length exceeded 8 characters.	Reduce the length of the label down to below 8 characters.
E1204	Component count incorrect	Count of factors in the pose and shift constant are not matched.	Check the count of elements of the pose or shift constant. In case of shift constant, it is base axis count + additional axis count, and, in case of pose constant, it is base axis count + additional axis count +1 (config.).

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Code	Message	Cause	Remedy
E1205	Parenthesis used wrongly	No parentheses existent at the positions that need pose/shift constants in an expression or a function.	Check whether a pair of parentheses are used properly.
E1206	Variable type designator used wrongly	Variable type designator of the V variable written wrongly.	Use one of "%", "!", and "$" as the variable type designator.
E1207	"[" missed	Number missed or "[" not existent in the variable.	Check whether there is a number missed in the variable or whether a pair of "[' and ']" are used properly
E1208	"]" missed	"]" not existent at the necessary position in the variable.	Check whether a pair of "[' and ']" are used properly in the variable number.
E1209	Variable number range exceeded	The numeric value of variable is out of limited range.	The number of variable must be within the number range of the variable type.
E1210	Incorrect variable number	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E1211	Should be divided with a blank	Command sentence and parameters written without a space.	Separate the command sentence and the parameters with a space.
E1212	Shift operation wrong	Shift operation expression wrong in syntax, or the shift value not proper.	Check whether the shift operation syntax or the shift value is proper.
E1213	Interpolation designation wrong	Interpolation designation in the MOVE statement wrong in syntax.	Use one of "P", "L", and "C" for the interpolation designation.
E1214	"," missed	"." not existent at the necessary position in the command or the function.	Check whether factors are divided using ",".
E1215	Pose expression wrong	Pose expression in the MOVE statement not proper.	Check the pose type syntax. In case of a hidden pose move, check the speed designation syntax.

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Code	Message	Cause	Remedy
E1216	Pose expression wrong	Speed designation in the MOVE statement not proper.	Check the speed designation syntax. S={Speed}
E1217	"=" missed	"=" not existent at the necessary position.	Check whether "=" is used properly in designating parameter in an assignment statement or a general command statement.
E1218	Unit wrong	Speed unit in the MOVE statement wrong in syntax.	Use one of "cm/min," "mm/sec," " sec," and "%" as the unit of speed.
E1219	Precision level designation wrong	Precision designation in the MOVE statement not proper.	Check the precision designation syntax.
E1220	Tool number designation wrong	Tool designation in the MOVE statement not proper.	Check the tool designation syntax.
E1221	Output options too many	More than 5 output options used in the MOVE statement.	Check to ensure that output options are not used in duplication.
E1222	Value outside the range	Parameter values in various command statements exceeded the limit range.	Use the parameter value within the limit range.
E1223	Input and output direction designation wrong	PRINT statement output direction or INPUT statement input direction wrong.	Use one of "#0," "#1", and "#2" as the input and output directions.
E1224	Step number outside the range	Step number value outside the limit range.	Use a value among 0~999 as the step number.
E1225	Row number outside the range	Row number value outside the limit range.	Use a value among 1~9999 as the row number.
E1226	Address designation wrong	Address wrong in syntax, or tried branching into an inexistent address	Check the address syntax and whether the address is actually exists.
E1227	Failed to acquire the hidden pose	Failed to acquire the hidden pose from the step because of the work file damaged.	Delete the relevant step, and then make a new record.
E1228	Component designation error	POSE/SHIFT has a syntax error.	Refer to the Operation Manual.

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Code	Message	Cause	Remedy
E1229	String constant syntax error	String constant has a syntax error.	Check the syntax of the String constant.
E1230	Program number error	Program number has a syntax error.	Check the program number. A program number must be a constant, not a variable or an equation.
E1231	Voltage argument error	VOLTAGE argument has a syntax error.	Check the syntax of the instruction and the value range.
E1232	CURRENT argument error	CURRENT argument has a syntax error.	Check the syntax of the instruction and the value range.
E1233	TIME argument error	TIME argument has a syntax error.	Check the syntax of the instruction and the value range.
E1234	FILE NUMBER argument error	FILE NUMBER argument has a syntax error.	Check the syntax of the instruction and the value range.
E1235	Dividing error	Divided by zero	Do not use 0 in the denominator.
E1236	Equation Invalid	Equation Invalid	Make sure the output does not generate an infinite value.
E1237	Checksum error	The encorder value does not match with the checksum.	Delete the current STEP and create a new STEP.
E1238	WORK HEADER error	WORK HEADER has a syntax error.	Check the syntax of the instruction.
E1239	S/W version / WORK FILE mismatched.	The current S/W version not compatitable with the WORK FILE format.	Update the current S/W version or downgrade the format of the current WORK FILE.
E1240	ADDRESS range over	The ADDRESS count is too large in the ON GOTO statement.	Limit the maximum ADDRESS count less than 10.
E1241	CODE number invalid	CODE number invalid	Use the valid code number (Refer to the Operation Manual).
E1242	Invalid variable in WORK FILE	Attempted an assignment to the read-only variable	Check any error of job file under progress, and then use a substitutable variable.
E1243	Invalid JIG number	JIG number in SMOV out of range	JIG number must be 0 ~ 3 in SMOV

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Code	Message	Cause	Remedy
E1244	JIG undefined	JIG undefined	Define a JIG
E1245	Block stack exceeded	GOSUB statement of the robot language is executed too many times without RETURN. Or, the GOSUB statement is executed repetitively by a wrong flow control.	Reduce the number of GOSUB or CALL nesting. Or, fix a wrong flow control.
E1246	Invalid COORDINATE	An syntax error in the COORDINATE defined in the POSE/SHIFT instruction.	Modify the syntax error.
E1247	The number of parameters out of range	The number of parameters has exceed 10	The number of parameters must be less than 10.
E1248	Invalid number of paramters	The number of PARAM does not match with the syntax. Or, the number in CALL statement is different from that in PARAM statement.	Modify the number of parameters
E1249	Block table error	An error has occurred during executing ROBOT LANGAGUE.	Contact the Hyundai Robotics's technical support.
E1250	Block nesting structure is wrong.	The nested structure of the flow control statement, such as IF/ELSEIF/ELSE/ENDIF, FOR/EXIT FOR/NEXT of the robot language, wrong.	In the flow control statement, look for an incorrect order or nested structure of a command statement, and then correct it according to the proper usage.
E1251	Invalid ADDRESS	Address count has exceeded the limit (1000 row numbers, 100 labels) or overlapped.	Modify the ADDRESS accordingly.
E1252	Attempted to access an uninitialized variable	Attempted to access an uninitialized POSE/SHIFT variables	Edit the JOB with valid variables. Or copy and paste from a valid JOB file that contains valid POSE/SHIFT variables.
E1253	Identifier type not legitimate	The format of the ID variable name breached the rule.	Use alpha-numeric or underline below 12 characters after 'g' or 'l'. First character have to be alphabet.

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Code	Message	Cause	Remedy
E1254	Undefined identifier	Variable name not registered in the ID variable table.	Before using the ID variable, define first using a variable dialog box, DIM statement or PARAM statement.
E1255	Variable definition duplicated	The same ID variable name already exists.	Use a different ID variable name. Check the ID variable dialog box.
E1256	Not the Base COORDINATE	Not the Base COORDINATE	Use the Base COORDINATE to refer to the POSE in the instruction.
E1257	Two points too close	two POSEs are almost identical in distance-wise.	Make sure the distances among POSES are not too close.
E1258	Three points on a straight line	The posions of three POSEs are on a straight line.	Make sure the distances among POSES are not on a straight line.
E1259	Two parallel straight lines	Impossible to find an intersection between two straight lines.	Make sure the directions of the two straight lines defined in the POSE are not identical or completely opposite.
E1260	Arc retry not possible	Arc retry cannot be executed since the path interpolation is J.	Use L or C for path for Arc retry.
E1261	Invalid REFERENCE number	The REFERENCE number is not 1 ~ 4.	The REFERENCE number must be 1 ~ 4 (Refer to the Operation Manual).
E1262	Wire stick detection in progress	Possibly the welding wire is stuck to the base metal.	1) Check the power supply of the welding system. 2) Remove the stiction.
E1263	Impossible to read the weaving condition	Invalid operation for reading a weaving condition	Place the cursor on the WEAVON command, and press the QuickOpen key to prepare a weaving condition file.
E1264	Impossible to read the welding start condition	Invalid operation for reading a weaving start condition	Place the cursor on the ARCON command, and press the QuickOpen key to prepare a file.
E1265	Impossible to read the welding end condition	Invalid operation for reading a weaving end condition	Place the cursor on the ARCOF command, and press the QuickOpen key to prepare a file.

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Code	Message	Cause	Remedy
E1266	Impossible to read the welding auxiliary condition	Invalid operation for reading a weaving auxiliary condition	Place the cursor on the ARCON (or ARCOF) command, and press the QuickOpen key; then, press the auxiliary condition with the PF key to prepare a file.
E1267	Impossible to read the welder characteristic condition	Invalid operation for reading a weaving characteristic condition	Place the cursor on the ARCON (or ARCOF) command and press the QuickOpen key, and then select PF2 (welder) to prepare a file.
E1268	Weaving progress point (REFP3) re-definition required	There is no reference point (REFP 3) (stop weaving) or the directions of the reference and target points are not the same (normal weaving).	1) In case of stopping weaving, (1) record the reference point (REFP3). (2) Start and target steps are not matching. (Copy the step for use) 2) In case of nonstop weaving, correct the position of the reference point (REFP3).
E1269	The wall direction reference POSE(REFP 1) should be modified.	The distance between the weld seam and the wall direction reference POSE (REFP 1) is equal to less than 0.1 mm.	Modify the position of wall direction reference POSE(REFP 1).
E1270	The wall direction reference POSE(REFP 1) and the robot moving direction are collinear.	The robot moving direction and the left direction(the Z-axis of cartesian coordinate system when there is no left direction reference POSE) are collinear.	Add the left direction reference POSE(REFP 1) or modify its position
E1271	The approach direction reference POSE(REFP 2) should be modified.	The left direction and approach direction (the previous step when there is no approach direction reference POSE) are collinear.	1) Add the approach direction reference POSE(REFP 2) or modify its position. 2) If there is no approach direction POSE(REFP 2), modify the position of previous step.
E1272	Weaving amplitude is too small.	The weaving amplitude is equal to or less than 0.1 mm.	1) Place the cursor on the WEAVON command, and press the QuickOpen key and enter in the dialog of weaving condition. 2) Adjust left distance and right distance to set the weaving amplitude larger.
E1273	Weaving sequence count too small	The sequence count is 0 or 1 while using a user-defined weaving pattern.	Count of the weaving sequences should be 2 or higher.

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Code	Message	Cause	Remedy
E1274	Re-startup count exceeded within the same welding section	The number of re-start in the same Arc has excceed the set value.	1) Check the power supply of the welding system. 2) Adjust the arc off detection time of the welder characteristic file.
E1275	Gas pressure insufficient	The gas pressure for welding protection is not sufficient.	1) Fill the welding protection gas. 2) When needed to ignore the signal, set the input of the relevant input signal in the arc application menu, as "disabled."
E1276	Welding wire insufficient	The welding wire is running out.	1) Replace the welding wire. 2) When needed to ignore the signal, set the input of the relevant input signal in the arc application menu, as "disabled."
E1277	The overlap position for circular welding impossible to calculate	Impossible to calculate the overlap position according to the re-startup condition in the circular curve welding section.	Execute after by setting a slightly larger overlap amount in the restartup condition or by setting prohibition of overlap.
E1278	The retry position for circular welding line impossible to calculate	Impossible to calculate the retry position according to the retry condition in the circular curve welding section.	If the same error occurs when reexecuting, set a slightly larger value for the movement distance in the retry condition, or change the operation mode in the welding time condition using the QuickOpen key.
E1279	Weaving can't be executed in PTP moving.	PTP moving was executed in weaving operation. Only interpoation moving can be run during weaving operation.	1) Insert WEAVOF command at weaving section end to finish weaving operation. 2) If the normal weaving section, change the MOVE parameter to interpolation On(L, C, etc).
E1280	Voltage of the welding condition not checked [completed]	The output voltage of the welding start/end condition file is erroneous (possibly after changing the power (individually/all) in the welding characteristic section).	After checking the output power in the welding start condition file or the welding completion condition file, set the "Check voltage=Complete."
E1281	Welder abnormality signal inputted	An abnormal welding signal has been detected.	1) Check the power supply of the welding system. 2) When needed to ignore the signal, set the input of the relevant input signal in the arc application menu, as "disabled."

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Code	Message	Cause	Remedy
E1282	Impossible to use the ARCOF ASF# command when setting the analogue arc	Will be generated when using the " ARCOF ASF#" command while the arc welding is in analog setting.	Change the type of the ARCOF command into "ARCOF AEF#=_" or "ARCOF C=_,V=_".
E1283	Arc board needed for arc welding	The usage is set as arc welding while the option board is not existent.	Check whether an arc board is mounted.
E1285	Serial port 2 useage setting error	Will be generated when the serial port usage is not set as "Sensor" in the item of System / Control parameter / Serial port.	To use the serial port for sensors, set the usage in the menu of System / Control parameter / Serial port as "Sensor"
E1286	Voltage output method and power control mode mismatched	The power control mode and voltage output method of the welder characteristic file are not matched.	If the power control mode in the welder characteristic file is set as individual, the voltage output should be selected as "voltage" and if the mode is unity or pulsato, the voltage output should be set as "% ".
E1287	Undefined positioner group number	Will be generated when using an undefined station number when executing SMOV.	Designate the station set in the menu of System/Initialize/Position group setting.
E1288	Positioner calibration not executed	Will be generated when defining an uncalibrated station when executing SMOV.	For the station that needs to be used, execute the system / autocalibration / positioner calibration.
E1289	Arc off detected	Will be generated when arc off detected during arc welding. Arc off detection is relevant when the WCR signal is not inputted for a certain period. The period can be changed through the arc off detection time in the welder characteristic file.	1) Adjust the time for the WCR signal and the arc off detection. 2) When needed to ignore the signal, set the arc off item in the restartup condition of the welding auxiliary condition file as "ignored."
E1290	Start point not detected	There is no start point in the detection section when trying to detect the start point using a laser vision sensor.	Correct the detection range or the record point.

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Code	Message	Cause	Remedy
E1291	Laser vision sensor not responding	Laser vision sensor connected in serial mode does not transmit data.	1) Check the serial port usage setting. 2) Inspect the laser vision sensor. 3) Inspect the communication cable
E1292	Required to adjust the start point search distance	Will be generated when the search condition is matched at the search start point when trying to detect the start point using a laser vision sensor. In other words, the start point shape is at the search start point in case of outbound approach. In other words, the start point shape is not at the search start point in case of inbound approach.	Change the search distance or the start point.
E1293	Laser vision sensor error	Laser vision sensor transmitted an error. Refer to the history screen for more details.	Take measures by referring to the sensor error number displayed on the history screen, and also to the sensor manual. 1: Error with communication set with PC - Failed to carry out communication with PC 2: Abnormality with the sensor camera - No sensor head video existent 3: Abnormality with the sensor link-No sensor head communicatior existent. Abnormality with the camera cable? 4: No sensor connected-No video or communication existent. Is a sensor installed? 5: Abnormality with the sensor operation temperature-Too hot or too cold 6: Abnormality with the sensor power-Sensor head power exceeded the power supply range of 24 V. Abnormality with the camera cable? 7: Check the laser disable-laser enable key switch and the laser warning lamp. 8: No sensor calibration executed-Abnormality with sensor calibration. Try another sensor head. 9: Exceeding the shape range-No

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Code	Message	Cause	Remedy
			strip existent in the video. 10: No shape visible for analysis. Data existent but failed to analyze in search mode. 11: Not usable for this connection. 12: No shape set. Is the shape number correct? 13: No shape in the image for tracking. 14: While the robot is communicating with the sensor, the [Esc] key in the tool program is pressed. 15: Abnormality with the memory of the sensor control system. Carry out reformatting and load the backup file. 16: Failed to read the system data 17: Error with reading the shape from the flash memory-Damaged? 18: Error with reading the shape from the flash memory-Damaged? 19: Abnormality with the analog circuit (POST) 20: Error with the video collection hardware 21: Error with the timer hardware 22: Damage to the flash memory-Required to replace. 23: Insufficient data flash memory 24: Damaged sector existent in the flash memory-Just warning 25: Error with the error log 26: No power for I/O of SAPEII board 27: ESTOP operation-Check the ESTOP link or connection. 28: Existent within the 5 degrees of temperature limit.
E1294	Impossible to read the laser sensor condition	Impossible to read the laser sensor condition file.	Place the cursor on the LVSON/CHGLVS command, and then press the [QuickOpen] key to prepare a file. If this method does not work, carry out backup of all files, and then initialize the system.

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Code	Message	Cause	Remedy
E1295	The arc sensing does not support the circular weaving shape.	The arc sensing can be used only for simple oscillating, triangular, and L-shaped weaving shapes.	In the "Weaving Condition," change the circular weaving shape to another shape
E1296	Required to assign the welding current input port.	Will be generated when the welding current input port is not set.	Arc application parameter (system>4:>2:) 13:Assign the welding current input port.
E1297	License key not matched	Optional function that needs a license key.	Make a request to the sales department of our company.
E1298	No result of detection by LVS	No data detected by the laser sensor for position calculation.	If there is no problem with the joint shape, adjust the allowable variation amount of the laser sensor condition, or adjust the termination point detection distance in case of termination point.
E1299	Start point detection to be supported only for linear line interpolation	Only linear interpolation will be supported for the moving and search function. Error will be generated when it is not the linear interpolation.	After the LVSON command is recorded, change the interpolation for the next step to linear line.
E1302	Sensor sync step interpolation setting error	The interpolation off step was executed while in the sensor sync operation.	Change the type of step interpolation.
E1303	Sensor sync function not in use	The relevant command was executed while the sensor sync function is not used.	Check about the use of the sensor sync function.
E1304	Signal input in progress while the sensor is in operation	The sensor operating signal is being inputted in the sync work section but the sensor sync operation mode is set for test or simulation test.	Check the sensor operating signal.
E1305	Not in the sensor sync on mode	The relevant command was executed while the sensor sync is off.	Check the state of sensor sync.

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Code	Message	Cause	Remedy
E1306	Gun search reference position not recorded	Executed the gun search function or the spot welding function without gun search reference position recording after preparing the machine parameter file.	Attach a new tip that has no consumption, and execute recording the gun search reference position.
E1307	Gun search ended abnormally	Executed the spot welding function while the gun search is not ended normally or when executing gun search 2 without executing gun search 1.	Detect the tip consumption by executing gun search 1 and 2, and then initiate the work.
E1308	Step tool number designation wrong	When executing the step related to SPOT or GUNSEA, the tool number corresponding to a gun number is designated wrongly	In the setting of System / Application parameter / Spot welding / Gun number corresponding tool number and gun type, check the tool number that corresponds to the gun number, and make the step tool number match it.
E1309	Step tool number and current tool number are not matched	Tried correcting the Cart. Crd. position while the step tool number is different from the current tool number. Such correction is prohibited because the operation area might be exceeded during playback.	Correct the step tool number to be identical to the current tool number. (Command statement T= Correct)
E1310	Set squeeze exceeded the current limit range	The current limit value calculated from the commanded squeeze exceeds the current limit value (IP) of the servo amp.	Lower the set squeeze, or increase the servo gun drive motor capacity.
E1311	Set squeeze exceeded the overload detection level	The commanded squeeze exceeds the overload detection level.	By expecting the overload error, set the squeeze lower.
E1312	Gun squeeze target position calculation result exceeded work area	The servo gun squeeze position (specimen position) calculation result exceeded the robot work area.	Record the position by changing the robot posture.
E1313	Set squeeze range exceeded	The squeeze set in the welding condition data of the spot welding function (M72) is outside the squeeze range set in the squeeze table of the servo gun parameter.	Lower the set squeeze.

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Code	Message	Cause	Remedy
E1314	Squeeze matching detection time exceeded	The detected tip consumption amount is larger than the maximum tip consumption amount of the servo gun parameter.	Replace the tip, or, when necessary, reset the max. tip consumption amount in the servo gun parameter into a proper value.
E1315	The gun number is not that of servo gun.	The gun to be executed is not set as the servo gun.	In the additional axis setting, check whether it is the servo gun that is to be executed.
E1316	Robot search or conveyor function on	The robot search and conveyor function is on while executing the gun search function.	When executing gun search, make sure that the robot search or conveyor function should not be used.
E1317	Loading a program selected in HRView	A program execution (Run) command is inputted while loading a command from HRView.	After finishing loading a work program from HRView, execute the program.
E1318	Result of adding is an overflow	The adding result exceeds 255 when executing addition/subtraction in the count register.	The max. value that can be stored by the count register is 255. Check the program.
E1319	Result of subtracting is a negative value	The subtraction result is negative when executing addition/subtraction in the count register.	Check the program.
E1320	Sensor not operating during gun search	While the consumption amount detection work is being carried out by the sensor according to the fixed tip consumption search operation in the servo gun search function or the robot equalizer, the sensor does not operate when the robot reaches the target position.	1) Check the sensor operation wher the electrode approaches the sensor. 2) Check the wiring diagram and connection of connectors. 3) Check the contact specifications of sensor.
E1321	Pallet number mismatch	When executing the palletizing work for the same pallet, it is required to input the same pallet number in all commands including PAL-, PADLEN-, and palletizing-related commands between them. This error will be generated as long as the pallet number is not set differently.	1) Check the pallet number in the palletize command of TIERST, PALPU, PAL, PALEND, PALRST of the same palletized work. 2) Input the same pallet number.

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Code	Message	Cause	Remedy
E1322	Not available Pattern register	Must set information in the palletize pattern register to carry out the palletize work. This error will be generated when setting an unused pattern register of the totally 16 pattern registers.	1) Check the set palletize pattern register number. 2) Check use/nonuse of the palletize pattern register.
E1323	Equalizerless gun environment setting error	Proper setting for the environment was missed where the robot equalizer function can be used.	In the setting of System/Initialize/Usage, set the usage as spot, and then select pneumatic GUN 1 and pneumatic GUN 2 as EQless.
E1324	Palletizing work environment setting error	The GUN2 is not set for palletizing and the palletizing function is tried while setting in the menu of System/Initialize/Usage.	In the setting of System/Initialize/Usage, set the GUN 2 as palletize.
E1325	Palletize pickup function use error	PALPU (pickup shift) is not located between PAL and PALEND in the program. To use the pickup shift amount of PALPU, there should be a shift amount generated in PAL. For that, PALPU should be always located between PAL and PALEND in the program.	Make sure that PALPU is located between PAL and PALEND in the program.
E1326	Gun search 2 environment improper	Set as an environment where the consumption amount can be calibrated only through gun search 1. In this case, the error will be generated when executing gun search 2.	Using gun search 1 and gun search 2, set an environment in which the gun consumption amount can be calibrated. In the servo gun parameter setting section, set the Moving tip consumption amount / Total consumption amount (%) as 0.
E1331	Execution of a reserved program possible on remote mode	Trying using the program reservation and execution function, but the mode is not remote mode.	Check the current mode.

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Code	Message	Cause	Remedy
E1332	Program strobe signal use checked	Actuation is inputted when the "Use program strobe signal" in the "System/User environment"menu is set to <Invalid> while (2) "Program input type" is set to <External selection> and (1) the "Number of applicable registers" is set to <20> or <1> in the "System/Control Parameter/Program reservation Execution" menu.	Check the use state of program strobe signal in the menu of System / User environment.
E1333	Selected program not existent	There is no reservation program existent in the internal memory when executing a program reserved in the FIFO register.	Check whether a relevant program is existent in the internal memory.
E1334	Excessive free fall! Startup after setting the step	The distance the robot falls, in the Motor Off state while the PRIOR POSITION RECOVERY is enabled, exceeds the prior position recovery error detection range. This error will be generated to ensure the user pays attention considering that the trajectory of the stopped step will be outside the normal trajectory when the robot is operated again when no error is generated.	1) If interference is not to be generated even when starting up again at the current posture, set the relevant step; then, operate it. 2) If interference is expected when executing the relevant step at the current posture, change the posture of the executing robot while in manual mode; then, operate it. 3) If the error detection distance is incorrect, adjust the error detection distance in the menu of System / 2: Control parameter / 5: Prior position recovery.
E1335	Impossible to play back continuously while the FIFO function in use	When execute program at FIFO application, in case of cycle type of the condition set menu is continue input start.	When applying the FIFO function, set the playback mode as 1 cycle in the condition setting menu first before use.
E1336	Unregistered user coordinate system	It is executed without registering the user coordinate system.	Select a program arbitrarily, and record the X direction and the XY plane surface. After that, register the coordinate system in the menu of System > Control parameter > Register coordinate system. If you want to execute within the teaching program, refer to the MKUCRD command.

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Code	Message	Cause	Remedy
E1337	Failed to execute the SOFT command during a designated time	There is a difference of more than 384 bit in encoder between the command value and the current value within the designated time (5 seconds) when executing the SOFT command.	Set 0 for the accuracy of the step previous to executing the SOFT command.
E1338	Soft floating error detection distance exceeded	Deviation distance, generated while executing the SOFT command, exceeded the set error value.	Adjust the error detection distance.
E1339	Insufficient CMOV step number before the ARCON command	CMOV step number is insufficient for the retry and re-startup calculation when executing arc welding through cooperative control.	Between the COWORK command the ARCON command, add the CMOV step in a way that is proper for the retry setting. (Reentry: 2 or more, Others: 1 or more)
E1340	Robot cooperation condition improper (WD, common coordinate)	The condition of the conroller is improper for executing the COWORK command.	Check whether the communication state is normal, the counterpart common coordinate system is set and the manual cooperation state is the same as that for the role of the robot for COWORK.
E1341	Cooperative playback wait time exceeded	After meeting the COWORK command, all the robots in cooperative control are not prepared for cooperation within the set wait time.	Set enought wait time for all the robots to reach the COWORK position. If set as 0, waiting will continue until all the robots arrive.
E1342	Robot cooperation condition. The common coordinate disabled	Impossible to execute the COWORK command because the robot cooperative control is disabled or the common coordinate system is not set.	Set the cooperative control as <enabled> in the setting of System setting / Control parameter / Cooperative control parameter, and then set the common coordinate system.
E1343	COWORK function execution not matched	The COWORK command was executed in duplication or the program END is executed without COWORK END.	Program in a way in which the COWORK command and the COWORK END command become a pair. Execution in duplication because of change of step is prohibited.
E1344	COWORK parameter (M/S, robot number) error	Counterpart robot number of the COWORK command is set wrongly as the user's own robot number.	As it is impossible to set the robot number that corresponds to COWORK M(S), S(M)= robot number as your own robot number, make a change.

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Code	Message	Cause	Remedy
E1345	Slave robot already in cooperative state	Slave robot's cooperation is in progress at the COWORK EN position or is stopped.	In order for the normal cooperative operation of master and slave, do not change the step arbitrarily.
E1346	P* repetition count limit (10 times) exceeded	Impossible to use a step, which include P*, for more than 10 times in a row. (for limiting the calculation load)	Insert the hidden pose move within the previous 10 steps.
E1347	Coordinate system without support for shift operation	Possible to add the Base/Robot/Tool/User coordinate system shift to the Base/Robot/Encoder/User coordinate system pose, while not allowed to carry out shift operation for other coordinate system. Possible to add the Base/Tool coordinate system shift to the Base/Robot coordinate system pose, while not allowed to carry out shift operation for other coordinate system.	Check and convert the coordinate system of the pose or shift variable/constant into the allowed coordinate system. [Quick Open]
E1348	Servo gun access completion wait time exceeded	Welding gun access not completed within the designated time.	Configure in a way in which the signal for confirming the welding gun access will be sent to the controller when accessing is completed in the auto tool replacement system. Must program in a way in which the GUNCHNG ON command will be executed after the welding gun's access to ATC is completed.
E1349	Servo gun not separated within the time limit (5 seconds)	Welding gun not separated within 5 seconds after the GUNCHNG OFF command executed.	Contact our company for inquiries.
E1350	User coordinate system not designated	User coordinate system number not designated within the set condition.	Input the user coordinate system number in the condition setting section using T/P, or designate the SELUCRD command.
E1351	Interrupt defined in duplication for the same number	Redefining without deleting the previously defined interrupt number.	Define an interrupt number that is not being used, or delete interrupt first; define afterward.

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Code	Message	Cause	Remedy
E1352	Execute the definition of an interrupt first.	Each interrupt activation command is executed while the interrupt with a defined number is not executed.	Execute the interrupt define command first, and then execute individual interrupt activate commands.
E1353	Allowable trajectory deviation distance exceeded	Trajectory deviation distance by tracking exceeded the allowable value.	Correct the teaching point, or adjust the allowable trajectory deviation distance.
E1354	Allowable trajectory deviation angle exceeded	Trajectory deviation angle by tracking exceeded the allowable value.	Correct the teaching point, or adjust the allowable trajectory deviation angle.
E1355	Cooperative counterpart robot abnormal-stop	While in the cooperative operation, the counterpart robot is stopped in a state that makes cooperation impossible. Stopped because cooperation is impossible.	Check whether the operation modes among the robots are identical. When needed to start up again after stopping in the middle of cooperative operation, start up the slave first and then master.
E1356	HiNet access abnormal-Robot number duplicated	State in which cooperative control is impossible because the robot number is duplicated.	Investigate the numbers of the robots accessed to HiNet, and change the duplicated robot numbers, and then turn off and on the power.
E1357	Coolant abnormality signal inputted	State in which that the coolant circulation state abnormality signal is being inputted.	Check the coolant supply system. When there is no problem with the system, check the input port setting in the controller. After removing abnormality, start up the welding step again.
E1358	Interrupt activated on the continuous path	While executing the interrupt definition or activation command, the continuous path function is operating.	It is impossible to use the interrupt function and the continuous path function simultaneously. Adjust one of them.
E1359	Continuous path set while in interrupt activation	When setting the continuous path, the interrupt function is operating.	It is impossible to use the interrupt function and the continuous path function simultaneously. Adjust one of them.
E1360	Control parameter file damaged	Control parameter file structure body damaged.	With the help of the our A/S staff, initialize the memory.
E1361	Machine parameter file damaged	Machine parameter file structure body damaged.	With the help of the our A/S staff, initialize the memory.

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Code	Message	Cause	Remedy
E1362	Control parameter file with the write protection property	Impossible to record data in the control parameter file.	Change the property of the control parameter file.
E1363	Machine parameter file with the write protection property	Impossible to record data in the machine parameter file.	Change the property of the machine parameter file.
E1364	Master in duplicate setting	More than 2 controllers are set as master in the manual cooperation role on the cooperative control network.	Set only one master using the R351 code or the manual cooperation state conversion F key.
E1365	Cooperative state not prepared	No master robot set for manual cooperation.	Set a manual cooperation master robot.
E1366	Abnormality with the master number of the slave	Master number, selected in the slave, different from the set master number.	Error code in the process of being prepared.
E1367	Shift not supported by CMOV	Shift function applied to CMOV, but the coordinate system not supported.	When the online shift, XYZ shift, or variable shift function is to be applied to CMOV, apply using the robot coordinate system.
E1368	Master not defined for coordinate conversion	For the current step, the master end effector coordinate system <M> is set but the master robot is not designated.	Set the manual cooperation state o the master robot proper for the current step as master.
E1369	CMOV master No and ID improper	Master number set in COWORK S,M=#1,ID=#2 is different from the master number set through CMOV R#1#2.	Record CMOV in a way in which the same master as #1#2 set in COWORK can be acquired.
E1370	H-axis, V-axis operation limit	The combined angle of the H- and V-axes reached the operation limit.	Move the H- or V-axis within the operation limit.
E1371	Signal input impossible during the conveyor operation.	Signal not inputted during the conveyor operation.	Check the state of the signal input.
E1372	WCR not off within the time limit.	WCR not off within the time.	1) Check the state of the signal input. 2) In case of job mode, check whether the crater processing time set in the welder job setting is within 5 seconds.

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Code	Message	Cause	Remedy
E1373	Unusable command in digital arc welding.	Currently selected arc command is not used during digital welding.	Use a type of command that is supported in the digital arc welding.
E1374	Required to press the welder remote button.	Required to press the Remote button of the welder when selecting the analog active function.	Press the Rem button, the fourth at the bottom of the Measured screen. When the Rem character disappears, it is now in remote mode.
E1375	Welder CAN port not operating	CAN message is not received for a certain period when the digital welder is set.	Check the CAN communication cable and the welder power.
E1376	Welder (E00): Welding setting program not existent	The welding setting value relevant to the selected combination of wire material_Wire diameter_gas is not existent. (not enabled combination)	Select other combination of wire material-wire diameter-gas.
E1377	Welder (E01): Welder power unit overheated.	Power unit temperature sensor detected overheating.	Inspect the cooling, fan, and then cool down the welder while in wait mode.
E1378	Welder (E02): Main power overvoltage error.	Main voltage too high. (24 V supply > 36 V)	Inspect the main power, and adjust the transformer.
E1379	Welder (E03): Welding current too high	Welding current too high.	Inspect the pc-board LSW (welding current sensor board)
E1380	Welder (E04): Air cooling system error generated	Temperature sensor detected the power unit temperature increasing too fast.	Check the cooling fan and whether flow is smooth.
E1381	Welder (E05): Water cooling system error generated	Coolant flows too slowly. (0.3 l/min) pump not operating.	Inspect the connector of the flowmeter, and the amount and flow of the coolant. Inspect the S17 (2.5A) fuse of DP-MAPRO.
E1382	Welder (E06): Secondary power overvoltage error.	Excessively high output voltage detected at the master. (112 V or higher)	Replace the power unit.
E1383	Welder (E07): EEProm chksum error.	Welding program not stored or an error generated while reading the memory.	Send the welding program to the welder again.

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Code	Message	Cause	Remedy
E1384	Welder (E08): Wire feed unit error.	Wire feed motor consumes power excessively. Tachometer signal not existent. CAN-Bus connection not existent between MAPRO and DMR (feeder motor control board).	Blow compressed air into the torch system to remove impurities that interfere with its rotation. Check the wire feed system. Check the wire connection between the feeder motor and DMR.
E1385	Welder (E09): Current/voltage measured value error.	Difference between the current/voltage values measured at the master and in the process.	Check the wire connection between the welding current sensor board (pc-board LSW) and the welding output socket board (pc-board DK-UFI).
E1386	Welder (E10): Torch socket/cable error.	Short-circuiting generated between the torch control cable or switch and the welding main power.	Check the torch control cable or the torch interface section.
E1387	Welder (E11): Remote unit connection error.	Short-circuiting generated between the remote control cable and the socket.	Check the cable connection between the remote controller and the remote controller socket.
E1388	Welder (E12): Process not responding	Process not responding to the master.	Turn off the welder power and then turn it on again. When necessary, replace the pc-board DP-MAPRO.
E1389	Welder (E13): Temperature sensor abnormal	Error generated with the temperature sensor.	Check the resistor value and then connect the sensor cable.
E1390	Welder (E14): Supply voltage too low	Supply voltage too low. (<17 V)	Check the main input voltage and then adjust the transformer.
E1391	Welder (E14): Supply voltage too low	Undefined welder error (E15).	If the problem repeats itself, you are kindly required to contact our A/S engineer.
E1392	Welder (E16): Primary power overcurrent protection operated	Power unit 1 consumes power excessively.	Replace the power unit.
E1393	Welder (E17): Undefined welder error number	Undefined welder error (E17).	If the problem repeats itself, you are kindly required to contact our A/S engineer.

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Code	Message	Cause	Remedy
E1394	Welder (E18): Secondary power overload protection operated	Safety cutoff function is operated to protect the electronic parts of the temperature sensor.	Cool down the welder while in the wait mode. Check the temperature sensor.
E1395	Welder (E19): Undefined welder error number	Undefined welder error (E19).	If the problem repeats itself, you are kindly required to contact our A/S engineer.
E1396	Welder (E20): Output power too high	Excessively high output voltage detected at the process.	Replace the power unit.
E1397	Welder (E21): Output current/voltage measurement error	Difference between the external output current/voltage and the values both measured at the master and in process.	Replace the power unit.
E1398	Welder (E22): Main power voltage too low	Excessively low main power voltage detected at the power unit.	Check the main power and the rectifier.
E1399	Welder (E23): Main power voltage too high	Excessively high main power voltage detected at the power unit.	Check the main power voltage.
E1400	Welder (E24): Secondary power overcurrent prevention operated	Power unit 2 consumes power excessively.	Replace the power unit.
E1401	Welder (E25): DK-DCDRV jumper setting error	Error with the jumper setting of the pc-board DK-DCDRV (primary voltage control board).	Check the J1 and J2 jumpers of the pc-board DK-DCDRV.
E1402	Welder (E26): Undefined welder error number	Undefined welder error (E26).	If the problem repeats itself, you are kindly required to contact our A/S engineer.
E1403	Welder (E27): Welding program not existent (DSP)	Welding program has an error or is not enabled.	Select other combination of wire material-wire diameter-gas and then transmit the welding program to the welder again.
E1404	Welder (E28): Undefined welder error number	Undefined welder error (E28).	If the problem repeats itself, you are kindly required to contact our A/S engineer.

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Code	Message	Cause	Remedy
E1405	Welder (E29): Undefined welder error number	Fault related to RS232 port in the welder detected.	If the problem repeats itself, you are kindly required to contact our A/S engineer.
E1406	Welder (E30): Secondary power voltage too low	Excessively low main power voltage detected at the power unit 2.	Check the main power and the rectifier.
E1407	Welder (E31): Master not responding	Master not responding to the process.	Turn off the welder power and then turn it on again. When necessary, replace the pc-board DP-MAPRO.
E1408	Gas output continuing for longer than the set time.	In the job mode, the gas output is not completed within the gas postdischarge time after the welding time ends.	In the case of the job mode, the gas postdischarge time for the welder job should be set shorter than the gas postdischarge time in the welding end condition.
E1409	%d gun) gun search reference position recording failed!	While the gun search reference position record is on, if the GUNSEA statement is executed, the reference position will be stored in the file. This error is generated at this time.	Check the file.
E1410	Gun types of the multi-gun different from each other	In the command statement for the multigun simultaneous welding, the types of the used gun numbers are mutually different.	Check the type corresponding to the gun number.
E1411	Impossible to use the welder of the multi-gun commonly.	During the multigun simultaneous welding, the welder number corresponding to the gun number is duplicated.	Check the setting of the welder corresponding to the gun number.
E1412	Stop point, during welding, deviated far distant from the trajectory.	The stored welding stop point is deviated more than 2 cm from the welding trajectory.	Move the robot to the stationary position using the jog.
E1413	Arc welding entry / progress step in the interpolation off state.	Arc welding entry/progress step in the interpolation off state.	Set the arc welding entry/progress step as a linear line or a circular interpolation.
E1414	Impossible to use ARCON for #0 step.	ARCON command recorded in the program step 0.	Should record the ARCON command in the other steps except for step 0.

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Code	Message	Cause	Remedy
E1415	Arc welder not operating.	Arch welder communication ready signal not inputted.	1) Inspect the communication cable connected with the welder. (A07-->X7) 2) Check the state of execution of the embedded PLC. (X7 --> DI111)
E1416	Limit value exceeded during arc welding.	During arc welding, the limit value set in the condition file is exceeded.	1) Check the welding tip or the feed system. 2) Adjust the limit value of the welding condition file.
E1417	Robot operation limit cubic exceeded.	Robot holder is about to exceed the operation limit area designated by the user.	Check the operation limit cube, and then move the robot within the operation area for use.
E1418	Robot and mirror axis colliding.	Robot holder is about to collide with the mirror.	Check the mirror position set value, and then move the robot for use in a way that it does not collide with the mirror.
E1419	Colliding with the robot manipulator.	Robot is about to collide with the manipulator.	Check the robot manipulator detection area, and then move the robot for the use in a way that collision does not take place.
E1420	Robot link colliding with the operation limit area	Robot link is about to exceed the operation limit area designated by the user.	Check the operation limit cube, and then move the robot within the operation area for use.
E1421	Controller usage not set for the arc welding.	ARC command is executed while the arc welding function in the controller usage setting is disabled.	In the dialog box of " System->Initialize->Usage setting," select the arc welding item properly between analog and digital.
E1422	Panasonic welder not responding.	Problem with the communication with the Panasonic welder. 1) Welder may be powered off. 2) Problem may be with the communication cable. 3) Problem may be with the 24V power supply to the communication cable. 4) Problem may be with the controller serial communication setting.	1) Check the welder power. 2) Check the connection state of the communication cable between the controller and the welder. 3) Check the cable power terminal. 4) Check whether the controller serial communication is properly set for Panasonic. 5) Check 6=On of DSW1 inside the Panasonic welder.

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Code	Message	Cause	Remedy
E1423	Panasonic welder error (BO2) tip short-circuit abnormality detected.	Panasonic welding machine detected short circuit between the wire and the workpiece.	1) Check the distance between the welding torch and the base material. 2) Check the connector and wiring at the wire feeder side. 3) When the problem repeats itself, replace the torch, feeder, and welder.
E1424	Panasonic welder error (BO3) emergency stop 2 detected.	Welder emergency stop input signal 2 detected.	1) Check whether the emergency stop input signal #2 in the welder terminal is connected properly. 2) When the problem repeats itself, replace the welder.
E1425	Panasonic welder error (BO4) communication abnormality detected.	Communication error was detected between the welding machine and the feeder unit.	1) Investigate the connection between the welder and the feeder unit. 2) Check the fuses in the welding power section. 3) Replace the relay part between the feeder unit and the controller.
E1426	Panasonic welder error (BO5) governor abnormality detected.	Errors that occur only to welders that have special specifications are generated.	1) Replace the welder. 3) When the problem repeats itself, contact our company.
E1427	Panasonic error (B06) encoder abnormality detected.	Wire feed motor not rotating normally, or encoder signal disconnection expected. Required to try to rotate the motor. If it rotates even slightly, the problem may be damage to the encoder or disconnection of the wiring.	Replace the feeder unit.
E1428	Panasonic error (B07) motor abnormality detected.	Detected that the wire feed motor rotates without a command for rotation. If the motor rotates actually, there may be a fault with PCB in the wire feed system.	Replace the feeder unit.
E1429	Panasonic error (B08) secondary overvoltage detected.	Error generated with the secondary circuit causes voltage exceeding the maximum rate to be supplied.	Turn off the power switch, and clear causes of the error and overvoltage

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Code	Message	Cause	Remedy
E1430	Panasonic error (B09) secondary overcurrent detected.	Short-circuit generated with the secondary circuit causes current exceeding the maximum rate to be supplied.	Turn off the power switch, and clear causes of short-circuiting and overcurrent.
E1431	Panasonic error (B010) temperature increase abnormality detected.	Welder internal temperature increased higher than the allowable value.	1) Turn off the power switch until the internal temperature decreases. 2) Clear the causes of the increase of internal temperature (exceeding the usage rate, or impurities in the air vent system at the side and front sections).
E1432	Panasonic error (B011) primary overvoltage detected.	Input voltage higher than the allowable range.	Turn off the power switch, and make sure that the input voltage stays within +10% of the rated voltage.
E1433	Panasonic error (B012) primary undervoltage detected.	Input voltage lower than the allowable range.	Turn off the power switch, and make sure that the input voltage stays within –10% of the rated voltage.
E1434	Panasonic error (B013) torch switch abnormality detected.	Welding started within 3 seconds after the power switch input. For safety, welding can be carried out after 3 seconds.	Turn off the power switch, and retry.
E1435	Panasonic error (B014) CT offset abnormality detected.	When the power switch input occurs, output current or output voltage is detected. Possibly the case in which there is a fault with the product, or external current or voltage is supplied to the secondary side of the welder.	1) Check whether power is supplied to the secondary side of the welder 2) Replace the welder.
E1436	Panasonic error (B015) VT offset abnormality detected.	When turning on the power switch, output current or voltage was detected. The product may be broken or external current or voltage was supplied to the secondary side of the welding machine.	1) Check whether power is supplied to the secondary side of the welder 2) Replace the welder.
E1437	Panasonic error (B016) cooling circuit abnormality detected.	Abnormality detected with the welder cooling circuit.	Replace the welder.

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Code	Message	Cause	Remedy
E1438	Panasonic error (B017) gas decompression abnormality detected.	Gas decompression abnormality detected with the welder.	1) Check the state of connection of the welding gas and the amount of the rest. 2) Replace the welder.
E1439	Panasonic error (B018) emergency stop abnormality detected.	Signal, connected to the emergency stop section of the jig terminal, being inputted.	Turn off the power switch, and check the causes of the emergency stop signal at the jig terminal.
E1440	Panasonic error (B019) external input 1 abnormality detected.	Signal, connected to EXT1 inside the welder, being inputted. (negative logic)	Check the connection of the collision sensor or the terminal at the STOP01 terminal inside the welder.
E1441	Panasonic error (B020) external input 2 abnormality detected.	Signal, connected to EXT2 inside the welder, being inputted. (negative logic)	Check the connection of the terminal at the STOP02 terminal inside the welder.
E1442	Panasonic error (B021) memory abnormality detected.	Abnormality detected with the memory inside the welder.	1) Turn off the welder, and turn it on again. 2) Replace the welder.
E1443	Panasonic error (B022) CPU abnormality detected.	Abnormality detected with the CPU inside the welder.	1) Turn off the welder, and turn it on again. 2) Replace the welder.
E1444	Panasonic error (B023) arc start abnormality detected.	After the welding startup signal is inputted, arc does not start within 4 seconds.	Check whether the voltage detection line is disconnected or defective in connection.
E1445	Welding environment not supported by the Panasonic welder	Synergic welding setting, not supported by the Panasonic welder, selected.	Select the Synergic welding setting that is supported by the Panasonic welder.
E1446	Robot link colliding with the operation limit area	Robot link is about to collide by exceeding the set limit value.	Move the robot link within the operation area, or adjust the operation limit value.
E1447	No license key for the arc sensing function.	No license key for using the arc sensing function.	Contact the head office of our company for inquiries, and get the official license.
E1448	No license key for the LVS function.	No license key for using the LVS function.	Contact the head office of our company for inquiries, and get the official license.

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Code	Message	Cause	Remedy
E1449	No license key for the cooperation control (CWORK) command.	No license key for using the cooperative control function.	Contact the head office of our company for inquiries, and get the official license.
E1450	No license key for the automatic calibration (ATDC) function.	No license key for using the auto calibration (ATDC) function.	Contact the head office of our company for inquiries, and get the official license.
E1451	No license key for the embedded DeviceNet function.	No license key for using the embedded DeviceNet function.	Contact the head office of our company for inquiries, and get the official license.
E1452	Servo hand environment setting error	Will be generated in a case in which a command statement related to servo hand is executed while not in the servo hand environment.	Check the setting state.
E1453	Gun type setting error	While executing a command related to spot welding through independent operation, if the gun type corresponding to the relevant gun number is not set as a stationary gun.	Set the gun type as stationary gun before use.
E1454	(%s axis) control state error	While executing a command related to spot welding recorded in the program, the axis control for the relevant gun number is in the off stated, or, reversely, while executing a command related to spot welding recorded in the program, the axis control for the relevant gun number is in the on state.	When executing a spot welding-related command, adjust the control state of the relevant axis.
E1455	(%s axis) independent operation not ended	While trying to control the designated axis using the AXISCTRL ON command, the axis is in independent operation.	Adjust the position in a way in which the AXISCTRL ON command can be executed after the independent operation of the designated axis is ended.
E1456	Program XXXX.Job not existent	Started up while there is no job program matching the selected number.	Select a proper job program, and then (or after copying properly) start up.

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Code	Message	Cause	Remedy
E1457	External stop signal input in progress! Startup failed	External stop signal is inputted at the time of startup. (Check through the T/P input signal monitoring window)	The external stop input signal should be turned off. If not to use the external stop function, set the external stop in the input signal assignment as zero.
E1458	Door switch signal input in progress! Startup failed	Door switch assignment signal inputted at the time of start up	Close the door first and then start up. Or, check whether the signal connection is normal.
E1459	External program selection input signal unstable	Assigned input signal of program selection has changed momentarily when remote mode started. (Check from the T/P input signal monitoring window)	Adjust the I/O sequence in a way in which the startup signal can be inputted after the program number signal is inputted. Or, check whether the signal connection is normal.
E1460	Program strobe signal not inputted	Program strobe signal not on at the time of startup in remote mode.	Adjust the I/O sequence in a way in which the external startup can be turned on after the program strobe signal is inputted. Or, check whether the signal connection is normal.
E1461	Program selection signal input is zero.	Program selection assignment signal value inputted as zero at the time of startup in remote mode.	Adjust the I/O sequence in a way in which the external startup can be turned on after the program selection signal is inputted. Or, check whether the signal connection is normal.
E1462	Plasma welder not responding.	The communication error between Hi5 controller and the plasma welder.	1) Check the communication line connection between the controller and the welder. 2) In the item of "System >>2:Control parameter>>3:Serial port," check the controller communication setting state. 3) Check the communication state through the "communication test" function in the relevant dialog box.
E1463	Plasma welder error (E01) pilot arc not ignited	Pilot arc does not ignited within 2 seconds after pilot startup.	Check and clear the trouble, and then deactivate the welder error state. After that, try pilot ignition again.

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Code	Message	Cause	Remedy
E1464	Plasma welder error (E02) pilot arc not ignited	Main arc does not ignited within 2 seconds after main arc startup.	Check and clear the trouble, and then deactivate the welder error state. Afterward, try main arc ignition while in pilot arc ignition.
E1465	Plasma welder error (E03) system overheated	Trance, reactor, semiconductor is overheated due to an operation over-load	After waiting for the inside of the power main body to be cooled down by the internal fan, deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work.
E1466	Plasma welder error (E04) primary overcurrent	Abnormality detected in IGBT of the welder main.	Check and clear the causes, and then supply the power again to resume the next work. When the same error repeats itself, stop use. After that, contact the welder company for inquiries.
E1467	Plasma welder error (E06) shield gas pressure lowered	Shield gas pressure is lowered below 0.15 MPa.	Check the shield gas pressure. When the gas valve is closed, open it full, and then deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work.
E1468	Plasma welder error (E07) pilot gas pressure lowered	1) Pilot gas pressure is lowered below 0.15 MPa. 2) Pilot gas flow is lowered below 0.08 L/min during welding.	1) Check pilot gas pressure. When the gas valve is closed, open it full, and then deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work. 2) After investigating and clearing the causes, try deactivating the welder error state. After that, confirm whether the error displayed on the welder front disappeared, and then resume the work.

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Code	Message	Cause	Remedy
E1469	Plasma welder error (E08) coolant flow insufficient	Coolant flow is insufficient.	After investigating and clearing the causes (torch water passage blocked, pump capacity lowered and fault with flow sensors), deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work. At this time, check whether the flow switch moves on the acrylic board at the side of the welder.
E1470	Plasma welder error (E09) emergency stop	Emergency stop signal is inputted.	After the emergency stop is deactivated, deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work.
E1471	Plasma welder error (E11) chiller abnormal	Abnormality generated while accessing the chiller-embedded cooling circulation system or the unit cooler.	Investigate the chiller all the way through the chiller embedded coolant circulation system, and resolve the problem. Afterward, deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work.
E1472	Plasma welder error (E20) input overvoltage	Voltage of higher than 240 V is inputted.	Check the power voltage, and resolve the problem. Afterward, deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work.
E1473	Plasma welder error (E21) input undervoltage	Voltage of lower than 180 V is inputted.	Check the power voltage and resolve the problem. Afterward, deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work.

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Code	Message	Cause	Remedy
E1474	Plasma welder error (E81) input overvoltage	400 V voltage is inputted while in the setting for 200 V, or 200 V voltage is inputted while in the setting for 400 V	Check the power voltage and resolve the problem. After that, deactivate the welder error state. When it is confirmed that the error code displayed on the welder front disappeared, resume the next work.
E1475	Plasma welder error (E85) startup failed	Power startup failed.	Try resuming the work by resupplying the power. If the problem repeats itself, contact the welder company for inquiries.
E1476	Plasma welder error (E94) memory abnormal	Abnormality generated with the memory that reserves the parameter.	Try resuming the work by resupplying the power. If the problem repeats itself, contact the welder company for inquiries.
E1477	Required to execute while in the Motor On mode.	Tried while not in the Motor On state.	Retry after checking the Motor On state.
E1478	Required to execute while in the auto mode.	Tried while not in the auto mode.	Retry after checking auto mode.
E1479	All subtasks in use	Max. count of subtasks limited to 3. Command that exceeds this range is requested.	Contact our company for inquiries.
E1480	Axis being used by other task	Axis, designed to move to the sub task, already moving.	Check the control state of the axis to move. Contact our company for inquiries.
E1481	Servo gun related command already in execution	Commands related to the servo gun cannot be executed simultaneously.	Contact our company for inquiries.
E1482	Relevant subtask in use	Subtask, to be executed, already being used.	Contact our company for inquiries.

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Code	Message	Cause	Remedy
E1483	Unit and coordinate setting in the step are not matched.	Unit designated to the currently executed step does not support the base and user coordinate systems. In a system that includes a traverse axis, only the unit that includes a traverse axis supports the base and user coordinate systems.	Change the unit number to a number that includes all traverse axes. Or, if the user wants the operation based on the robot coordinate, change the step coordinate system to the robot coordinate or axis coordinate system.
E1484	Unit setting error-Impossible to use the sync function	All the axes necessary for operation are not included in the selected unit.	Change the unit number to a number that includes all traverse axes necessary for the operation. - In case of the stationary tool interpolation, positioner sync, and conveyor sync operations, select a unit that includes all the traverse axes. - In case of spot and gun search, select a unit that includes the gun axis.
E1485	(%s axis) servo tool is separated.	Tried moving while the servo tool is separated.	Check the access state of servo tool.
E1486	Change target designated wrongly	When changing the servo tool, the number of the additional axes targeted for the change is not designated.	In the setting screen of System / Application parameter / Servo tool change / Servo tool parameter, check the setting of the change target.
E1487	Additional axis designated wrongly	Additional axis number currently in use are designated wrongly.	In the setting screen of System/Initialize/Additional axis parameter, check the axis specification and axis configuration.
E1488	Step in which the Z1 and Z2 axes of the link-type LCD robot are not identical	Z1 and Z2 positions of the recorded step are different.	Set the Z1 and Z2 positions of the recorded step as identical.

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Code	Message	Cause	Remedy
E1489	Torch switch or WCR is off before welding ends.	WCR or the torch switch is off before the robot ends welding.	1) Check other works or input signals to be executed simultaneously during arc welding. 2) If there are other works or input signals to be executed during arc welding, change the setting in a way in which they can be executed while welding is not executed.
E1490	Impossible to execute in a subtask.	Function, executable only in the main task, cannot be executed in the subtask.	Of the robot functions registered in the subtask, exclude the functions that can be executed only in the main task.
E1491	ARCON command of unsupported type	Commands of a type, not supported in the current arc welding setting, used.	Use the ARCON command of the type that can be used currently in the welder. Ex.) ARCON ASF#=1
E1492	Interstep distance is too short to execute weaving	Impossible to execute the weaving function due to too short distance between recorded steps.	Make the distance between steps to execute the weaving function longer.
E1493	Measured panel thickness is exceeded the normal range	Panel thickness, measured after pressure correspondance exceeded the allowable range of the reference thickness.	Check whether the panel is missed. Record the gun search position and carry out gun search again.
E1494	Error generated with the welder for %s times	Error number, detected in the welder, transmitted.	For 3 seconds, power supplied at the 80% or lower voltage of the rated level. Check the supply power.
E1495	%s gun) impossible to execute while in the servo clamping mode	Command unexecutable while in the servo clamping state.	Check the servo clamping state.
E1496	Impossible to read the height sensing condition.	Impossible to read the height sensing condition file.	Place the cursor on the HSensON command and then press the [QuickOpen] key to prepare a file. If this method does not work, carry out backup of all files and then initialize the system.

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Code	Message	Cause	Remedy
E1497	Impossible to execute height sensing.	Impossible to execute the height sensing because the weaving function is being executed.	Use only one of the weaving function and height sensing function.
E1498	Count of enabled poses is less than 3.	To execute TONL (online coordinate conversion) SFT/3POS/NPOS, the count of enabled poses should be 3 or higher.	Check the poses used in the reference position and in the measured position.
E1499	Allowable deviation exceeded.	When executing TONL (online coordinate conversion) SFT/3POS/NPOS, the calculated deviation amount exceeded the allowable deviation.	Check the poses used in the reference position and in the measured position.
E1501	Low air pressure in the painting robot.	Pressure inside the space in the robot lower than the reference pressure.	Turn off the power and then turn it on again.
E1504	Embedded PLC program exceeded the allowable size	Size of the embedded PLC program exceeded the allowable size.	Reduce the size of embedded PLC program within the allowable size.
E1505	Impossible to execute positioner calibration.	Problem with the setting to execute positioner calibration.	1) Check the distance between the steps of the calibration program. 2) Check the positioner group number.
E1506	Gun search reference position changed. Required to re-execute gun search.	External ROBOT.SWD file is copied, changing the gun search reference position.	1) Record the gun search reference position again by executing the processes 2 and 3 in order. 2) Set the "gun search reference position record" as "enabled," and then execute gun search. 3) Set the "gun search reference position record" as "disabled," and then execute gun search.
E1507	In a set state that does not support the encoder coordinate system (gravity compensation enabled)	While in the gravity compensation enabled state, the step recorded using the encoder coordinate is not supported.	Correct the record coordinate into other coordinate system, not Enc. coordinate, and then check the corrected position. After that, correct the step position when necessary.

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Code	Message	Cause	Remedy
E1508	The ENDLESS GHG command not executed	While the previous ENDLESS CHG command is being executed, the current ENDLESS CHG command cannot be executed.	Insert a step or DELAY between the previous ENDLESS CHG command and the current command.
E1509	Brake inspection not completed within 6 seconds	Due to an error inside the software, the brake inspection is not executed within the normal 5 seconds.	1) Reexecute the brake inspection command again. 2) Exclude the problematic axis from the test item, and then reexecute the command. 3) If the problem is not solved, contact our company for inquiries.
E1510	Relevant brake not released after brake inspection	After being activated for testing the brake inspection function, the brake is not released.	1) Execute the brake inspection command again after turning off the controller and then turning it on. 2) Check the motor with problematic axis. 3) If the problem is not solved, contact our company for inquiries.
E1511	Unexecutable GE signal	The designated GD signal value outside the range.	Check the GE signal range using the cooperative control group number and the robot number. Min={(Group#-1)*4+(Robot#-1)}*4+1 Max={(Group#-1)*4+(Robot#-1)}*4+4
E1512	Unexecutable DE signal	The designated DE signal value outside the range.	Check the DE signal range using the cooperative control group number and the robot number. Min={(Group#-1)*4+(Robot#-1)}*32+1 Max={(Group#-1)*4+(Robot#-1)}*32+32
E1513	Impossible to execute the SvClamp command (Other operation command %d in execution)	When executing the SvClamp command, MOVE, SPOT, SvClamp, ENDLESS, and others are already being executed.	End all the MOVE, SPOT, SvClamp, and ENDLESS commands in the relevant task, and then execute SvClamp. If the problem is not solved, transfer the backup file to the A/S department of our company.

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Code	Message	Cause	Remedy
E1514	Impossible to execute the MOVE command (Other operation command %d in execution)	When executing the MOVE command, MOVE, SPOT, SvClamp, ENDLESS, and others are already being executed.	End all the MOVE, SPOT, SvClamp, and ENDLESS commands in the relevant task, and then execute MOVE. If the problem is not solved, transfer the backup file to the A/S department of our company.
E1515	Impossible to execute the SPOT command (Other operation command %d in execution)	When executing the MOVE command, MOVE, SPOT, SvClamp, ENDLESS, and others are already being executed.	End all the MOVE, SPOT, SvClamp, and ENDLESS commands in the relevant task, and then execute SPOT. If the problem is not solved, transfer the backup file to the A/S department of our company.
E1516	Impossible to execute ENDLESS RESET. (Other operation command %d in execution)	When executing the ENDLESS RESET command, MOVE, SPOT, SvClamp, ENDLESS, and others are already being executed.	End all the MOVE, SPOT, SvClamp, and ENDLESS commands in the relevant task, and then execute ENDLESS. If the problem is not solved, transfer the backup file to the A/S department of our company.
E1517	Condition that makes it impossible to execute ENDLESS RESET for the main desk	While operation is not ready, the ENDLESS RESET command is inputted.	Check whether the motor is on. If not solved, make the Motor On/Off and then retry.
E1518	Impossible to execute ENDLESS ZERO. (Other operation command %d in execution)	When executing the ENDLESS ZERO command, MOVE, SPOT, SvClamp, ENDLESS, and others are already being executed.	End all the MOVE, SPOT, SvClamp, and ENDLESS commands in the relevant task, and then execute ENDLESS. If the problem is not solved, transfer the backup file to the A/S department of our company.
E1519	Condition that makes it impossible to execute ENDLESS ZERO for the main desk	While operation is not ready, the ENDLESS ZERO command is inputted.	Check whether the motor is on. If not solved, make the Motor On/Off and the try again.
E1520	Filter change time limit exceeded during Axisctrl On	Communication defective between the main board and the servo board.	1) Check the access state of the main board or of the servo board. 2) Replace the main board or the servo board.

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Code	Message	Cause	Remedy
E1521	Squeeze-Current table changed due to SWD file change	External ROBOT.SWD file is copied into the controller, changing the existing squeeze-current table information.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
E1522	Gun-search information changed due to SWD file change.	External ROBOT.SWD file is copied into the controller, changing the existing gun search information.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
E1523	Gun arm deflection amount changed due to SWD file change.	External ROBOT.SWD file is copied into the controller, changing the existing gun arm deflection amount setting.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
E1524	Panel thickness calibration setting changed due to SWD file change.	External ROBOT.SWD file is copied into the controller, changing the existing panel thickness calibration setting.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
E1525	No program existent to retract.	There is no work program relevant to the retract program number set in the brake inspection function.	1) Add the retract program relevant to the job number designated in the brake inspection setting dialog box. 2) Set the number of the work program, in which the position to retract and the related processing are recorded, in the brake inspection function dialog
E1526	Program to retract not matched with the MCH file.	The retract program of the number designated in the brake inspection setting dialog box does not match with the current MCH file of the robot.	Prepare a new retract program of the number designated in the brake inspection setting dialog box.
E1527	Axis count different in the program to retract	The axis count of the retract program of the number designated in the brake inspection setting dialog box is different from the current axis count of the robot.	Prepare a new retract program of the number designated in the brake inspection setting dialog box.

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Code	Message	Cause	Remedy
E1529	State that makes it impossible to execute brake inspection.	State that currently makes it impossible for the robot to execute brake inspection internally.	1) If the robot is executing a command independently, execute the brake inspection after the independent operation is finished. 2) If the robot is moving, execute the brake inspection after the movement is finished. 3) If the robot is already executing brake inspection, wait until it is finished.
E1530	Brake inspection execution delayed for 3 seconds or longer.	Impossible to execute brake inspection because the time of the robot being released from the wait state is not longer than 3 seconds.	1) Deactivate the power saving mode, and then execute brake inspection. 2) Deactivate the retention current reduction function, and then execute brake inspection. 3) If the problem is not solved, contact our company for inquiries.
E1531	Interpolation is not allowed.	The robot axes for interpolation are locked.	Enter into the 'AxisLock' menu to set the robot axes unlocked.
E1532	Cannot execute the command of servo gun.	The servo gun axes for command are locked.	Enter into the 'AxisLock' menu to set the servo gun axes unlocked.
E1533	Cannot execute ENDLESS by axis locked.	The robot axes for ENDLESS are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1534	Cannot execute ENDLESS by positioner axis locked.	The positioner axes for ENDLESS are locked.	Enter into the 'AxisLock' menu to set the positioner axes unlocked.
E1535	Cannot execute ENDLESS by jig axis locked.	The jig axes for ENDLESS are locked.	Enter into the 'AxisLock' menu to set the jig axes unlocked.
E1536	Cannot execute SoftXYZ by axis locked.	The axes for SoftXYZ are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1537	Cannot execute ForceCtrl by axis locked.	The axes for ForceCtrl are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.

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Code	Message	Cause	Remedy
E1538	Cannot execute SoftJoint by axis locked.	The axes for SoftJoint are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1539	Cannot execute RHemming by axis locked.	The axes for RHemming are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1540	Cannot execute Triggout by robot axis locked.	The robot axes for Triggout are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1541	Cannot execute Triggout by axis locked.	The axes for Triggout are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1542	Cannot execute CMOV by axis locked.	The axes for CMOV are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1543	Cannot execute SMOV by axis locked.	The axes for SMOV are locked.	Enter into the 'AxisLock' menu to set the axes unlocked.
E1547	This command cannot be executed when the axis is locked.	Execution of a command that cannot be executed when the axis is locked has been tried.	Clear the locking of the axis in the axis lock menu.
E1553	Relative movement amount parameter coordinate system error	Only the Cartesian coordinates are supported by the relative movement amount of the command.	Input the movement amount relative to the reference position of the Cartesian coordinates. Then, select one of the following Cartesian coordinates (base/robot/user).

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Code	Message	Cause	Remedy
E2000	Power failure detected	Power failure or CB (circuit brake) off while in the Motor On state. When the power failure is operating, it can generate the following errors. E02506 AMP PN under-voltage generated E02507 AMP diode module abnormal or its input voltage insufficient E02631 (%s axis) position deviation exceeded for each speed W00153 Detected the motor current exceeding the allowable range for the reducer.	Not required to take measures considering that this is for storing the power failure state in the error history.
E2010	Control AC power abnormal (fuse disconnected)	Overcurrent generated in the AC power line for the control power, disconnecting the fuse.	1) Remove the causes of fuse disconnection, and then replace the fuse for the control AC power in the electronic module. 2) Check the control AC power system.
E2011	Noise inflow / defective contact at the control AC power fuse detection path	External noise inflow into the wiring path related to the control AC power fuse monitoring, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the fuse monitoring-related wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the fuse; thus, please check carefully.
E2020	SMPS AC power abnormal (fuse disconnected)	Overcurrent generated in the AC power line for SMPS, disconnecting the fuse.	1) Remove the causes of fuse disconnection, and then replace the fuse for the SMPS AC power in the electronic module. 2) Check the SMPS AC power system.

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Code	Message	Cause	Remedy
E2021	Noise inflow / defective contact on the SMPS power fuse detection path	External noise inflow into the wiring path related to fuse monitoring, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the fuse monitoring related wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the fuse; thus, please check carefully.
E2030	Brake AC power abnormal (fuse disconnected)	Overcurrent generated in the AC 220 V power line to generate the brake power, disconnecting the fuse.	1) Remove the causes of fuse disconnection, and then replace the fuse for the brake power in the electronic module. 2) Check the brake power system.
E2031	Noise inflow / defective contact on the brake power fuse detection path	External noise inflow into the wiring path related to the brake AC power fuse monitoring, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the fuse monitoring-related wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the fuse; thus, please check carefully. 3) Replace the system board.
E2032	Brake AC power detection circuit fault	Wrongly recognized that the fuse is disconnected while there is no abnormality with the brake AC power.	Replace the system board.
E2033	Brake AC power detection circuit fault (detection impossible)	While the brake AC power is off, the detection circuit did not detected the abnormality.	Replace the system board.
E2040	Motor AC power abnormal (CP trip)	Overcurrent generated in the RST line for the motor power, tripping CP.	Remove the causes of CP trip, and then recover the CP switch.

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Code	Message	Cause	Remedy
E2041	Noise inflow / defective contact on the motor power CP detection path	External noise inflow into the wiring path related to monitoring, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the monitoring related wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with CP; thus, please check carefully.
E2050	System control power (P1, M1) voltage lowered	Voltage drop generated in the system control power (P1) of the system board.	1) Check the power system that supplies power to the system board. 2) If there is no problem with the power supply, it means that there is abnormality with the system board control power (P1) detection circuit. Replace the board.
E2051	System control power (P1, M1) voltage varied	System control power (P1) of the system board is unstable. Voltage variation generated.	1) Check the elements of voltage variation. (Check the power system that supplies power to the system board.) 2) If there is no problem with the power supply, it means that there is abnormality with the system board control power (P1) detection circuit. Replace the board.
E2100	Auto mode not matched (system in manual mode)	Mode state not matching between the main and the system. While the main in auto mode, the system board recognizes the input of the mode switch as manual mode.	If the teaching pendant mode switch is in auto mode, it means that the system board recognizes the mode wrongly. 1) Check the state of connection between the teaching pendant and the system board. 2) Replace the system board. 3) Replace the teaching pendant and the cable. If the teaching pendant mode switch is in manual mode, it means that the system board recognizes the mode wrongly. 1) Replace the teaching pendant and the cable.

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Code	Message	Cause	Remedy
E2101	Manual mode not matched (system in auto mode)	Mode state not matching between the main and the system. While the main in manual mode, the system board recognizes the input of the mode switch as auto mode.	If the teaching pendant mode switch is in manual mode, it means that the system board recognizes the mode wrongly. 1) Check the state of connection between the teaching pendant and the system board. 2) Replace the system board. 3) Replace the teaching pendant and the cable. If the teaching pendant mode switch is in auto mode, it means that the main board recognizes the mode wrongly. 2) Replace the teaching pendant and the cable.
E2102	Noise inflow / defective contact on the mode switch wiring path	External noise inflow into the wiring path for the mode switch signal, or unstable contact with terminal blocks, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the mode switch signal wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the mode switch; thus, please check the switch attached to the mechanical section carefully.
E2103	System auto mode not operating (mode chain 1 abnormal)	While in auto mode, the mode circuit channel 1 of the system board is not shifted to auto mode.	Replace the system board.
E2104	System auto mode not operating (mode chain 2 abnormal)	While in auto mode, the mode circuit channel 2 of the system board is not shifted to auto mode.	Replace the system board.
E2105	System manual mode not operating (mode chain 1 abnormal)	While in manual mode, the mode circuit channel 1 of the system board maintains auto mode.	Replace the system board.
E2106	System manual mode not operating (mode chain 2 abnormal)	While in manual mode, the mode circuit channel 2 of the system board maintains auto mode.	Replace the system board.
E2110	Shift to auto mode remotely requested		

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Code	Message	Cause	Remedy
E2111	Shift from auto mode to manual performed remotely		
E2120	Remote mode signal not inputted	Servo On tried in remote mode while the remote mode (system) signal not inputted.	1) Check the remote mode (system) signal wiring path, and attach and remove it to ensure that stable access is maintained. 2) There is a possible fault with the remote mode (system) switch; thus, please check the switch carefully. 3) Replace the system board.
E2121	Noise inflow / defective contact on the remote mode wiring path	External noise inflow into the wiring path for the remote mode (system) signal, or unstable contact with terminal blocks, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the remote mode (system) signal wiring path. Or, check the terminal block, and attach and remove it to ensure that stable access is maintained. 2) There is a possible fault with the remote mode (system) switch; thus, please check the switch carefully. 3) Replace the system board.
E2122	Noise inflow / defective contact on the remote mode wiring path (chain 1)	External noise inflow into the wiring path for the remote mode (system) input 1, or unstable contact with terminal blocks, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the remote mode (system) input channel 1. Or, check the terminal block, and attach and remove it to ensure that stable access is maintained. 2) There is a possible fault with the remote mode (system) switch; thus, please check the switch carefully. 3) Replace the system board.

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Code	Message	Cause	Remedy
E2123	Noise inflow / defective contact on the remote mode wiring path (chain 2)	External noise inflow into the wiring path for the remote mode (system) input 2, or unstable contact with terminal blocks, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the remote mode (system) input channel 2. Or, check the terminal block, and attach and remove it to ensure that stable access is maintained. 2) There is a possible fault with the remote mode (system) switch; thus, please check the switch carefully. 3) Replace the system board.
E2124	Remote mode input not matched (mode chain 1 off)	While trying servo on in remote mode, the remote mode (system) signal input 1 is off.	1) Check the wiring path or access state of the remote mode (system) signal input channel 1. 2) There is a possible fault with the remote mode (system) switch; thus, please check it carefully. 3) Replace the system board.
E2125	Remote mode input not matched (mode chain 2 off)	While trying servo on in remote mode, the remote mode (system) signal input 2 is off.	1) Check the wiring path or access state of the remote mode (system) signal input channel 2. 2) There is a possible fault with the remote mode (system) switch; thus, please check it. 3) Replace the system board.
E2126	Remote auto mode circuit fault	Fault with the mode processing circuit of the safety chain while in remote mode. Safety chain not shifted to the remote auto mode.	Replace the system board.
E2127	Remote auto mode circuit fault (mode chain 1 abnormal)	Fault with the mode processing chain 1 circuit of the safety chain while in remote mode. Safety chain not shifted to the remote auto mode.	Replace the system board.
E2128	Remote auto mode circuit fault (mode chain 2 abnormal)	Fault with the mode processing chain 2 circuit of the safety chain while in remote mode. Safety chain not shifted to the remote auto mode.	Replace the system board.

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Code	Message	Cause	Remedy
E2130	Noise inflow / defective contact on the enabling wiring path	External noise inflow into the wiring path for the enabling switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the enabling switch wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the enabling switch; thus, please check the switch attached to the mechanical section carefully.
E2131	Noise inflow / defective contact on the enabling wiring path (chain 1)	External noise inflow into the wiring path for the enabling switch safety chain 1, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the enabling switch safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the enabling switch; thus, please check the switch attached to the mechanical section carefully.
E2132	Noise inflow / defective contact on the enabling wiring path (chain 2)	External noise inflow into the wiring path for the enabling switch safety chain 2, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the enabling switch safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the enabling switch; thus, please check the switch attached to the mechanical section carefully.
E2133	Enabling input not matched (safety chain 1 off)	Input of the enabling switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the enabling switch; thus, please check it carefully.
E2134	Enabling input not matched (safety chain 2 off)	Input of the enabling switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the enabling switch; thus, please check it carefully.

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Code	Message	Cause	Remedy
E2135	Enabling safety circuit fault	Abnormality generated with the enabling switch safety circuit. While the final result of the safety chain is normal, the enabling switch is detected as off.	Replace the system board.
E2136	Enabling safety circuit fault (safety chain 1 abnormal)	Abnormality generated with the safety chain 1 of the enabling switch safety circuit. While the final result of the safety chain is normal, the enabling switch chain 1 is monitored as off.	Replace the system board.
E2137	Enabling safety circuit fault (safety chain 1 abnormal)	Abnormality generated with the safety chain 2 of the enabling switch safety circuit. While the final result of the safety chain is normal, the enabling switch chain 2 is monitored as off.	Replace the system board.
E2140	Noise inflow / defective contact on the TP emergency SW wiring path	External noise inflow into the wiring path for the TP emergency stop switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the TP emergency stop switch wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the TP emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2141	Noise inflow / defective contact on the TP emergency SW wiring path (chain 1)	External noise inflow into the wiring path for the TP emergency stop switch safety chain 1, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the TP emergency stop switch safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the TP emergency stop switch; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2142	Noise inflow / defective contact on the TP emergency SW wiring path (chain 2)	External noise inflow into the wiring path for the TP emergency stop switch safety chain 2, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the TP emergency stop switch safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the TP emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2143	TP emergency SW input not matched (safety chain 1 off)	Input of the TP emergency switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the TP emergency switch; thus, please check it.
E2144	TP emergency SW input not matched (safety chain 2 off)	Input of the TP emergency switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the TP emergency switch; thus, please check it.
E2145	TP emergency SW safety circuit fault while in manual mode	Abnormality generated with the TP emergency stop switch safety circuit while in manual mode. While the final result of the safety chain is normal, the TP emergency stop switch is monitored as off.	Replace the system board.
E2146	TP emergency SW safety circuit fault while in auto mode	Abnormality generated with the TP emergency stop switch safety circuit while in auto mode. While the final result of the safety chain is normal, the TP emergency stop switch is monitored as off.	Replace the system board.
E2147	TP emergency SW safety circuit fault while in manual mode (safety chain 1)	Abnormality generated with the TP emergency stop switch-related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the TP emergency stop switch chain 1 is monitored as off.	Replace the system board.

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Code	Message	Cause	Remedy
E2148	TP emergency SW safety circuit fault while in auto mode (safety chain 1)	Abnormality generated with the TP emergency stop switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the TP emergency stop switch chain 1 is monitored as off.	Replace the system board.
E2149	TP emergency SW safety circuit fault while in manual mode (safety chain 2)	Abnormality generated with the TP emergency stop switch-related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the TP emergency stop switch chain 2 is monitored as off.	Replace the system board.
E2150	TP emergency SW safety circuit fault while in auto mode (safety chain 2)	Abnormality generated with the TP emergency stop switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the TP emergency stop switch chain 2 is monitored as off.	Replace the system board.
E2155	Noise inflow / defective contact on the OP emergency SW wiring path	External noise inflow into the wiring path for the OP emergency stop switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the OP emergency stop switch wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the OP emergency stop switch; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2156	Noise inflow / defective contact on the OP emergency SW wiring path (chain 1)	External noise inflow into the wiring path for the OP emergency stop switch safety chain 1, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the OP emergency stop switch safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the OP emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2157	Noise inflow / defective contact on the OP emergency SW wiring path (chain 2)	External noise inflow into the wiring path for the TP emergency stop switch safety chain 2, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the OP emergency stop switch safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the OP emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2158	OP emergency SW input not matched (safety chain 1 off)	Input of the OP emergency switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the OP emergency switch; thus, please check it.
E2159	OP emergency SW input not matched (safety chain 2 off)	Input of the OP emergency switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the OP emergency switch; thus, please check it.
E2160	OP emergency SW safety circuit fault while in manual mode	Abnormality generated with the OP emergency stop switch safety circuit while in manual mode. While the final result of the safety chain is normal, the OP emergency stop switch is monitored as off.	Replace the system board.

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Code	Message	Cause	Remedy
E2161	OP emergency SW safety circuit fault while in auto mode	Abnormality generated with the OP emergency stop switch safety circuit while in auto mode. While the final result of the safety chain is normal, the OP emergency stop switch is monitored as off.	Replace the system board.
E2162	OP emergency SW safety circuit fault while in manual mode (safety chain 1)	Abnormality generated with the OP emergency stop switch-related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the OP emergency stop switch chain 1 is monitored as off.	Replace the system board.
E2163	OP emergency SW safety circuit fault while in auto mode (safety chain 1)	Abnormality generated with the OP emergency stop switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the OP emergency stop switch chain 1 is monitored as off.	Replace the system board.
E2164	OP emergency SW safety circuit fault while in manual mode (safety chain 2)	Abnormality generated with the OP emergency stop switch-related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the OP emergency stop switch chain 2 is monitored as off.	Replace the system board.
E2165	OP emergency SW safety circuit fault while in auto mode (safety chain 2)	Abnormality generated with the OP emergency stop switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the OP emergency stop switch chain 2 is monitored as off.	Replace the system board.

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Code	Message	Cause	Remedy
E2170	Noise inflow / defective contact on the external emergency (contact point) wiring path	External noise inflow into the wiring path for the external emergency stop contact point switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the external emergency stop switch. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the external emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2171	Noise inflow / defective contact on the external emergency (NPN) wiring path	External noise inflow into the wiring path for the external emergency stop semiconductor switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the external emergency stop switch. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the external emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2172	Noise inflow / defective contact on the external emergency (contact point) wiring (chain 1)	External noise inflow into the wiring path for the safety chain 1 of the external emergency stop contact point switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the external emergency stop switch safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the external emergency stop switch; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2173	Noise inflow / defective contact on the external emergency (NPN) wiring (chain 1)	External noise inflow into the wiring path for the safety chain 1 of the external emergency semiconductor switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the external emergency stop switch safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the external emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2174	Noise inflow / defective contact on the external emergency (contact point) wiring (chain 2)	External noise inflow into the wiring path for the safety chain 2 of the external emergency stop contact point switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the external emergency stop switch safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the external emergency stop switch; thus, please check the switch attached to the mechanical section carefully.
E2175	Noise inflow / defective contact on the external emergency (NPN) wiring (chain 2)	External noise inflow into the wiring path for the safety chain 2 of the external emergency semiconductor switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the external emergency stop switch safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the external emergency stop switch; thus, please check the switch attached to the mechanical section.
E2176	External emergency (contact point) input not matched (safety chain 1 off)	Input of the external emergency stop contact point switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the external emergency stop switch; thus, please check it carefully.

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Code	Message	Cause	Remedy
E2177	External emergency (NPN) input not matched (safety chain 1 off)	Input of the external emergency stop semiconductor switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the external emergency stop system; thus, please check it carefully.
E2178	External emergency (contact point) input not matched (safety chain 2 off)	Input of the external emergency stop contact point switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the external emergency stop switch; thus, please check it carefully.
E2179	External emergency (NPN) input not matched (safety chain 2 off)	Input of the external emergency stop semiconductor switch is not dualized. Different input state between the safety chain 1 and safety chain 2.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the external emergency stop system; thus, please check it carefully.
E2180	External emergency (contact point) safety circuit fault while in manual mode	Abnormality generated with the safety circuit of the external emergency stop contact point switch while in manual mode. While the final result of the safety chain is normal, the external emergency stop switch is monitored as off.	Replace the system board.
E2181	External emergency (PNP) safety circuit fault while in manual mode	Abnormality generated with the safety circuit of the external emergency stop semiconductor switch while in manual mode. While the final result of the safety chain is normal, the external emergency stop switch is monitored as off.	Replace the system board.
E2182	External emergency (contact point) safety circuit fault while in auto mode	Abnormality generated with the safety circuit of the external emergency stop contact point switch while in auto mode. While the final result of the safety chain is normal, the external emergency stop switch is monitored as off.	Replace the system board.

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Code	Message	Cause	Remedy
E2183	External emergency (PNP) safety circuit fault while in auto mode	Abnormality generated with the safety circuit of the external emergency stop semiconductor switch while in auto mode. While the final result of the safety chain is normal, the external emergency stop switch is monitored as off.	Replace the system board.
E2184	External emergency (contact point) safety circuit fault while in manual mode (chain 1)	Abnormality generated with the external emergency stop contact point related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the external emergency stop switch chain 1 is monitored as off.	Replace the system board.
E2185	External emergency (PNP) safety circuit fault while in manual mode (chain 1)	Abnormality generated with the external emergency stop semiconductor switch-related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the external emergency stop switch chain 1 is monitored as off.	Replace the system board.
E2186	External emergency (contact point) safety circuit fault while in auto mode (chain 1)	Abnormality generated with the external emergency stop contact point switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the external emergency stop switch chain 1 is monitored as off.	Replace the system board.
E2187	External emergency (PNP) safety circuit fault while in auto mode (chain 1)	Abnormality generated with the external emergency stop semiconductor switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the external emergency stop switch chain 1 is monitored as off.	Replace the system board.

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Code	Message	Cause	Remedy
E2188	External emergency (contact point) safety circuit fault while in manual mode (chain 2)	Abnormality generated with the external emergency stop contact point switch-related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the external emergency stop switch chain 2 is monitored as off.	Replace the system board.
E2189	External emergency (PNP) safety circuit fault while in manual mode (chain 2)	Abnormality generated with the external emergency stop semiconductor switch-related safety monitoring circuit while in manual mode. While the final result of the safety chain is normal, the external emergency stop switch chain 2 is monitored as off.	Replace the system board.
E2190	External emergency (contact point) safety circuit fault while in auto mode (chain 2)	Abnormality generated with the external emergency stop contact point switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the external emergency stop switch chain 2 is monitored as off.	Replace the system board.
E2191	External emergency (PNP) safety circuit fault while in auto mode (chain 2)	Abnormality generated with the external emergency stop semiconductor switch-related safety monitoring circuit while in auto mode. While the final result of the safety chain is normal, the external emergency stop switch chain 2 is monitored as off.	Replace the system board.
E2200	Manipulator limit SW operating	The limit switch that is installed at the end of the operation area of Robot's each axis has been operated. Deviated from the soft limit area also.	Move the axis, which deviated from the area, within the operation area.

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Code	Message	Cause	Remedy
E2201	Manipulator limit SW input mismatch (safety chain 1 off)	The limit switch that is installed at the end of the operation area of Robot's each axis has been operated. Deviated from the soft limit area also. However, only the hardware limit chain 1 is off, while the chain 2 is in the normal input state.	1) Check whether the limit switch chain 2 wiring is cut. 2) Check whether there is a problem with the limit switch chain 2 contact point.
E2202	Manipulator limit SW input mismatch (safety chain 2 off)	When normal hardware limit is generated, the limit switch that is installed at the end of the operation area of Robot's each axis has been operated. However, as abnormality is generated with the hardware limit chain 2 input, it is required to check.	Check the hardware limit channel 2.
E2203	Noise inflow / defective contact on the manipulator limit SW wiring	External noise inflow into the wiring path for the hardware limit, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the hardware limit wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the hardware limit switch; thus, please check the switch attached to the mechanical section carefully.
E2204	Noise inflow / defective contact on the manipulator limit SW wiring (chain 1)	External noise inflow into the wiring path for the hardware limit safety chain 1, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the hardware limit wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the hardware limit switch; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2205	Noise inflow / defective contact on the manipulator limit SW wiring (chain 2)	External noise inflow into the wiring path for the hardware limit safety chain 2, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the hardware limit wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the hardware limit switch; thus, please check the switch attached to the mechanical section carefully.
E2206	Manipulator limit SW disconnected or not accessed	Disconnection generated with the wiring path for the hardware limit, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the hardware limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2207	Manipulator limit SW input mismatch (safety chain 1 off)	Disconnection generated with the wiring path for the hardware limit safety chain 1, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the hardware limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2208	Manipulator limit SW input mismatch (safety chain 2 off)	Disconnection generated with the wiring path for the hardware limit safety chain 2, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the hardware limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2209	Manipulator limit SW safety circuit fault	Abnormality generated with the hardware limit related safety monitoring circuit.	Replace the system board.
E2210	Manipulator limit SW safety circuit fault (chain 1)	Abnormality generated with the hardware limit safety chain 1-related safety monitoring circuit.	Replace the system board.

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Code	Message	Cause	Remedy
E2211	Manipulator limit SW safety circuit fault (chain 2)	Abnormality generated with the hardware limit safety chain 2-related safety monitoring circuit.	Replace the system board.
E2220	Additional axis limit SW operating	Limit switch, installed at the end of the operation area of the additional axis of the robot, operated. Deviated from the soft limit area also.	Move the axis, which deviated from the area, within the operation area.
E2221	Additional axis limit SW input not matched (safety chain 1 off)	Limit switch, installed at the end of the operation area of the additional axis of the robot, operated. Deviated from the soft limit area also. However, only the hardware limit chain 1 is off, while the chain 2 is in the normal input state.	1) Check whether the additional axis limit switch chain 2 wiring is cut. 2) Check whether there is a problem with the additional axis limit switch chain 2 contact point.
E2222	Additional axis limit SW input not matched (safety chain 2 off)	Limit switch, installed at the end of the operation area of the additional axis of the robot, operated. Deviated from the soft limit area also. However, only the hardware limit chain 2 is off, while the chain 1 is in the normal input state.	1) Check whether the additional axis limit switch chain 1 wiring is cut. 2) Check whether there is a problem with the additional axis limit switch chain 1 contact point.
E2223	Noise inflow / defective contact on the additional axis limit SW wiring	External noise inflow into the wiring path for the additional axis hardware limit, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the additional axis hardware wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the additional axis hardware limit switch; thus, please finally check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2224	Noise inflow / defective contact on the additional axis limit SW wiring (chain 1)	External noise inflow into the wiring path for the additional axis hardware limit safety chain 1, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the additional axis hardware wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the additional axis hardware limit switch; thus, please check the switch attached to the mechanical section carefully.
E2225	Noise inflow / defective contact on the additional axis limit SW wiring (chain 2)	External noise inflow into the wiring path for the additional axis hardware limit safety chain 2, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the additional axis hardware wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the additional axis hardware limit switch; thus, please check the switch attached to the mechanical section carefully.
E2226	Additional limit SW disconnected or not accessed	Disconnection generated with the wiring path for the additional axis hardware limit, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the additional axis hardware limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2227	Additional axis limit SW input not matched (safety chain 1 off)	Disconnection generated with the wiring path for the additional axis hardware limit safety chain 1, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the additional axis hardware limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.

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Code	Message	Cause	Remedy
E2228	Additional axis limit SW input not matched (safety chain 2 off)	Disconnection generated with the wiring path for the additional axis hardware limit safety chain 2, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the additional axis hardware limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2229	Additional axis limit SW safety circuit fault	Abnormality generated with the additional axis hardware limit related safety monitoring circuit.	Replace the system board.
E2230	Additional axis limit SW safety circuit fault (chain 1)	Abnormality generated with the additional axis hardware limit safety chain 1-related safety monitoring circuit.	Replace the system board.
E2231	Additional axis limit SW safety circuit fault (chain 2)	Abnormality generated with the additional axis hardware limit safety chain 2-related safety monitoring circuit.	Replace the system board.
E2240	Arm interference limit SW operating or disconnected/not accessed	The limit switch, installed to prevent robot arm interference, is operated. Or, abnormality generated with the wiring path.	As the arm interference limit switch is operated, recover within the operation area. If not outside the operation area, check the following items. 1) Check for any disconnection or connector access in the arm interference limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2241	Noise inflow / defective contact on the arm interference limit SW wiring	External noise inflow into the wiring path for the arm interference limit, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the arm interference limit wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the arm interference limit switch; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2242	Noise inflow / defective contact on the arm interference limit SW wiring (chain 1)	External noise inflow into the wiring path for the arm interference limit safety chain 1, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the arm interference limit wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the arm interference limit switch; thus, please check the switch attached to the mechanical section carefully.
E2243	Noise inflow / defective contact on the arm interference limit SW wiring (chain 2)	External noise inflow into the wiring path for the arm interference limit safety chain 2, or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the arm interference limit wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the arm interference limit switch; thus, please check the switch attached to the mechanical section carefully.
E2244	Arm interference limit SW input not matched (safety chain 1-off)	Disconnection generated with the wiring path for the arm interference limit safety chain 1, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the arm interference limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2245	Arm interference limit SW input not matched (safety chain 2-off)	Disconnection generated with the wiring path for the arm interference limit safety chain 1, or connectors not accessed, for example.	1) Check for any disconnection or connector access in the arm interference limit wiring path, and carry out repair. 2) There is a possible fault with the switch attached to the mechanical section; thus, please check it.
E2246	Arm interference limit SW safety circuit fault	Abnormality generated with the arm interference limit related safety monitoring circuit.	Replace the system board.

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Code	Message	Cause	Remedy
E2247	Arm interference limit SW safety circuit fault (safety chain 1)	Abnormality generated with the arm interference limit safety chain 1-related safety monitoring circuit	Replace the system board.
E2248	Arm interference limit SW safety circuit fault (safety chain 2)	Abnormality generated with the arm interference limit safety chain 2-related safety monitoring circuit.	Replace the system board.
E2260	Magnetic contactor (MC2) fault/detection abnormal while trying servo on	Magnet MC2 not operated, causing servo on not to take place.	1) Magnet MC2 abnormal. Please check. 2) Distribution board (BD5C0) abnormal. Please check. 3) System board monitoring system possibly abnormal. Please check.
E2261	Magnetic contactor (MC2) fault/detection abnormal while in the servo on state	While in the servo on state, the magnet MC2 is off abnormally.	1) Magnet MC2 abnormal. Please check. 2) Distribution board (BD5C0) abnormal. Please check. 3) System board monitoring system possibly abnormal. Please check.
E2262	MC2 not operating while trying servo on (CPUERR generated)	CPUERR generated from the main board, causing the magnet MC2 not to operate.	Check the causes of CPUERR.
E2263	MC2 off while in the servo on state (CPUERR generated)	CPUERR generated from the main board, causing the magnet MC2 to be off during the servo on state.	Check the causes of CPUERR.
E2264	MC2 not operating while trying servo on (CPUERR system abnormal)	CPUERR generated, causing the magnet MC2 not to operate in terms of hardware. However, the main board judges that there is no abnormality with the CPUERR signal.	1) There is a fault with the CPUERR line processing section of the system board. Please replace it. 2) There is a problem with the CPUERR line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.

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Code	Message	Cause	Remedy
E2265	MC2 off while in the servo on state (CPUERR system abnormal)	CPUERR generated, causing the magnet MC2 to be off in terms of hardware. However, the main board judges that there is no abnormality with the CPUERR signal.	1) There is a fault with the CPUERR line processing section of the system board. Please replace it. 2) There is a problem with the CPUERR line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2266	MC2 not operating while trying servo on (ERRRSV generated)	ERRRSV generated from the main board, causing the magnet MC2 not to operate.	Check the causes of ERRRSV.
E2267	MC2 off while in the servo on state (ERRRSV generated)	ERRRSV generated from the main board, causing the magnet MC2 to be off during the servo on state.	Check the causes of ERRRSV.
E2268	MC2 not operating while trying servo on (ERRRSV system abnormal)	ERRRSV generated, causing the magnet MC2 not to operate in terms of hardware. However, the main board judges that there is no abnormality with its own ERRRSV signal.	1) There is a fault with the ERRRSV line processing section of the system board. Please replace it. 2) There is a problem with the ERRRSV line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2269	MC2 off while in the servo on state (ERRRSV system abnormal)	ERRRSV generated, causing the magnet MC2 to be off in terms of hardware. However, the main board judges that there is no abnormality with its own ERRRSV signal.	1) There is a fault with the ERRRSV line processing section of the system board. Please replace it. 2) There is a problem with the ERRRSV line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2270	MC2 not operating while trying servo on (safety chain 1 abnormal)	Abnormality with the safety chain 1, causing the magnet MC2 not to operate. Abnormality generated with the safety chain, not with the safety signal.	If the same symptom persists, replace the system board.

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Code	Message	Cause	Remedy
E2271	MC2 off while in the servo on state (safety chain 1 abnormal)	Abnormality with the safety chain 1, causing the magnet MC2 to be off. Abnormality generated with the safety chain, not with the safety signal.	1) Check whether the symptom is intermittent, and then check the safety signal. 2) If the same symptom persists, replace the system board.
E2272	MC2 not operating while trying servo on (safety chain 2 abnormal)	Abnormality with the safety chain 2, causing the magnet MC2 not to operate. Abnormality generated with the safety chain, not with the safety signal.	If the same symptom persists, replace the system board.
E2273	MC2 off while in the servo on state (safety chain 2 abnormal)	Abnormality with the safety chain 2, causing the magnet MC2 to be off. Abnormality generated with the safety chain, not with the safety signal.	Check whether the symptom is intermittent, and then check the safety signal. If the same symptom persists, replace the system board.
E2274	Magnetic contactor (MC2) drive circuit abnormal while trying servo on	Abnormality with the safety chain interlock circuit, causing the magnet MC2 not to operate.	If the same symptom persists, replace the system board.
E2275	Magnetic contactor (MC2) drive circuit abnormal while in the servo on state	Abnormality generated with the safety chain interlock circuit, causing the magnet MC2 be off during the servo on state.	Check whether the symptom is intermittent, and then check the safety signal. If the same symptom persists, replace the system board.
E2276	Magnetic contactor (MC2) drive monitoring circuit abnormal	Abnormality generated with the circuit that monitors the magnet MC2 drive circuit output.	Replace the system board.
E2277	Magnetic contactor (MC2) drive circuit abnormal while in the servo off state	Abnormality generated with the magnet MC2 drive circuit.	Replace the system board.
E2278	Magnetic contactor (MC2) fault/detection abnormal while in the servo off state	Abnormality generated with the magnet MC2, making MC2 seem on. Or, abnormality generated with the MC2 monitoring system.	1) Check and replace the magnet MC2 (or its auxiliary contact point) of the electronic module. 2) Check the cable CNMC first. 3) Check and replace the BD5C0 board of the electronic module. 4) As there is a possible fault with the system board, check and replace it.

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Code	Message	Cause	Remedy
E2280	Magnetic contactor (MC1) fault/detection abnormal while trying servo on	Magnet MC1 not operated, causing servo on not to take place.	1) Magnet MC1 abnormal. Please check. 2) Distribution board (BD5C0) abnormal. Please check. 3) System board monitoring system possibly abnormal. Please check.
E2281	Magnetic contactor (MC1) fault/detection abnormal while in the servo on state	While in the servo on state, the magnet MC1 is off abnormally.	1) Magnet MC1 abnormal. Please check. 2) Distribution board (BD5C0) abnormal. Please check. 3) System board monitoring system possibly abnormal. Please check.
E2282	MC1 not operating while trying servo on (CPUERR generated)	CPUERR generated from the main board, causing the magnet MC1 not to operate.	Check the causes of CPUERR.
E2283	MC1 off while in the servo on state (CPUERR generated)	CPUERR generated from the main board, causing the magnet MC1 to be off during the servo on state.	Check the causes of CPUERR.
E2284	MC1 not operating while trying servo on (CPUERR system abnormal)	CPUERR generated, causing the magnet MC1 not to operate in terms of hardware. However, the main board judges that there is no abnormality with the CPUERR signal.	1) There is a fault with the CPUERR line processing section of the system board. Please replace it. 2) There is a problem with the CPUERR line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2285	MC1 off while in the servo on state (CPUERR system abnormal)	CPUERR generated, causing the magnet MC1 to be off in terms of hardware. However, the main board judges that there is no abnormality with the CPUERR signal.	1) There is a fault with the CPUERR line processing section of the system board. Please replace it. 2) There is a problem with the CPUERR line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2286	MC1 not operating while trying servo on (ERRRSV generated)	ERRRSV generated from the main board, causing the magnet MC1 not to operate.	Check the causes of ERRRSV.

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Code	Message	Cause	Remedy
E2287	MC1 off while in the servo on state (ERRRSV generated)	ERRRSV generated from the main board, causing the magnet MC1 to be off during the servo on state.	Check the causes of ERRRSV.
E2288	MC1 not operating while trying servo on (ERRRSV system abnormal)	ERRRSV generated, causing the magnet MC1 not to operate in terms of hardware. However, the main board judges that there is no abnormality with its own ERRRSV signal.	1) There is a fault with the ERRRSV line processing section of the system board. Please replace it. 2) There is a problem with the ERRRSV line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2289	MC1 off while in the servo on state (ERRRSV system abnormal)	ERRRSV generated, causing the magnet MC1 to be off in terms of hardware. However, the main board judges that there is no abnormality with its own ERRRSV signal.	1) There is a fault with the ERRRSV line processing section of the system board. Please replace it. 2) There is a problem with the ERRRSV line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2290	MC1 not operating while trying servo on (safety chain 1 abnormal)	Abnormality with the safety chain 1, causing the magnet MC1 not to operate. Abnormality generated with the safety chain, not with the safety signal.	If the same symptom persists, replace the system board.
E2291	MC1 off while in the servo on state (safety chain 1 abnormal)	Abnormality with the safety chain 1, causing the magnet MC1 to be off. Abnormality generated with the safety chain, not with the safety signal.	Check whether the symptom is intermittent, and then check the safety signal. If the same symptom persists, replace the system board.
E2292	MC1 not operating while trying servo on (safety chain 2 abnormal)	Abnormality with the safety chain 2, causing the magnet MC1 not to operate. Abnormality generated with the safety chain, not with the safety signal.	If the same symptom persists, replace the system board.
E2293	MC2 off while in the servo on state (safety chain 2 abnormal)	Abnormality with the safety chain 2, causing the magnet MC1 to be off. Abnormality generated with the safety chain, not with the safety signal.	Check whether the symptom is intermittent, and then check the safety signal. If the same symptom persists, replace the system board.

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Code	Message	Cause	Remedy
E2294	Magnetic contactor (MC1) drive circuit abnormal while trying servo on	Abnormality with the safety chain interlock circuit, causing the magnet MC1 not to operate.	If the same symptom persists, replace the system board.
E2295	Magnetic contactor (MC1) drive circuit abnormal while in the servo on state	Abnormality generated with the safety chain interlock circuit, causing the magnet MC1 be off during the servo on state.	Check whether the symptom is intermittent, and then check the safety signal. If the same symptom persists, replace the system board.
E2296	Magnetic contactor (MC1) drive monitoring circuit abnormal	Abnormality generated with the circuit that monitors the magnet MC2 drive circuit output.	Replace the system board.
E2297	Magnetic contactor (MC1) drive circuit abnormal while in the servo off state	Abnormality generated with the magnet MC2 drive circuit.	Replace the system board.
E2298	Magnetic contactor (MC1) fault/detection abnormal while in the servo off state	Abnormality generated with the magnet MC1, making MC1 seem on. Or, abnormality generated with the MC2 monitoring system.	1) Check and replace the magnet MC1 (or its auxiliary contact point) of the electronic module. 2) Check the cable CNMC first. 3) Check and replace the BD5C0 board of the electronic module. 4) As there is a possible fault with the system board, check and replace it.
E2300	CPUERR signal not matched (system board error detected)	While there is no CPUERR generated in the main board, CPUERR is detected in the system board. Problem with the CPUERR signal transfer system.	1) There is a fault with the CPUERR line processing section of the system board. Please replace it. 2) There is a problem with the CPUERR line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.

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Code	Message	Cause	Remedy
E2301	CPUERR signal not matched (system board error not detected)	While the main board generated CPUERR, the system board has not responded to it. Problem with the CPUERR signal transfer system.	1) There is a fault with the CPUERR line processing section of the system board. Please replace it. 2) There is a problem with the CPUERR line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the CPUERR generation section of the main board. Please replace it.
E2302	ERRRSV signal not matched (system board error detected)	While there is no ERRRSV generated in the main board, ERRRSV is detected in the system board. Problem with the ERRRSV signal transfer system.	1) There is a fault with the ERRRSV line processing section of the system board. Please replace it. 2) There is a problem with the ERRRSV line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the ERRRSV generation section of the main board. Please replace it.
E2303	ERRRSV signal not matched (system board error not detected)	While the main board generated ERRRSV, the system board has not responded to it. Problem with the ERRRSV signal transfer system.	1) There is a fault with the ERRRSV line processing section of the system board. Please replace it. 2) There is a problem with the ERRRSV line wiring included in the CAN communication cable. Check the cable. 3) There is a fault with the ERRRSV generation section of the main board. Please replace it.
E2310	Auto mode safety guard switch operating	While in auto mode, the safety guard switch is opened.	Check the state of the auto mode safety guard switch.
E2311	Noise inflow / defective contact on the auto mode safety guard wiring	External noise inflow into the wiring path for the auto mode safety guard switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the auto mode safety guard switch. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the auto mode safety guard switch; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2312	Noise inflow / defective contact on the auto safety guard wiring (chain 1)	External noise inflow into the wiring path for the auto mode safety guard switch safety chain 1, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the auto mode safety guard switch safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the auto mode safety guard switch; thus, please check the switch attached to the mechanical section carefully.
E2313	Noise inflow / defective contact on the auto safety guard wiring (chain 2)	External noise inflow into the wiring path for the auto mode safety guard switch safety chain 2, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the auto mode safety guard switch safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the auto mode safety guard switch; thus, please check the switch attached to the mechanical section carefully.
E2314	Auto mode safety guard input not matched (safety chain 1 off)	Input of the auto mode safety guard switch is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off, but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the auto mode safety guard switch; thus, please check it.
E2315	Auto mode safety guard input not matched (safety chain 2 off)	Input of the auto mode safety guard switch is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the auto mode safety guard switch; thus, please check it.
E2316	Auto mode safety guard safety circuit fault	Abnormality generated with the auto mode safety guard switch safety circuit. While the final result of the safety chain is normal, the auto mode safety guard switch is monitored as off.	Replace the system board.

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Code	Message	Cause	Remedy
E2317	Auto mode safety guard safety circuit fault (chain 1)	Abnormality generated with the auto mode safety guard switch-related safety monitoring circuit. While the final result of the safety chain is normal, the auto mode safety guard switch chain 1 is monitored as off.	Replace the system board.
E2318	Auto mode safety guard safety circuit fault (chain 2)	Abnormality generated with the auto mode safety guard switch-related safety monitoring circuit. While the final result of the safety chain is normal, the auto mode safety guard switch chain 2 is monitored as off.	Replace the system board.
E2320	General safety guard switch operating	The general safety guard switch is opened.	Check the state of then general safety guard switch.
E2321	Noise inflow / defective contact on the general safety guard wiring	External noise inflow into the wiring path for the general guard switch, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the general guard switch wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the general guard switch; thus, please check the switch attached to the mechanical section carefully.
E2322	Noise inflow / defective contact on the general safety guard wiring (chain 1)	External noise inflow into the wiring path for the general guard switch safety chain 1, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the general guard switch safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the general guard switch; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2323	Noise inflow / defective contact on the general safety guard wiring (chain 2)	External noise inflow into the wiring path for the general guard switch safety chain 2, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the general guard switch safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the general guard switch; thus, please check the switch attached to the mechanical section carefully.
E2324	General safety guard input not matched (safety chain 1 off)	Input of the general guard switch is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off, but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the general guard switch; thus, please check it.
E2325	General safety guard input not matched (safety chain 2 off)	Input of the general guard switch is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the general guard switch; thus, please check it.
E2326	General safety guard safety circuit fault	Abnormality generated with the general guard switch safety circuit. While the final result of the safety chain is normal, the general guard switch is monitored as off.	Replace the system board.
E2327	General safety guard safety circuit fault (chain 1)	Abnormality generated with the general guard switch-related safety monitoring circuit. While the final result of the safety chain is normal, the general guard switch chain 1 is monitored as off.	Replace the system board.
E2328	General safety guard safety circuit fault (chain 2)	Abnormality generated with the general guard switch-related safety monitoring circuit. While the final result of the safety chain is normal, the general guard switch chain 2 is monitored as off.	Replace the system board.
E2330	Light curtain operating	Light curtain operated.	Check the state of the light curtain operation

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Code	Message	Cause	Remedy
E2331	Noise inflow / defective contact on the light curtain wiring	External noise inflow into the wiring path for the light curtain, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the light curtain wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the light curtain; thus, please check the switch attached to the mechanical section carefully.
E2332	Noise inflow / defective contact on the light curtain wiring (chain 1)	External noise inflow into the wiring path for the light curtain safety chain 1, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the light curtain safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the light curtain; thus, please check the switch attached to the mechanical section carefully.
E2333	Noise inflow / defective contact on the light curtain wiring (chain 2)	External noise inflow into the wiring path for the light curtain safety chain 2, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the light curtain safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the light curtain; thus, please check the switch attached to the mechanical section carefully.
E2334	Light curtain input not matched (safety chain 1 off)	Input of the light curtain is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off, but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the light curtain; thus, please check the switch attached to the mechanical section carefully.
E2335	Light curtain input not matched (safety chain 2 off)	Input of the light curtain is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the light curtain; thus, please check it.

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Code	Message	Cause	Remedy
E2336	Light curtain safety circuit fault	Abnormality generated with the light curtain safety circuit. While the final result of the safety chain is normal, the light curtain is monitored as off.	Replace the system board.
E2337	Light curtain safety circuit fault (chain 1)	Abnormality generated with the light curtain related safety monitoring circuit. While the final result of the safety chain is normal, the light curtain chain 1 is monitored as off.	Replace the system board.
E2338	Light curtain safety circuit fault (chain 2)	Abnormality generated with the light curtain related safety monitoring circuit. While the final result of the safety chain is normal, the light curtain chain 2 is monitored as off.	Replace the system board.
E2340	Lift axis belt sensor operating	Lift axis motor drive system belt broken. Or, sensor cable broken inside the robot.	Replace the motor drive unit belt, or check the sensor cable inside the robot.
E2341	Noise inflow / defective contact on the lift axis belt sensor wiring	External noise inflow into the wiring path for the lift axis belt sensor, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the lift axis belt sensor. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the lift axis belt sensor; thus, please check the switch attached to the mechanical section carefully.
E2342	Noise/defective contact on the lift axis belt sensor wiring (chain 1)	External noise inflow into the wiring path for the lift axis belt sensor safety chain 1, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the lift axis belt sensor safety chain 1. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the lift axis belt sensor; thus, please check the switch attached to the mechanical section carefully.

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Code	Message	Cause	Remedy
E2343	Noise/defective contact on the lift axis belt sensor wiring (chain 2)	External noise inflow into the wiring path for the lift axis belt sensor safety chain 2, or defective contact with connectors, for example, making the input unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the lift axis belt sensor safety chain 2. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the lift axis belt sensor; thus, please check the switch attached to the mechanical section carefully.
E2344	Lift axis belt sensor input not matched (safety chain 1 off)	Input of the lift axis is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off, but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the lift axis belt sensor; thus, please check it.
E2345	Lift axis belt sensor input not matched (safety chain 2 off)	Input of the lift axis is not dualized. Different input state between the safety chain 1 and safety chain 2. Safety chain 2 is off, but the safety chain 1 is on.	1) Check the undualized signal line or its access state. 2) There is a possible fault with the lift axis belt sensor; thus, please check it.
E2346	Lift axis belt sensor safety circuit fault	Abnormality generated with the lift axis belt sensor safety circuit. While the final result of the safety chain is normal, the lift axis belt sensor is monitored as off.	Replace the system board.
E2347	Lift axis belt sensor safety circuit fault (chain 1)	Abnormality generated with the lift axis belt sensor related safety monitoring circuit. While the final result of the safety chain is normal, the lift axis belt sensor chain 1 is monitored as off.	Replace the system board.
E2348	Lift axis belt sensor safety circuit fault (chain 2)	Abnormality generated with the lift axis belt sensor related safety monitoring circuit. While the final result of the safety chain is normal, the lift axis belt sensor chain 2 is monitored as off.	Replace the system board.

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Code	Message	Cause	Remedy
E2380	Failure in safety circuits in the AUTO MODE	All safety signals are normal in the AUTO MODE. But safety circuits are all OFFs that are in emergency state. This situation resulted from the failure of safety circuits.	If errors often occur, you should exchange the SYSTEM board.
E2381	Failure in a safety circuit (chain1) in the AUTO MODE	All signals of the safety chain1 are normal in the AUTO MODE. But the circuit of the safety chain1 is OFF that is in emergency state. This situation resulted from the failure of the circuit of the safety chain1.	If errors often occur, you should exchange the SYSTEM board.
E2382	Failure in a safety circuit (chain2) in the AUTO MODE	All signals of the safety chain1 are normal in the AUTO MODE. But the circuit of the safety chain2 is OFF that is in emergency state. This situation resulted from the failure of the circuit of the safety chain2.	If errors often occur, you should exchange the SYSTEM board.
E2383	Failure in safety circuits in the MANUAL MODE	All safety signals are normal in the MANUAL MODE. But safety circuits are all OFFs that are in emergency state. This situation resulted from the failure of safety circuits.	If errors often occur, you should exchange the SYSTEM board.
E2384	Failure in a safety circuit (chain1) in the MANUAL MODE	All signals of the safety chain1 are normal in the MANUAL MODE. But the circuit of the safety chain1 is OFF that is in emergency state. This situation resulted from the failure of the circuit of the safety chain1.	If errors often occur, you should exchange the SYSTEM board.
E2385	Failure in a safety circuit (chain2) in the MANUAL MODE	All signals of the safety chain1 are normal in the MANUAL MODE. But the circuit of the safety chain2 is OFF that is in emergency state. This situation resulted from the failure of the circuit of the safety chain2.	If errors often occur, you should exchange the SYSTEM board.

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Code	Message	Cause	Remedy
E2400	Motor temperature increased (hardwiring)	Through the temperature sensor mounted on each axis motor of the robot, it is detected that the motor temperature has increased excessively.	1) Check the causes of the motor temperature increase. 2) Check whether the setting of making the hardwiring temperature sensor detection circuit deactivated in the system board is proper. 3) Check whether the wiring is cut. 4) Replace the system board.
E2401	Noise/defective contact on the motor temperature detection wiring	External noise inflow into the wiring path for the motor temperature increase (hardwiring), or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the motor increase (hardwiring) wiring path. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the motor temperature sensor; thus, please check the motor attached to the mechanical section carefully.
E2402	Motor temperature detection circuit (hardwiring) abnormal	Abnormality generated with the motor temperature increase (hardwiring) detection circuit. While the brake power is off, the signal using the power is inputted normally.	Replace the system board.
E2410	Additional axis motor temperature increased (hardwiring)	Through the temperature sensor mounted on each axis motor of the robot, it is detected that the motor temperature has increased excessively.	1) Check the causes of the additional axis motor temperature increase. 2) Check whether the setting of making the hardwiring temperature sensor detection circuit deactivated in the system board is proper. 3) Check whether the wiring is cut. 4) Replace the system board.

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Code	Message	Cause	Remedy
E2411	Noise/defective contact on the additional axis motor temperature detection wiring	External noise inflow into the wiring path for the additional axis motor temperature increase (hardwiring), or unstable contact with connectors, for example.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the additional axis motor temperature increase (hardwiring). Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) There is a possible fault with the additional axis motor temperature sensor; thus, please check the motor attached to the mechanical section carefully.
E2412	Additional axis motor temperature detection circuit (hardwiring) abnormal	Abnormality generated with the additional axis motor temperature increase (hardwiring) detection circuit. While the brake power is off, the signal using the power is inputted normally.	Replace the system board.
E2420	(%s axis) encoder abnormal: Communication processing time exceeded	Encoder data not being received within the communication processing time.	Refer to the troubleshooting manual.
E2421	(%s axis) encoder abnormal: Data frame incomplete	Data received but not in the set type	Refer to the troubleshooting manual.
E2424	%2d axis) encoder noise inflow	Current robot position not the same as the position read again in the encoder. Noise inflow into the encoder.	Check the state related to encoder voltage, the connection of cables, and the grounding of the controller and robot.
E2425	%2d axis) absolute value encoder data reception failed	Tried but failed to receive the absolute encoder data from the encoder to check the state of noise inflow into the encoder.	Check the state related to encoder voltage, the connection of cables, and the grounding of the controller and robot.
E2430	(%s axis) encoder type not matched	Error with encoder type setting	Correction of the encoder type

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Code	Message	Cause	Remedy
E2431	(%s axis) [init] No response from encoder.	When initializing, the serial encoder does not respond to the request signal.	1. Check the connection state of the connector&cable related to the encoder. 2. Replace Motor(with Encoder) 3. Replace Servo board. 4. Replace Encoder-related cable.
E2432	(%s axis) [init] Count of the received encoder data is wrong.	Count of the encoder data, received when booting the controller initially, wrong.	1. Check the connection state of the connector&cable related to the encoder. 2. Replace Motor(with Encoder) 3. Replace Servo board. 4. Replace Encoder-related cable.
E2433	(%s axis) [init] Encoder data end signal is not received.	End signal of the encoder data, received when booting the controller initially, not received	1. Check the connection state of the connector&cable related to the encoder. 2. Replace Motor(with Encoder) 3. Replace Servo board. 4. Replace Encoder-related cable.
E2434	(%s axis) [init] Encoder state error (OS) is received.	While driving using the external battery power after the encoder main power is off, if the encoder rotates exceeding the power failure mode regulated value (6000 rpm), the main power will be on, generating the error.	Resetting of the encoder error
E2435	(%s axis) [init] Encoder state error (FS) is received.	Will be generated in a case in which the encoder main power is on while the encoder axis rotates exceeding 100 rpm. When this flag is generated, the position resolution is 5 bit. When the resolution becomes 17 bit, it will be released automatically.	Will be deactivated automatically when the encoder axis is 100 rpm or below.

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Code	Message	Cause	Remedy
E2436	(%s axis) [init] Encoder state error (ME) is received.	While the encoder main power is on, multi-rotation signal jump occurs.	1) Reset serial encoder. 2) Reset instrument reference point. 3) Check teaching point. 4) Replace the motor encoder if the same error repeats after taking an action. 5) There is potential for the robot to conflict with a nearby equipment during operation because the power was resupplied only to the controller after an error occurred. 6) Operate the robot after proceeding with the remedy 1) to 3) after an error occurs.
E2437	(%s axis) [init] Encoder temperature read error	Temperature setting for encoder overheating detection is not received at the controller booting sequence.	1. Check the connection state of the connector&cable related to the encoder. 2. Replace Motor(with Encoder) 3. Replace Servo board. 4. Replace Encoder-related cable.
E2438	(%s axis) Temperature setting for encoder overheating detection is wrong.	User-setting temperature for the encoder overheating detection is wrong or out of range.	Check the available temperature range for encoder overheating detection.
E2439	(%s axis) Cannot apply the temperature for encoder overheat detection.	temperature setting for the encoder overheating detection is not applied to encoder.	Retry the temperature setting for encoder overheating detection

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Code	Message	Cause	Remedy
E2450	(%s axis) encoder not replying to the request	Serial encoder not responding the request signal.	1) Check the connection state of the cable and the connector related to the encoder 2) Check the ground state of the encoder-related cable. 3) Replace Motor(with Encoder) 4) Replace Servo board. 5) Replace Encoder-related cable.
E2451	(%s axis) Count of the received encoder data is wrong.	Count of the received encoder data is wrong.	1) Check the ground state of the encoder-related cable. 2) Check the connection state of the cable and the connector related to the encoder 3) Replace Motor(with Encoder) 4) Replace Servo board. 5) Replace Encoder-related cable.
E2452	(%s axis) Encoder data end signal is not received.	End signal of the received encoder data not received	1) Check the ground state of the encoder-related cable. 2) Check the connection state of the cable and the connector related to the encoder. 3) Replace Motor(with Encoder). 4) Replace Servo board 5) Replace Encoder-related cable
E2453	(%s axis) encoder data CRC error	CRC error with the received encoder data.	1) Check the ground state of the encoder-related cable. 2) Check the connection state of the cable and the connector related to the encoder. 3) Encoder defective 4) Servo board defective 5) Encoder-related cable defective
E2454	(%s axis) encoder disconnected or defective contact-Motor Off	Encoder signal not received while in the Motor Off state.	1) Check the connection state of the cable and the connector related to the encoder 2) Encoder defective 3) Servo board defective 4) Encoder-related cable defective
E2455	(%s axis) encoder data jump error	For the position value of the received encoder data, the value of the jump, measured by being compared with the previous process, is received.	1) Check the connection state of the cable and the connector related to the encoder 2) Check the encoder power line. 3) Servo board defective

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Code	Message	Cause	Remedy
E2456	Servo board 1 encoder disconnected or power abnormal	Communication error with the encoder of the prior axis.	1) Check the connection state of the cable and the connector related to the encoder 2) Check the encoder power line. 3) Servo board defective
E2457	Servo board 2 encoder disconnected or power abnormal	Communication error with the encoder of the prior axis.	1) Check the connection state of the cable and the connector related to the encoder 2) Check the encoder power line. 3) Servo board defective
E2458	Encoder data not normal	Significant difference in the encoder value between when measured while the controller power off and when measured while the controller on. Error detection level is set as 2˚, which is the normal axis angle.	
E2459	(%s axis) encoder disconnected or defective contact-Motor On	Encoder data not received while in the Motor On state.	1. Check the connection state of the cable and the connector related to the encoder 2. Encoder defective 3. Servo board defective 4. Encoder-related cable defective
E2460	(%s axis) encoder state error (CE) received	Will be generated in a case in which malfunction or fault with the 1-rotation data causes the position to deviated when the encoder main power is on.	1) Check the encoder supply voltage 2) After resetting the encoder error, the encoder main power OFF / ON 3) When the error is generated continuously, replace the motor or encoder.
E2461	(%s axis) encoder state error (OS) received	While driving using the external battery power after the encoder main power is off, if the encoder rotates exceeding the power failure mode regulated value (6000 rpm), the main power will be on, generating the error.	1) Check the encoder supply voltage 2) After resetting the encoder error, the encoder main power OFF / ON 3) When the error is generated continuously, replace the motor or encoder.

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Code	Message	Cause	Remedy
E2462	(%s axis) encoder state error (FS) received	Will be generated in a case in which the encoder main power is on while the encoder axis rotates exceeding 100 rpm. When the DI flag is generated, the position resolution is 5 bit. When the resolution becomes 17 bit, it will be released automatically.	1) Check the encoder supply voltage 2) After resetting the encoder error, the encoder main power OFF / ON 3) When the error is generated continuously, replace the motor or encoder.
E2463	(%s axis) encoder state error (ME) received	While the encoder main power is on, multi-rotation signal jump occurs.	1) Check the encoder supply voltage 2) After resetting the encoder error, the encoder main power OFF / ON 3) When the error is generated continuously, replace the motor or encoder.
E2464	(%s axis) encoder state error (BE) received	When the encoder main power is off, the external battery voltage is 3. Will be generated when below 1V.	1) Check the encoder supply voltage 2) After resetting the encoder error, the encoder main power OFF / ON 3) When the error is generated continuously, replace the motor or encoder.
E2470	(%s axis) encoder abnormal: Encoder reset required	Encoder data outside the offset function application range.	Refer to the troubleshooting manual.
E2471	%2d axis) encoder battery replacement & reset required	Encoder battery separated or voltage too low, causing the encoder alarm.	Check the state related to encoder battery voltage and connection of cables, and then replace the battery before resetting the encoder.
E2472	(%s axis) encoder overheating detected	Encoder internal temperature increased to the limit value.	Check the motor temperature, and adjust the robot operation speed.
E2500	AMP regenerative discharge resistor overheated	Regenerative discharge resistor temperature increased above the reference value. Excessive robot playback speed, or problem with the cooling system.	1) Check the error by lowering the robot playback speed. 2) Check the regenerative discharge resistor value. 3) Check the cooling system. 4) Check the regenerative power capacity of robot.

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Code	Message	Cause	Remedy
E2501	AMP regenerative discharge resistor disconnected, resistor or circuit abnormal	Overheating error will be generated if a resistor is disconnected or the discharge control is abnormal. In addition, this could be generated when the regenerative discharge resistance value and the 3-phase power voltage values increase	1) Check the regenerative discharge resistor value(CNDR). 2) Check the servo drive module. 3) Check the controller power voltage.
E2502	AMP regenerative discharge resistor detection path abnormal	Abnormality generated with the overheating error detection path, or the resistor value has varied.	1) Check the power-related cables(CNTR, CNSGC). 2) Check the parts(system board, servo drive module) related to AMP discharge resistor overheat error detection.
E2503	AMP PN overvoltage occurred	May be occurred when the robot playback speed changes rapidly or when the regenerative discharge resistor value increases.	1) Check the error by lowering the robot playback speed. 2) Check the regenerative discharge resistor value.
E2504	AMP diode module abnormal or AC input voltage exceeded	Abnormality generated with the diode module, causing the PN voltage to exceed the allowable range. In addition, the 3-phase voltage is inputted into the servo drive module (AMP) at a abnormally high level.	1) Check the power-related parts(servo drive module). 2) Check the controller power voltage.
E2505	AMP PN overvoltage detection path abnormal or discharge abnormal	Detection path of AMP PN overervoltage or regenerative discharge circuit is abnormal.	1) Check the cables(CNSGC) related to AMP PN Overoltage detection. 2) Check the parts(system board, servo drive module) related to AMP PN Overvoltage error detection.
E2506	AMP PN undervoltage occurred	If error occurred at a specific step depending on the robot playback speed, PN voltage lowered because of the significant use of energy. May be generated because the controller input power is unstable.	1) Check the error by lowering the robot playback speed. 2) Check the controller power voltage when the robot is operating.

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Code	Message	Cause	Remedy
E2507	AMP diode module abnormal or insufficient AC input voltage	Abnormality occurred at the diode module, causing the PN voltage not to be charged. In addition, the error may be generated because the 3-phase voltage inputted into the servo drive module is lowered.	1) Check the power-related parts(servo drive module). 2) Check the controller power voltage.
E2508	AMP PN undervoltage detection path abnormal or discharge abnormal	Detection path of AMP PN undervoltage or PN discharge circuit is abnormal.	1) Check the cables(CNSGC) related to AMP PN undervoltage detection. 2) Check the parts(system board, servo drive module) related to AMP PN undervoltage error detection.
E2510	AMP AC input power overvoltage-Fuse disconnected	Because of surge voltage flow into the servo drive module, F1 or F2 is disconneced.	1) Check the fuse of srevo drive module. 2) Check the controller power voltage. 3) Check the power-related parts(servo drive module).
E2511	AMP AC input power overvoltage-Detection path abnormal	Detection path of AC input power overvoltage is abnormal.	1) Check the fuse of srevo drive module. 2) Check the cables(CNSGC) related to AC overvoltage error detection. 3) Check the parts(system board, servo drive module) related to AC overvoltage error detection.
E2520	(%s axis) IPM fault	Fault signal generated with IPM of the relevant axis in the drive system.	Check the motor drive parts. 1) Check the output cable accessing the servo drive system. 2) Check the terminal of the switching device inside the servo drive system. 3) Check the error after replacing the CNBS 1, 2, and 3 cables. 4) Check the error after replacing the servo board. 5) Check the error after replacing the servo drive system. 6) Check the error after replacing the servo motor.
E2521	(%s axis) IPM fault-Gate drive power undervoltage	IPMF generated while in the Motor Off state. Problem with the gate drive power, or, more likely, problem with amp line connection.	1) Check the connection state of the CBNS line 2) Replace AMP. 3) Replace the servo board.

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Code	Message	Cause	Remedy
E2522	(%s axis) IPM fault-Specific step	When the IPM fault error is generated at specific steps, it means that the effect of the damage to the mechanical wiring for a taught step is shown significantly, or the axis sped varies significantly when the posture conversion of a taught program takes place.	Check the robot at the step where the error is generated. 1) Check the wiring of the robot at the position where the error is generated. 2) Check the error by lowering the robot playback speed. 3) Check the error after changing the interpolation of the taught step
E2530	Disconnection/Defective contact on the PWMON wiring between AMP and the system	Defective contact generated with the wiring path for the PWMON signal between AMP and the system board. This makes the PWM command in AMP cut off.	Check the CNSGA cable of the drive system. Even after taking the above measures, if the error should occur again, contact our company for inquiries.
E2531	PWM error-PWMON signal off	PWMON signal in the system board is off. This makes the PWM command in AMP cut off.	If not in the normal off state. 1) Check what caused the magnet to be off. 2) Check/Replace the electronic module.
E2532	PWM error-Magnetic contactor MC1 abnormal	Magnetic contactor MC1 off abnormally, generating the PWM error.	Check what caused MC1 to be abnormally off.
E2533	PWM error-Magnetic contactor MC2 abnormal	Magnetic contactor MC2 off abnormally, generating the PWM error.	Check what caused MC2 to be abnormally off.
E2534	PWM error-Safety chain 1 abnormal	PWMON signal off because of abnormality with the safety chain 1.	1) Check the safety chain 1. 2) Replace the system board.
E2535	PWM error-Safety chain 2 abnormal	PWMON signal off because of abnormality with the safety chain 2.	1) Check the safety chain 2. 2) Replace the system board.
E2536	PWM error-CPUERR abnormal	Abnormality generated with the CPUERR processing circuit in the system board.	1) Replace the system board. 2) Replace the CANS1 communication cable. 3) Replace the main board.

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Code	Message	Cause	Remedy
E2537	PWM error-ERRRSV abnormal	Abnormality generated with the ERRRSV processing circuit in the system board.	1) Replace the system board. 2) Replace the CANS1 communication cable. 3) Replace the main board.
E2538	PWM error-PWMON signal generation circuit fault	All magnetic contactors are on, but the PWMON signal is not generated adequately.	Replace the system board.
E2540	(%s axis) PWM off when servo on	PWM error!, Sequence line contact defective PWM off-line's defective contact between AMP and the sequence board, preventing the PWM command from being inputted into the drive system.	Check the drive system CNSG cable Even after taking the above measures, if the error should occur again, contact our company for inquiries.
E2541	(%s axis) drive system control voltage lowered	+15 V, the control power supplied to the servo drive system, lowered.	Refer to the troubleshooting manual.
E2542	Servo AMP control voltage lowered	Control power +15 V lowered, and abnormality with SMPS for the regenerative control in the drive system.	Refer to the troubleshooting manual.
E2550	DB contact error while in the Motor On state	DB resistor not opened while in the Motor On state.	1) Check the CNBS cable connected between the BD542 board and AMP. 2) Replace AMP.
E2551	DB (dynamic brake) operation abnormal	Abnormality with the operation of the DB resistor when Motor On/Off.	1) Check the CNBS cable connected between the BD542 board and AMP. 2) Replace AMP.
E2552	DB power abnormal-SMPS input AC power	Problem generated with the AC input power for SMPS that is used for the AMP dynamic brake (DB) circuit.	Take measures for the error related to E2030.
E2553	DB power abnormal-SMPS output DC power	Abnormality generated with the output power of SMPS that is used for the AMP dynamic brake (DB) circuit.	Take measures for the error related to E2560.

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Code	Message	Cause	Remedy
E2560	Brake power supply shut off	Brake power is not supplied.	1) Check the brake power. 2) If the power is not measured, check the CNB wiring. 3) Replace the brake SMPS inside the electronic module.
E2561	Brake power supply unstable	Brake power supply unstable.	1) Check and arrange the power line or cabling that could generate noise inflow into the wiring path for the brake power supply. Or, check the connectors, and attach and remove them to ensure that stable access is maintained. 2) Replace the system board.
E2562	Brake power detection circuit fault (fault while in the abnormal state)	Abnormality generated with the brake power detection circuit. While the brake power is supplied normally, but the detection circuit displays that the power is abnormal.	Replace the system board.
E2563	Brake power detection circuit fault (fault while in the normal state)	Abnormality generated with the brake power detection circuit. While the brake power is off, but the detection circuit displays that the power is normal.	Replace the system board.
E2590	System board servo brake error	Servo not clearing the servo brake signal while in the Motor On state.	Check whether Motor On cannot be executed because there is an error generated with initialization or the encoder. Considering that signals are inputted through the BD542 board, AMP, and the BD530 board, check the boards and the relay cables.
E2591	Expansion system board servo brake error	Servo not clearing the servo brake signal while in the Motor On state.	Check whether Motor On cannot be executed because there is an error generated with initialization or the encoder. Considering that signals are inputted through the BD542 board, AMP, and the expansion system boards BD53E and BD530, check the boards and the relay cables.

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Code	Message	Cause	Remedy
E2600	DSP version not existent in the main board flash ROM	Will be generated if there is no saved execution code when trying transmission of a DSP execution code saved in the main board flash ROM to the servo board when power on.	Upgrade the DSP version using the system version-up function (R286).
E2601	Verification error after #%u DSP version downloaded	Something wrong with the data of the execution code transmitted through the servo board HPI port.	1) Check whether a servo board is mounted. 2) Check the servo board DIP switch by referring to the fault repair methods.
E2610	(%s axis) motor UV phase overcurrent generated	Overcurrent generated with the motor U and V phases	Refer to the troubleshooting manual.
E2611	(%s axis) motor U phase overcurrent generated	Overcurrent generated with the motor U phase	Refer to the troubleshooting manual.
E2612	(%s axis) motor V phase overcurrent generated	Overcurrent generated with the motor V phase	Refer to the troubleshooting manual.
E2613	(%s axis) motor W phase overcurrent generated	Overcurrent generated with the motor W phase	Refer to the troubleshooting manual.
E2620	(%s axis) received command code abnormal-1	Filter 1 size set as zero or negative	Refer to the troubleshooting manual.
E2621	(%s axis) received command code abnormal-2	Filter 1 size set as larger than the regulated range	Refer to the troubleshooting manual.
E2622	(%s axis) received command code abnormal-3	Filter 2 size set as zero or negative	Refer to the troubleshooting manual.
E2623	(%s axis) received command code abnormal-4	Filter 2 size set as larger than the regulated range	Refer to the troubleshooting manual.
E2624	(%s axis) received command code abnormal-5	Filter 3 size set as zero or negative	Refer to the troubleshooting manual.

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Code	Message	Cause	Remedy
E2625	(%s axis) received command code abnormal-6	Filter 3 size set as larger than the regulated range	Refer to the troubleshooting manual.
E2626	(%s axis) received command code abnormal-7	Command codes from the main are not regulated	Refer to the troubleshooting manual.
E2629	(%s axis)reception command has abnormality	The checksum value of the command code sent from the main is not matching.	Check the state of the board connection, and, if the same problem continues, contact our company for inquiries.
E2630	(%s axis) position deviation exceeded	Position deviation exceeded the set error value.	1) Check any mechanical interference of axis of question. 2)Check the brake release, and if there is any problem, check the brake power. 3) Check the rated load. 4) Check the positional deviation setting level. For more details, Refer to the troubleshooting manual.
E2631	(Axis %s) position deviation exceeded for each speed	Position deviation exceeded the set error value for each speed.	1) Check any mechanical interference of axis of question. 2)Check the brake release, and if there is any problem, check the brake power. 3) Check the rated load. 4) Check the positional deviation setting level. For more details, Refer to the troubleshooting manual.
E2632	(%s axis) position deviation exceeded (brake voltage lowered)	Position deviation exceeded the set error value because the brake cannot be released.	Refer to the troubleshooting manual.
E2633	(%s axis) position deviation exceeded (load estimation not executed)	Position deviation exceeded the set error value because load estimation is not executed (overload).	Refer to the troubleshooting manual.
E2634	(%s axis) position deviation exceeded (low temperature friction increased)	Position deviation exceeded the set error value because the grease viscosity friction coefficient increases in low temperatures.	Refer to the troubleshooting manual.

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Code	Message	Cause	Remedy
E2635	(%s axis) position deviation exceeded (problem with encoder)	Position deviation exceeded the set error value due to a problem with the encoder.	Refer to the troubleshooting manual.
E2636	(%s axis) position deviation exceeded	Position deviation exceeded the set error value.	1) Check any mechanical interference of axis of question. 2) Check the brake release, and if there is any problem, check the brake power (CMR1). 3) Check the rated load. 4) Check the positional deviation setting level. For more details, Refer to the troubleshooting manual.
E2637	(Axis %s) position deviation exceeded for each speed	The positional deviation exceeded the error setting value by speed.	1) Check any mechanical interference of axis of question. 2) Check the brake release, and if there is any problem, check the brake power (CMR1). 3) Check the rated load. 4) Check the positional deviation setting level. For more details, refer to the troubleshooting manual.
E2638	(%s axis) position deviation exceeded	The positional deviation exceeded the error setting value.	1) Check any mechanical interference of axis of question. 2) Check the brake release and if there is any problem, check the brake power (CMR2). 3) Check the rated load. 4) Check the positional deviation setting level. For more details, Refer to the troubleshooting manual.
E2639	(Axis %s) position deviation exceeded for each speed	The positional deviation exceeded the error setting value by speed.	1) Check any mechanical interference of axis of question. 2) Check the brake release and if there is any problem, check the brake power (CMR2). 3) Check the rated load. 4) Check the positional deviation setting level. For more details, Refer to the troubleshooting manual.

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Code	Message	Cause	Remedy
E2640	(%s axis) speed deviation set value exceeded	Speed deviation larger than the set value.	Refer to the troubleshooting manual.
E2650	(%s axis) motor overloaded	Motor being operated by force above the set level.	Refer to the troubleshooting manual.
E2651	(%s axis) motor overloaded (brake voltage lowered)	Current flowing through the motor exceeded the set continuous rating because the brake cannot be released.	Refer to the troubleshooting manual.
E2652	(%s axis) motor overloaded (load estimation not executed)	Current flowing through the overloaded motor exceeded the set continuous rating because the load estimation is not executed.	Refer to the troubleshooting manual.
E2653	(%s axis) motor overloaded (low-temperature friction increased)	Current flowing through the motor exceeded the set continuous rating because the grease viscosity friction coefficient increases in low temperatures.	Refer to the troubleshooting manual.
E2654	(%s axis) motor overloaded (problem with encoder)	Current flowing through the motor exceeded the set continuous rating because of a problem with the encoder.	Refer to the troubleshooting manual.
E2660	(%s axis) bit jump (normal operation) error	While in normal speed operation, the current speed exceeded the high-speed detection level (BJH).	1) Check the servo board CNEC connector. 2) Check CNR4. 3) Check whether the setting of BJH is 1.5 times the max. speed.
E2661	(%s axis) bit jump (low-speed operation) error	While in low speed operation (Jog, step forward/backward, and the low-speed command signal input set in the input signal assignment), the current speed exceeded the low-speed detection level (BJL).	1) Check the servo board CNEC connector. 2) Check CNR4. 3) Check whether the setting of BJL is 1.5 times the max. speed.
E2670	(%s axis) command value abnormal	Abnormality with the position command transmitted to the servo board.	Refer to the troubleshooting manual.
E2680	(%s axis) max. speed exceeded	Position command, transmitted to the servo board, exceeded the max. speed.	Refer to the troubleshooting manual.

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Code	Message	Cause	Remedy
E2690	Servo on time limit exceeded	Servo On not executed within the time limit when servo on operated or power saving deactivated.	Refer to the troubleshooting manual.
E2691	Servo off time limit exceeded	Servo Off not executed within the time limit when Servo Off operated or power saving activated.	1) Replace the servo board. 2) Contact our company for inquiries.
E2692	Servo error clear time limit exceeded	Motor On impossible because of error with the servo.	Take measures for the servo errors that are the causes.
E2693	Filter change time limit exceeded(DSP Cleanup State Execution)	Communication defective between the main board and the servo board.	1) Check the access state of the main board or of the servo board. 2) Replace the main board or the servo board.
E2694	Filter change time limit exceeded(Payload Estimation)	Communication defective between the main board and the servo board.	1) Check the access state of the main board or of the servo board. 2) Replace the main board or the servo board.
E2695	Filter change time limit exceeded(Command Based Payload Estimation)	Communication defective between the main board and the servo board.	1) Check the access state of the main board or of the servo board. 2) Replace the main board or the servo board.
E2700	(%s axis) UV phase offset overcurrent when initializing	U-phase and V-phase excessive offset current during initialization	1) Check +/-15 V power of the complex power unit. 2) Replace the servo board. 3) Replace AMP.
E2701	(%s axis) U phase offset overcurrent when initializing	U phase offset overcurrent when initializing	1) Check +/-15 V power of the complex power unit. 2) Replace the servo board. 3) Replace AMP.
E2702	(%s axis) V phase offset overcurrent when initializing	V phase offset overcurrent when initializing	1) Check +/-15 V power of the complex power unit. 2) Replace the servo board. 3) Replace AMP.
E2703	(%s axis) UV phase offset overcurrent when initializing	U-phase and V-phase excessive offset current while the motor is turning on	1) Check +/-15 V power of the complex power unit. 2) Replace the servo board. 3) Replace AMP.

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Code	Message	Cause	Remedy
E2704	(%s axis) U phase offset overcurrent when starting Motor On	U phase offset overcurrent when starting Motor On	1) Check +/-15 V power of the complex power unit. 2) Replace the servo board. 3) Replace AMP.
E2705	(%s axis) V phase offset overcurrent when starting Motor On	V phase offset overcurrent when starting Motor On	1) Check +/-15 V power of the complex power unit. 2) Replace the servo board. 3) Replace AMP.
E2710	DSP 1 version error generated	No initialization completion response in DSP 1 of the servo board 1.	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E2711	DSP 2 version error generated	No initialization completion response in DSP 2 of the servo board 1.	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E2712	DSP 3 version error generated	No initialization completion response in DSP 1 of the servo board 2	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E2713	DSP 4 version error generated	No initialization completion response in DSP 2 of the servo board 2.	1) Check the mounting state of the servo board. 2) Check whether the DS1, DS2, anc S1 switches inside the servo board operate normally. 3) Replace the servo board.
E2750	DSP 1 communication abnormal	Communication defective between the main CPU and DSP 1 of the servo board 1.	1) Check the mounting state of the servo board. 2) Replace the servo board.
E2751	DSP 2 communication abnormal	Communication defective between the main CPU and DSP 2 of the servo board 1.	1) Check the mounting state of the servo board. 2) Replace the servo board.

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Code	Message	Cause	Remedy
E2752	DSP 3 communication abnormal	Communication defective between the main CPU and DSP 1 of the servo board 2.	1) Check the mounting state of the servo board. 2) Replace the servo board.
E2753	DSP 4 communication abnormal	Communication defective between the main CPU and DSP 2 of the servo board 2.	1) Check the mounting state of the servo board. 2) Replace the servo board.
E2760	DSP 1 detected the main watchdog	DSP 1 of the servo board 1 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E2761	DSP 2 detected the main watchdog	DSP 2 of the servo board 1 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E2762	DSP 3 detected the main watchdog	DSP 1 of the servo board 2 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E2763	DSP 4 detected the main watchdog	DSP 2 of the servo board 2 detected abnormality with the watchdog of the main.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E2770	(%s axis) undefined servo error generated in initialization	Unknown error code received from the servo board during the reception of the encoder initial absolute position data.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E2771	(%s axis) undefined servo error generated	Unknown error code received from the servo board during operation.	1) Check the mounting state of the main board or the servo board. 2) Replace the main board or the servo board.
E2780	(%s axis) impossible to maintain servo lock-Problems with wiring and generation of current	Error of the AMP or the DSP board, such as bad contact, disconnection, short circuit, and incorrect wiring	1. Check the motor wire. 2. Check the AMP 3. Check the servo board 4. Check the CNBS cable
E2781	(%s axis) impossible to maintain servo lock-Problems with gain	Gain setting error	Check the setting of gain.

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Code	Message	Cause	Remedy
E2785	(%s axis) current deviation error-Problems with wiring and generation of current	Significant difference between the commanded current value and the feedback current value.	1. Check the state of the motor wiring. 2. Check the connection state of the CNBS cable. 3. AMP defective 4. Servo board defective
E2790	DSP 1 AMP line connection defective	Servo board and AMP not connected, or AMP defective.	1. Check the connection of the CNBS1 cable. 2. AMP defective 3. Servo board defective
E2791	DSP 2 AMP line connection defective	Servo board and AMP not connected, or AMP defective.	1. Check the connection of the CNBS2 cable. 2. AMP defective 3. Servo board defective
E2792	DSP 3 AMP line connection defective	Servo board and AMP not connected, or AMP defective.	1. Check the connection of the CNBS3 cable. 2. AMP defective 3. Servo board defective
E2793	DSP 4 AMP line connection defective	Servo board and AMP not connected, or AMP defective.	1. Check the connection of the CNBS4 cable. 2. AMP defective 3. Servo board defective
E2800	Teaching pendant operation abnormal	Communication disconnection detected between the teaching pendant and the main board.	Simply ignore it.
E2801	TP watchdog time interval exceeded	The execution of routine doing TP communication has been delayed.	Please contact to Hyundai Robotics. If robot operation is urgent, R314 and increase the time-setting of "[F2:System]-1:User environment-10:Teach pendant disconnect."

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Code	Message	Cause	Remedy
E2810	System CAN communication error - bus-off state	System CAN communication bus off.	1) Check the access state of the CAN communication cable. 2) Check whether there is abnormality with the system board power. 4) If there is no abnormality with the above items, replace the system board. 5) If the same phenomenon persists even after replacing the system board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2811	System CAN communication error - bus-err	Bus-err counted in many in the system CAN communication.	Check the access state of the CAN communication.
E2820	System CAN communication error - err-passive	Err-passive counted in many in the system CAN communication.	Check the access state of the CAN communication.
E2822	System CAN communication error - arbitration-lost	Arbitration-lost counted in many in the system CAN communication.	Check the access state of the CAN communication.
E2830	Communication off with the system board	Communication abruptly disconnected with the system board.	1) Check the access state of the CAN communication cable. 2) Check whether the system board program is removed. 3) Check whether there is abnormality with the system board power. 4) If there is no abnormality with the above items, replace the system board. 5) If the same phenomenon persists even after replacing the system board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2832	System board communication not opened	After booting, the communication is not opened with the system board.	1) Check the access state of the CAN communication cable. 2) Check whether the system board program is removed. 3) Check whether the power is supplied to the system board. 4) If there is no abnormality with the above items, replace the system board. 5) If the same phenomenon persists even after replacing the system board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2840	Communication off with the user digital IO board(No.1)	Communication abruptly disconnected with the user digital IO board(No.1)	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2841	The communication with the #2 digital IO board for the user is disconnected.	The communication with the #2 digital IO board for the user is cut off abruptly.	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2842	Communication not opened with the user IO board	After booting, the communication is not opened with the user IO board.	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2843	Communication off with the user digital IO board(No.3)	Communication abruptly disconnected with the user digital IO board(No.3)	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2844	Communication off with the user digital IO board(No.4)	Communication abruptly disconnected with the user digital IO board(No.4)	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2845	Communication off with the user digital IO board(No.5)	Communication abruptly disconnected with the user digital IO board(No.5)	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2846	Communication off with the user digital IO board(No.6)	Communication abruptly disconnected with the user digital IO board(No.6)	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2847	Communication off with the user digital IO board(No.7)	Communication abruptly disconnected with the user digital IO board(No.7)	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2848	Communication off with the user digital IO board(No.8)	Communication abruptly disconnected with the user digital IO board(No.8)	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is no abnormality with the above items, replace the user IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2849	The communication with the remote IO board (#%d) for the user is disconnected.	The communication with the remote IO board for the user is cut off abruptly.	1) Check the access state of the CAN communication cable. 2) Check whether the user IO board program is removed. 3) Check whether there is abnormality with the user IO power. 4) If there is nothing abnormal with the above items, replace the remote IO. 5) If the same phenomenon persists even after replacing the user IO, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2850	Communication off with the expansion brake	Communication abruptly disconnected with the expansion brake board.	1) Check the access state of the CAN communication cable. 2) Check whether the expansion brake board program is removed. 3) Check whether there is abnormality with the expansion brake power. 4) If there is no abnormality with the above items, replace the expansion brake. 5) If the same phenomenon persists even after replacing the expansion brake, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2852	Communication not opened with the expansion brake	After booting, the communication is not opened with the expansion brake.	1) Check the access state of the CAN communication cable. 2) Check whether the expansion brake board program is removed. 3) Check whether there is abnormality with the expansion brake board power. 4) If there is no abnormality with the above items, replace the expansion brake board. 5) If the same phenomenon persists even after replacing the expansion brake board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2853	the usage condition error of expansion brake board	In usage condition of expansion brake board, the communication is not opened with the expansion brake.	1) Check the access state of the CAN communication cable. 2) Check whether the expansion brake board program is removed. 3) Check whether there is abnormality with the expansion brake board power. 4) If there is no abnormality with the above items, replace the expansion brake board. 5) If the same phenomenon persists even after replacing the expansion brake board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2900	PRM board communication abnormal	Problem generated with the communication between PRM and the main board.	1) Check after inputting the controller power again. 2) Check the cable for CAN1 of the PRM BD592 board.

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Code	Message	Cause	Remedy
E2901	PRM PN overcurrent generated	While exceeding the PRM regenerative capacity, the PRM PN current exceeded the error reference value.	Check the error by lowering the robot playback speed.
E2902	PRM 3-phase overcurrent generated	While exceeding the PRM regenerative capacity, the PRM 3-phase current exceeded the error reference value.	Check the error by lowering the robot playback speed.
E2903	PRM IPM fault signal detected	Fault signal detected in PRM IPM.	1) Check the PRM fan. 2) Check the error by lowering the robot playback speed.
E2922	Communication off with the arc welding I/F board	After booting, the communication with the arc board is not commenced.	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board program is removed. 3) Check whether there is abnormality with the arc welding I/F board power. 4) If there is no abnormality with the above items, replace the arc welding I/F board. 5) If the same phenomenon persists even after replacing the arc welding I/F board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2923	The communication with the arc board is disconnected.	The communication with the arc board is cut off abruptly.	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board program is removed. 3) Check whether there is abnormality with the arc welding I/F board power. 4) If there is no abnormality with the above items, replace the arc welding I/F board. 5) If the same phenomenon persists even after replacing the arc welding I/F board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2924	Communication off with the arc welding I/F board(2)	Communication abruptly disconnected with the arc welding I/F board(2)	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board(2) program is removed. 3) Check whether there is abnormality with the arc welding I/F board(2) power. 4) If there is no abnormality with the above items, replace the arc welding I/F board(2). 5) If the same phenomenon persists even after replacing the arc welding I/F board(2), replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2925	Communication not opened with the arc welding I/F board(2)	After booting, the communication is not opened with the arc welding I/F board(2).	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board(2) program is removed. 3) Check whether there is abnormality with the arc welding I/F board(2) power. 4) If there is no abnormality with the above items, replace the arc welding I/F board(2). 5) If the same phenomenon persists even after replacing the arc welding I/F board(2), replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2926	Communication off with the arc welding I/F board(3)	Communication abruptly disconnected with the arc welding I/F board(3)	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board(3) program is removed. 3) Check whether there is abnormality with the arc welding I/F board(3) power. 4) If there is no abnormality with the above items, replace the arc welding I/F board(3). 5) If the same phenomenon persists even after replacing the arc welding I/F board(3), replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2927	Communication not opened with the arc welding I/F board(3)	After booting, the communication is not opened with the arc welding I/F board(3).	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board(3) program is removed. 3) Check whether there is abnormality with the arc welding I/F board(3) power. 4) If there is no abnormality with the above items, replace the arc welding I/F board(3). 5) If the same phenomenon persists even after replacing the arc welding I/F board(3), replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E2928	Communication off with the arc welding I/F board(4)	Communication abruptly disconnected with the arc welding I/F board(4)	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board(4) program is removed. 3) Check whether there is abnormality with the arc welding I/F board(4) power. 4) If there is no abnormality with the above items, replace the arc welding I/F board(4). 5) If the same phenomenon persists even after replacing the arc welding I/F board(4), replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.

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Code	Message	Cause	Remedy
E2929	Communication not opened with the arc welding I/F board(4)	After booting, the communication is not opened with the arc welding I/F board(4).	1) Check the access state of the CAN communication cable. 2) Check whether the arc welding I/F board(4) program is removed. 3) Check whether there is abnormality with the arc welding I/F board(4) power. 4) If there is no abnormality with the above items, replace the arc welding I/F board(4). 5) If the same phenomenon persists even after replacing the arc welding I/F board(4), replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E3000	AMP Low-Volatge by MSPR NOT Operating	The MSPR relay for precharging the capacitor did not work.	Check up the MSPR relay and the CNPC cable on drive unit.
E3001	MSPR does not operate during Motor ON status	The MSPR relay for precharging the capacitor did not work.	Check up the MSPR relay and the CNPC cable on drive unit.
E3002	MSPR Relay signal is ON but it does not operate	The MSPR relay for precharging the capacitor did not work.	Check up the MSPR relay and the CNPC cable on drive unit.
E3003	MSPR does not work when trying to make Motor ON	The MSPR relay for precharging the capacitor did not work.	Check up the MSPR relay and the CNPC cable on drive unit.
E3004	AMP Low-Volatge by MSHP NOT Operating	MSHP doesn't work.	Please refer to trouble shooting.
E3005	Under-voltage error of AMP(RobotAxes) during Motor ON status	MSHP doesn't work.	Please refer to trouble shooting.
E3006	MSHP does not work when trying to make Motor ON	MSHP does not work when making AMP or Motor ON ready	Please refer to trouble shooting.

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Code	Message	Cause	Remedy
E3007	Under-voltage error of AMP(RobotAxes) during Motor ON status	PN voltage of servo AMP(Robot Axes) became low during Motor On status.	Please check input power of servo AMP and recovery discharging status.
E3008	Under-voltage error of AMP(Auxiliary Axes) during Motor ON status	PN voltage of servo AMP(Auxiliary Axes) became low during Motor On status.	Please check input power of servo AMP and recovery discharging status.
E3009	Under-voltage error of AMP(Robot Axes) when trying to make Motor ON	Under-voltage of AMP(Robot Axes) is detected when making AMP or Motor ON ready. PN voltage of main servo AMP bacame low.	Please check input power of main servo AMP and recovery discharging status.
E3010	Under-voltage error of AMP(Auxiliary Axes) when trying to make Motor ON	Under-voltage of AMP(Auxiliary Axes) is detected when making AMP or Motor ON ready. PN voltage of auxiliary servo AMP bacame low.	Please check input power of servo AMP(Auxiliary Axes) and recovery discharging status.
E3011	Over-voltage of AMP(Robot Axes) when trying to make Motor On	It is detected that Pre-defined servo AMP(Robot Axes) voltage(P-N) is over.	Check the AC input voltage in the controller. Check the connection of discharge resistor.
E3012	Over-voltage of AMP(Auxiliary Axes) when trying to make Motor On	It is detected that Pre-defined servo AMP(Auxiliary Axes) voltage(P-N) is over.	Check the AC input voltage in the controller. Check the connection of discharge resistor.
E3013	Cannot make servo on trying to make Motor On	When trying to make Motor On to operate, Servo On was not executed within the limited time.	Please refer to trouble shooting.
E3014	Servo errors are not cleared trying to make Motor On	When trying to make Motor On to operate, Servo errors are not cleared so that servo on was failed	Please refer to trouble shooting.
E3015	Servo On is failed when trying to make PWM ON	After finishing SPOT(stud) function, Servo On is failed within the limited time.	Please refer to trouble shooting.
E3016	Servo On is failed by clearing errors after releasing power-saving mode	Servo errors are not cleared so that making servo on is failed after power-saving mode	Please refer to trouble shooting.

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Code	Message	Cause	Remedy
E3017	Servo On is failed after releasing power-saving mode	Maing servo on is failed after power-saving mode	Please refer to trouble shooting.
E3018	Cannot make servo off when trying to make Motor Off	When executing Servo Off or releasing power saving mode, Servo Off was not executed within the set time.	1) Replace the servo board. 2) If the same error occurs, contact with our service department. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr
E3019	Cannot make servo off for stud SPOT function	When executing Servo Off or releasing power saving mode, Servo Off was not executed within the set time.	1) Replace the servo board. 2) If the same error occurs, contact with our service department. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr
E3020	Cannot make servo off for power-saving function	When executing Servo Off or releasing power saving mode, Servo Off was not executed within the set time.	1) Replace the servo board. 2) If the same error occurs, contact with our service department. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr
E3021	Dynamic brake error during Motor On status	An error happened to dynamic brake of AMP.	1) Please check CNBS cable linked to AMP at BD542. 2) Replace AMP.
E3022	Servo On failed because of Dynamic brake error	An error happened to dynamic brake of AMP.	1) Please check CNBS cable linked to AMP at BD542. 2) Replace AMP.
E3023	Making PN On failed because of Dynamic brake error	An error happened to dynamic brake of AMP.	1) Please check CNBS cable linked to AMP at BD542. 2) Replace AMP.
E3024	Power saving mode deactivation failed because of abnormality with the dynamic brake	An error happened to dynamic brake of AMP.	1) Please check CNBS cable linked to AMP at BD542. 2) Replace AMP.
E3025	Servo brake abnormal while trying Motor On	Servo brake error on system IO board is detected when trying to make Motor On. The servo brake signal has not been off.	Try to make Motor On one more time. If another encoder related error happens then clear the encoder related error first. The route of servo brake signal is going through BD542 board, AMP and BD530 board. Please check these boards and related cables.

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Code	Message	Cause	Remedy
E3026	Releasing power-saving mode failed because of servo brake error	Servo brake error on system IO board is detected when trying to release power-saving mode. The servo brake signal has not been off.	Try to make Motor On one more time. If another encoder related error happens then clear the encoder related error first. Considering that signals are inputted through the BD542 board, AMP, and the BD530 board. check the boards and the relay cables.
E3027	Expansion servo brake abnormal while trying Motor On	Extension servo brake error on the system IO board is detected when trying to make Motor On. The servo brake signal(auliliary axes) has not been off.	Try to make Motor On one more time. If another encoder related error happens then clear the encoder related error first. Considering that signals are inputted through the BD542 board, AMP, and the expansion system boards BD53E and BD530, check the boards and the relay cables.
E3028	Releasing power-saving mode because of extension servo brake error	Extension servo brake error on the system IO board is detected when trying to release power-saving mode. The servo brake signal(auliliary axes) has not been off.	Try to make Motor On one more time. If another encoder related error happens then clear the encoder related error first. Considering that signals are inputted through the BD542 board, AMP, and the expansion system boards BD53E and BD530, check the boards and the relay cables.
E3029	%s)axis initial movement failed during servo tool access	Preset movement for the compact encoder type has failed.	Check the motor type selected. Check brake system of motors for the servo tool change axis. If the error are not cleared by yourself, contact with our service department.
E3030	%s)axis servo off failed axis during servo tool access exception processing	Servo OFF failed doing the exceptional input(STOP) procedure. Servo off was not finished within the limited time.	Check the ATC(Automatic Tool Changer) connection status. Replace the servo board if nesessary.

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Code	Message	Cause	Remedy
E3031	%s)axis encoder power separation failed during servo tool exception processing	Encoder power disconnection failed when doing STOP procedure. Encoder power separation trial failed while processing servo tool axis separation.	Encoder power control unit(RELAY) should be checked. Replace the parts if necessary
E3032	%2d axis) Impossible to operate due to encoder noise detected	The status of encoder noise detected has not been cleared.	Reboot the power of the robot controller.Remove the cause of encoder noise inputs. If the problem is not solved by yourself, contact to the service office.
E3033	%2d axis) Encoder status error detected in initializing servo-tool connection	Error status is received from the encoder such as overflow, overspeed, inner capacitor voltage drop, LED fail in the servo-tool connection	Reset the encoder in encoder reset menu after connecting the encoder power with R359. If it is still in error state, the encoder(motor) should be replaced
E3034	%2d axis) Encoder communication failed in initializing servo-tool connection	Error is detected receving the position data from the motor of the servo-tool axis.	Check the input voltage to the encoder, cable connection and grounding condition of the robot and controller.
E3035	%2d axis) Low servo-tool encoder battery voltage	The battery of the motor(encoder) of the servo-tool is low.	Even though the connection is estabilished, the battery should be replaced.
E3036	%s)axis Encoder power disconnection failed during STOP procedure	Encoder power signal is still ON in the procedure of servo-tool disconnection by STOP	Encoder power system should be examined. Replace the parts, if necessary.
E4001	FAULT_SafeSpace:CH_TYPE_DUPLICATED	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4002	FAULT_SafeSpace:PG_FLOW_ERROR	SafeSpace error	1. Reboot the robot controller. 2. Check the EtherNet cable between robot controller and SafeSpace. 3. If this error is still remained, change the SafeSpace module.
E4100	FAULT_SafeSpace:GET_PARAM_REQ_FAIL	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4101	FAULT_SafeSpace:GET_PARAM_RES_FAIL	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4102	FAULT_SafeSpace:GET_PARAM_CRC_ERROR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4103	FAULT_SafeSpace:INV_SAFE_PARAM_SPACE_TYPE	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4104	FAULT_SafeSpace:INV_SAFE_PARAM_CELL_AREA	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4105	FAULT_SafeSpace:INV_SAFE_PARAM_JOINT_AREA	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4106	FAULT_SafeSpace:INV_SAFE_PARAM_DUP_IN_USAGE	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4107	FAULT_SafeSpace:INV_SAFE_PARAM_DUP_OUT_USAGE	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4201	FAULT_SafeSpace:GET_ROB_INFO_REQ_FAIL	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4202	FAULT_SafeSpace:GET_ROB_INFO_RES_FAIL	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4300	FAULT_SafeSpace:MON_ITEM_FAULT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4301	FAULT_SafeSpace:DIAG_ERR_CMDrc_FBrc	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4302	FAULT_SafeSpace:DIGA_ERR_CMDrc_FBsafe	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4303	FAULT_SafeSpace:DIAG_ERR_TCPrc_TCPsafe	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4304	FAULT_SafeSpace:DIAG_ERR_iCMDrc_iFBdrive	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4305	FAULT_SafeSpace:DIAG_ERR_prevCMDrc_curCMDrc	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4400	FAULT_SafeSpace:DIAG_ERR_LOC_V1_2C_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4401	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3C_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4402	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3D_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4403	FAULT_SafeSpace:DIAG_ERR_LOC_V5D_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4404	FAULT_SafeSpace:DIAG_ERR_LOC_V1_2F_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4405	FAULT_SafeSpace:DIAG_ERR_LOC_V2_5F_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4406	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3F_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4407	FAULT_SafeSpace:DIAG_ERR_LOC_V24_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4408	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3S_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4409	FAULT_SafeSpace:DIAG_ERR_CPU_6V_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4410	FAULT_SafeSpace:DIAG_ERR_TEMP_1_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4411	FAULT_SafeSpace:DIAG_ERR_TEMP_2_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4412	FAULT_SafeSpace:DIAG_ERR_REM_V1_2C_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4413	FAULT_SafeSpace:DIAG_ERR_REM_V3_3C_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4414	FAULT_SafeSpace:DIAG_ERR_REM_V3_3D_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4415	FAULT_SafeSpace:DIAG_ERR_REM_V5D_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4416	FAULT_SafeSpace:DIAG_ERR_REM_V1_2F_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4417	FAULT_SafeSpace:DIAG_ERR_REM_V2_5F_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4418	FAULT_SafeSpace:DIAG_ERR_REM_V3_3F_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4419	FAULT_SafeSpace:DIAG_ERR_REM_V24_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4420	FAULT_SafeSpace:DIAG_ERR_REM_V3_3S_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4421	FAULT_SafeSpace:DIAG_ERR_FPGA_6V_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4422	FAULT_SafeSpace:DIAG_ERR_TEMP_3_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4423	FAULT_SafeSpace:DIAG_ERR_TEMP_4_LOW_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4424	FAULT_SafeSpace:DIAG_ERR_LOC_V1_2C_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4425	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3C_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4426	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3D_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4427	FAULT_SafeSpace:DIAG_ERR_LOC_V5D_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4428	FAULT_SafeSpace:DIAG_ERR_LOC_V1_2F_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4429	FAULT_SafeSpace:DIAG_ERR_LOC_V2_5F_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4430	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3F_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4431	FAULT_SafeSpace:DIAG_ERR_LOC_V24_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4432	FAULT_SafeSpace:DIAG_ERR_LOC_V3_3S_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4433	FAULT_SafeSpace:DIAG_ERR_CPU_6V_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4434	FAULT_SafeSpace:DIAG_ERR_TEMP_1_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4435	FAULT_SafeSpace:DIAG_ERR_TEMP_2_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4436	FAULT_SafeSpace:DIAG_ERR_REM_V1_2C_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4437	FAULT_SafeSpace:DIAG_ERR_REM_V3_3C_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4438	FAULT_SafeSpace:DIAG_ERR_REM_V3_3D_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4439	FAULT_SafeSpace:DIAG_ERR_REM_V5D_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4440	FAULT_SafeSpace:DIAG_ERR_REM_V1_2F_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4441	FAULT_SafeSpace:DIAG_ERR_REM_V2_5F_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4442	FAULT_SafeSpace:DIAG_ERR_REM_V3_3F_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4443	FAULT_SafeSpace:DIAG_ERR_REM_V24_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4444	FAULT_SafeSpace:DIAG_ERR_REM_V3_3S_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4445	FAULT_SafeSpace:DIAG_ERR_FPGA_6V_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4446	FAULT_SafeSpace:DIAG_ERR_TEMP_3_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4447	FAULT_SafeSpace:DIAG_ERR_TEMP_4_HIGH_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4448	FAULT_SafeSpace:DIAG_ERR_EMIF	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4449	FAULT_SafeSpace:DIAG_ERR_VIMRAMCRC	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4450	FAULT_SafeSpace:DIAG_ERR_FLASHCRC	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4451	FAULT_SafeSpace:DIAG_ERR_MARCHC	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4452	FAULT_SafeSpace:DIAG_ERR_SRAMECC	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4453	FAULT_SafeSpace:DIAG_ERR_FLASHECC	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4454	FAULT_SafeSpace:DIAG_ERR_SRAMADDR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4455	FAULT_SafeSpace:DIAG_ERR_CCMR4F	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4456	FAULT_SafeSpace:DIAG_ERR_PSCON	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4457	FAULT_SafeSpace:DIAG_ERR_PLLSLIP	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4458	FAULT_SafeSpace:DIAG_ERR_CLKMON	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4459	FAULT_SafeSpace:DIAG_ERR_VIMRAMPRT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4460	FAULT_SafeSpace:DIAG_ERR_UNDEFFAULT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4461	FAULT_SafeSpace:DIAG_ERR_DABORT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4462	FAULT_SafeSpace:DIAG_ERR_PREFABORT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4463	FAULT_SafeSpace:DIAG_ERR_UNDEFINSTR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4464	FAULT_SafeSpace:DIAG_ERR_DIO_INTFB	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4465	FAULT_SafeSpace:DIAG_ERR_DPRAMCOMP	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4466	FAULT_SafeSpace:DIAG_ERR_STOFB	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4467	FAULT_SafeSpace:DIAG_ERR_DIOFB	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4468	FAULT_SafeSpace:DIAG_ERR_INTERFPGA	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4469	FAULT_SafeSpace:DIAG_ERR_FPGAWDT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4470	FAULT_SafeSpace:DIAG_ERR_FPGAWDTCL	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4471	FAULT_SafeSpace:DIAG_ERR_ENDRV	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4472	FAULT_SafeSpace:DIAG_ERR_WD_TIMEOUT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4473	FAULT_SafeSpace:DIAG_ERR_CPUCLK	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4474	FAULT_SafeSpace:DIAG_ERR_FPGACLK	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4500	FAULT_SafeSpace:SAFE_IN_DISREPANCY_TIME_OVER	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4501	FAULT_SafeSpace:SAFE_OUT_DISREPANCY_TIME_OVER	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4502	FAULT_SafeSpace:SAFE_STO_INT_FB_ERROR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4503	FAULT_SafeSpace:SAFE_STO_PULSE_INT_FB_ERROR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4504	FAULT_SafeSpace:SAFE_STO_PULSE_EXT_FB_ERROR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4505	FAULT_SafeSpace:SAFE_STO_REM_EXT_FB_ERROR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4506	FAULT_SafeSpace:SAFE_STO_EN_DRV_ERROR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4600	FAULT_SafeSpace:ENC_DATA_UPDATE_ERROR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4601	FAULT_SafeSpace:ENC_REM_WD_TIMEOUT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4700	FAULT_SafeSpace:GET_ROB_CNTRL_INFO_REQ_FAIL	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4701	FAULT_SafeSpace:GET_ROB_CNTRL_INFO_RES_FAIL	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4702	FAULT_SafeSpace:ROB_REM_CNTRL_UPDATE_TIEMOUT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4703	FAULT_SafeSpace:ROB_LOC_CNTRL_UPDATE_TIEMOUT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4704	FAULT_SafeSpace:ROB_CNTRL_UPDATE_TIEMOUT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4800	FAULT_SafeSpace:UDP_NOT_OPENED	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4900	FAULT_SafeSpace:CROSS_CHK_SEND_TIMEOUT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4901	FAULT_SafeSpace:CROSS_CHK_RECV_TIMEOUT	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4902	FAULT_SafeSpace:CROSS_CHK_JOINT_POS_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.

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Code	Message	Cause	Remedy
E4903	FAULT_SafeSpace:CROSS_CHK_JOINT_SPD_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4904	FAULT_SafeSpace:CROSS_CHK_TCP_POS_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E4905	FAULT_SafeSpace:CROSS_CHK_TCP_SPD_ERR	SafeSpace error	1. Reboot the robot controller. 2. If this error is still remained, change the SafeSpace module.
E5060	Violation of SafeSpace Global parameter	SafeSpace detected violation of global parameter.	1.Release the emergency stop in SafeSpace monitoring menu. 2.Reverify the Global parameters.
E5070	SafeSpace Cell area violation	STO occurred by SafeSpace VIOLATION.	1.Release the emergency stop in SafeSpace monitoring menu. 2.Reverify the Cell parameters.
E5080	VIOLATION:SLP for Cartesian Space [%d]	STO occurred by SafeSpace VIOLATION.	1. Release the STO in SafeSpace monitoring menu. 2. Move robot out of the violated space. 3. Reverify the Cartesian space parameters.
E5081	VIOLATION:SLS for Cartesian Space [%d]	STO occurred by SafeSpace VIOLATION.	1. Release the STO in SafeSpace monitoring menu. 2. Reverify the parameters.
E5090	VIOLATION:SLP for Joint Space [%d]	STO occurred by SafeSpace VIOLATION.	1. Release the STO in SafeSpace monitoring menu. 2. Move robot out of the violated space. 3. Reverify the Joint space parameters.
E5091	VIOLATION:SLS for Joint Space [%d]	STO occurred by SafeSpace VIOLATION.	1. Release the STO in SafeSpace monitoring menu. 2. Reverify the parameters.

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Code	Message	Cause	Remedy
E5092	Violated TCP speed of SafeSpace Joint space#1	TCP speed of joint space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the joint space parameter.
E5093	Violated TCP speed of SafeSpace Joint space#2	TCP speed of joint space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the joint space parameter.
E5094	Violated TCP speed of SafeSpace Joint space#3	TCP speed of joint space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the joint space parameter.
E5095	Violated TCP speed of SafeSpace Joint space#4	TCP speed of joint space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the joint space parameter.
E5100	VIOLATION:SLS for Speed of Joint[%d]	STO occurred by SafeSpace VIOLATION.	1. Release the STO in SafeSpace monitoring menu. 2. Reverify the Joint speed parameters.
E5101	Violated 1-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.
E5102	Violated 2-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.

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Code	Message	Cause	Remedy
E5103	Violated 3-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.
E5104	Violated 4-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.
E5105	Violated 5-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.
E5106	Violated 6-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.
E5107	Violated 7-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.
E5108	Violated 8-axis speed of SafeSpace	Joint speed of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the Joint speed parameter.
E5110	Safety Operatung Stop violated(Group[%d])	STO occurred by SafeSpace VIOLATION.	1.Release the STO in SafeSpace monitoring menu. 2.Reverify the SOS parameters.
E5120	SafeSpace EM-STOP by an error from robot controller	SafeSpace triggered STO because of error in robot controller.	1.Check the robot controller. 2.Reboot the robot controller.
E5130	SafeSpace tool information mismatch error	Tool number or TCP for SafeSpace is not same with tool information in robot controller.	Synchronize tool number and TCP.

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Code	Message	Cause	Remedy
E5140	Violated 1-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.
E5141	Violated 2-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.
E5142	Violated 3-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.
E5143	Violated 4-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.
E5144	Violated 5-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.
E5145	Violated 6-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.
E5146	Violated 7-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.
E5147	Violated 8-axis position of SafeSpace Joint Space#1	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space1 of SafeSpace.

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Code	Message	Cause	Remedy
E5150	Violated 1-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.
E5151	Violated 2-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.
E5152	Violated 3-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.
E5153	Violated 4-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.
E5154	Violated 5-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.
E5155	Violated 6-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.
E5156	Violated 7-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.
E5157	Violated 8-axis position of SafeSpace Joint Space#2	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space2 of SafeSpace.

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Code	Message	Cause	Remedy
E5160	Violated 1-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.
E5161	Violated 2-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.
E5162	Violated 3-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.
E5163	Violated 4-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.
E5164	Violated 5-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.
E5165	Violated 6-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.
E5166	Violated 7-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.
E5167	Violated 8-axis position of SafeSpace Joint Space#3	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space3 of SafeSpace.

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Code	Message	Cause	Remedy
E5170	Violated 1-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.
E5171	Violated 2-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.
E5172	Violated 3-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.
E5173	Violated 4-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.
E5174	Violated 5-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.
E5175	Violated 6-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.
E5176	Violated 7-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.
E5177	Violated 8-axis position of SafeSpace Joint Space#4	Joint position of SafeSpace is violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Check the axis position limit value of Joint Space4 of SafeSpace.

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Code	Message	Cause	Remedy
E5200	Violated TCP position of SafeSpace Cartesian space#1	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5201	Violated TCP position of SafeSpace Cartesian space#2	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5202	Violated TCP position of SafeSpace Cartesian space#3	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5203	Violated TCP position of SafeSpace Cartesian space#4	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5204	Violated TCP position of SafeSpace Cartesian space#5	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5205	Violated TCP position of SafeSpace Cartesian space#6	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.

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Code	Message	Cause	Remedy
E5206	Violated TCP position of SafeSpace Cartesian space#7	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5207	Violated TCP position of SafeSpace Cartesian space#8	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5208	Violated TCP position of SafeSpace Cartesian space#9	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5209	Violated TCP position of SafeSpace Cartesian space#10	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5210	Violated TCP position of SafeSpace Cartesian space#11	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5211	Violated TCP position of SafeSpace Cartesian space#12	TCP position of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.

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Code	Message	Cause	Remedy
E5220	Violated TCP speed of SafeSpace Cartesian space#1	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5221	Violated TCP speed of SafeSpace Cartesian space#2	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5222	Violated TCP speed of SafeSpace Cartesian space#3	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5223	Violated TCP speed of SafeSpace Cartesian space#4	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5224	Violated TCP speed of SafeSpace Cartesian space#5	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5225	Violated TCP speed of SafeSpace Cartesian space#6	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.

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Code	Message	Cause	Remedy
E5226	Violated TCP speed of SafeSpace Cartesian space#7	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5227	Violated TCP speed of SafeSpace Cartesian space#8	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5228	Violated TCP speed of SafeSpace Cartesian space#9	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5229	Violated TCP speed of SafeSpace Cartesian space#10	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5230	Violated TCP speed of SafeSpace Cartesian space#11	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.
E5231	Violated TCP speed of SafeSpace Cartesian space#12	TCP speed of Cartesian space parameter of SafeSpace was violated.	1. Enter SafeSpace monitoring menu, and release the emergency stop. 2. Move the robot into the safety zone. 3. Revalidate the Cartesian space parameter.

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Code	Message	Cause	Remedy
E5402	SafeSapce failed to initialize	SafeSpace failed to initialize because robot controller failed to initialize.	Reboot the robot controller.
E5403	SafeSpace cannot support this configuration.	SafeSpace module can support DSP BD1.	1. Change the configuration of axis to disable and download ROBOT.SFS file again by HRSafeSpace. 2. Assign the additional axis to DSP BD1.
E5404	SafeSpace cannot support this configuration.	SafeSpace module cannot support the system which has the base axis assigned in DSP BD2.	Assign the base axis to DSP BD1.
E5405	SafeSpace file block is damaged.	SafeSpace setting file's memory block is damaged.	Delete ROBOT.SFS file, and download the backup file again.
E5406	SafeSpace file size exceeded the maximum.	SafeSpace file size exceeded the maximum.	SafeSpace file(ROBOT.SFS) must be edit/download with HRSafeSpace. (If the cause is unknown, contact our company for inquiries.)
E5409	SafeSpace hash code is unmatched.	SafeSpace setting file's hashcode signed by password is invalid.	SafeSpace file(ROBOT.SFS) must be edit/download with HRSafeSpace. (If the cause is unknown, contact our company for inquiries.)
E5412	SafeSpace setting XML file is failed to be loaded.	SafeSpace setting file's XML format is invalid.	SafeSpace file(ROBOT.SFS) must be edit/download with HRSafeSpace. (If the cause is unknown, contact our company for inquiries.)
E5413	SafeSpace setting XML file's root element is failed to be parsed.	SafeSpace setting file's XML root format is invalid.	SafeSpace file(ROBOT.SFS) must be edit/download with HRSafeSpace. (If the cause is unknown, contact our company for inquiries.)
E5414	SafeSpace setting file's structure is invalid.	SafeSpace setting file's XML format is valid, but the schema is invalid.	SafeSpace file(ROBOT.SFS) must be edit/download with HRSafeSpace. (If the cause is unknown, contact our company for inquiries.)
E5415	SafeSpace setting file's element is invalid.	SafeSpace setting file's some group cannot be found.	SafeSpace file(ROBOT.SFS) must be edit/download with HRSafeSpace. (If the cause is unknown, contact our company for inquiries.)

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Code	Message	Cause	Remedy
E5416	SafeSpace setting file's attribute is invalid.	SafeSpace setting file's some entries cannot be found.	SafeSpace file(ROBOT.SFS) must be edit/download with HRSafeSpace. (If the cause is unknown, contact our company for inquiries.)
E5420	SafeSpace setting file's value exceeded the range.	SafeSpace setting file's some values exceeded the range.	Using HRSafeSpace, check the exceeded values and correct them.
E5421	SafeSpace setting file's global group value exceeded the range.	SafeSpace setting file's global group value exceeded the range.	In HRSafeSpace's global page, check the exceeded values and correct them.
E5422	SafeSpace setting file's cell area group value exceeded the range.	SafeSpace setting file's cell area group value exceeded the range.	In HRSafeSpace's cell area page, check the exceeded values and correct them.
E5423	SafeSpace setting file's cart.space group value exceeded the range.	SafeSpace setting file's cartesian space group value exceeded the range.	In HRSafeSpace's cartesian space page, check the exceeded values and correct them.
E5424	SafeSpace setting file's joint space group value exceeded the range.	SafeSpace setting file's joint space group value exceeded the range.	In HRSafeSpace's joint space page, check the exceeded values and correct them.
E5425	SafeSpace setting file's joint speed group value exceeded the range.	SafeSpace setting file's joint speed group value exceeded the range.	In HRSafeSpace's joint speed page, check the exceeded values and correct them.
E5426	SafeSpace setting file's SOS group value exceeded the range.	SafeSpace setting file's safe operating stop group value exceeded the range.	In HRSafeSpace's safe operating stop page, check the exceeded values and correct them.
E5427	SafeSpace setting file's I/O group value exceeded the range.	SafeSpace setting file's I/O group value exceeded the range.	In HRSafeSpace's I/O page, check the exceeded values and correct them.
E5428	SafeSpace setting file's tool group value exceeded the range.	SafeSpace setting file's tool group value exceeded the range.	In HRSafeSpace's tool page, check the exceeded values and correct them.
E5452	Cannot execute the command of mastering test.	SafeSpace function is disabled.	Enable the SafeSpace function.

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Code	Message	Cause	Remedy
E5453	Group%d cannot execute mastering test.	This group did not set in mastering test.	Configure this group for mastering test.
E5454	The mastering test result of Group%d is abnormal.	The robot cannot reach the reference position.	After calibrating the robot, execute matering test again.
E5455	Mastering test timer of Group%d exceeded test cycle time.	Mastering test did not execute within the test cycle time.	Execute mastering test.
E5456	Cannot execute command with mastering test disabled	The mastering test is disabled and the mastering test can not be performed.	Activate mastering test.
E5457	Mastering test can not be performed due to proximity sensor signal abnormality	Proximity sensor signal is being input.	1.Check sensor connection and ladder program. 2.Change the robot's position to the position where no sensor signal is input.
E5458	Can not execute command by mastering test method unconfigured.	The mastering test method is not set to sensor-based.	Perform the inspection again after changing the setting method.
E6000	Internal operation error (code:%d)	Error generated while operating.	Contact our company for inquiries.
E6001	Command generation error 1	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6002	Command generation error 2	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6003	Command generation error 3	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6004	Command generation error 4	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.

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Code	Message	Cause	Remedy
E6005	Command generation error 5	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6006	Conner command generation error 1	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6007	Conner command generation error 2	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6008	Conner command generation error 3	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6009	Next step command generation error 1	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6010	Next step command generation error 2	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6011	Next step command generation error 3	Error generated while generating a command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6012	Sensor sync command generation error 1	Error generated while generating a sync command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6013	Sensor sync command generation error 2	Error generated while generating a sync command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6014	Sensor sync command generation error 3	Error generated while generating a sync command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6015	Sensor sync command generation error 4	Error generated while generating a sync command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6016	Sensor sync command generation error 5	Error generated while generating a sync command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.

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Code	Message	Cause	Remedy
E6017	Cornering sensor sync command generation error 1	Error generated while generating a sync command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6018	Cornering sensor sync command generation error 2	Error generated while generating a sync command.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6019	Unreachable XYZ position	The position of the program is unreachable XYZ position.(impossible to get IK Code=-1)	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6020	Unreachable XYZ position	The position of the program is unreachable XYZ position.(impossible to get IK Code=-2)	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6021	Unreachable XYZ position	The position of the program is unreachable XYZ position.(impossible to get IK Code=-3)	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6022	Unreachable XYZ position	The position of the program is unreachable XYZ position.(impossible to get Iterative IK Code=-1)	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6023	Unreachable XYZ position	The position of the program is unreachable XYZ position.(impossible to get Iterative IK Code=-2)	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.

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Code	Message	Cause	Remedy
E6024	Unreachable XYZ position	The position of the program is unreachable XYZ position.(impossible to get Iterative IK Code=-3)	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6025	Numerical Inverse Kinamatics is impossible for the robot	Inverse kinematics is not applied to the selected robot.	Check the robot type selected. If the problem is not solved by yourself, please contact to the service office.
E6026	Numerical Inverse Kinamatics is impossible for the robot(NOT 6DOF)	Inverse kinematics is not applied to the selected robot.	Check the robot type selected. If the problem is not solved by yourself, please contact to the service office.
E6027	Iteration number is over in numerical Inverse kinematics.	Inverse kinematics is not solved within the limited time.	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6028	Numerical inverse kinematics fail(singular value)	Numerical inverse kinematics failed due to singular values	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6029	Robot Type is wrong for Numerical Kinematics(Config.)	The robot selected is not for inverse kinematics	Check the robot type selected. If the problem is not solved by yourself, please contact to the service office.
E6030	Robot Type is wrong for Numerical Kinematics(Config.)	The robot selected is not 6DOF and numerical inverse is impossible	Check the robot type selected. If the problem is not solved by yourself, please contact to the service office.

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Code	Message	Cause	Remedy
E6031	Numerical inverse kinematics (config.) Repetitive calculation count exceeded	Inverse kinematics is not solved within the limited time.	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6032	Numerical inverse kinematics (config.) Calculation error (singularity)	Numerical inverse kinematics(Config.) failed due to singular values	Modify the position with the reachable position values. (check tool distance, XYZ position and orientation) If the problem is not solved by yourself, please contact to the service office.
E6033	Different invserse kinematics solution from the given (up/down)	The solution solved in inverse kinematics is different from the configuration(up/down) given by the user	Check the configuration of the robot pose in the program. Modify the robot position to be within the working range. If the problem is not solved by yourself, please contact to the service office.
E6034	Different invserse kinematics solution from the given (flip/non flip)	The solution solved in inverse kinematics is different from the configuration(flip/non flip) given by the user	Check the configuration of the robot pose in the program. Modify the robot position to be within the working range. If the problem is not solved by yourself, please contact to the service office.
E6035	Different invserse kinematics solution from the given (B axis range)	The solution solved in inverse kinematics is different from the configuration(B axis range) given by the user	Check the configuration of the robot pose in the program. Modify the robot position to be within the working range. If the problem is not solved by yourself, please contact to the service office.
E6036	Unreachable XYZ position with the given config.	Unreachable XYZ position with the given config. S axis is located in near singular position	Modify the programmed position tc avoid the error. If the problem is not solved by yourself, please contact to the service office.

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Code	Message	Cause	Remedy
E6037	Unreachable XYZ position with the given config.	Unreachable XYZ position with the given config. (CF IK impossible Code=-5)	Modify the programmed position tc avoid the error. If the problem is not solved by yourself, please contact to the service office.
E6038	Unreachable XYZ position with the given config.	Unreachable XYZ position with the given config. (CF IK impossible Code=-6)	Modify the programmed position tc avoid the error. If the problem is not solved by yourself, please contact to the service office.
E6039	Axis commands exceed the working range	Axis commands exceed the working range of the DELTA robot.	Modify the positon to be within the reachable position.
E6040	Axis commands exceed the position	Axis commands exceed the position that DELTA robot can reach.	Modify the positon to be within the reachable position.
E6041	Axis position is over the working range	Axis position from encoder is over the working range of the DELTA robot.	If high vibration is generated, contact our company for inquiries. Check whether there is abnormality with the position sensor. Check whether the encoder offset and the axis origin setting are correct.
E6042	Impossible to calculate the Delta robot position with the positions of the individual axes	Axis positons exceed the position that DELTA robot can reach.	Check whether there is abnormality with the position sensor. Check whether the encoder offset and the axis origin setting are correct.
E6043	%2d axis) Command angle is over the encoder useable range	Command angle is over the encoder useable range in jogging or manual operation.	Check the encoder offset setting and origin of the axis. Reduce the softlimit range if the range is too large. Encoder reset is preferable if necessary to initialize the encoder turn counts.
E6044	%2d axis) Command angle is over the encoder useable range	Command angle is over the encoder useable range in move operation.	Check the encoder offset setting and origin of the axis. Reduce the softlimit range if the range is too large. Encoder reset is preferable if necessary to initialize the encoder turn counts.

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Code	Message	Cause	Remedy
E6045	%2d axis) Command angle is over the encoder useable range	Command angle is over the encoder useable range in jogging for the cooperation of robots.	Check the encoder offset setting and origin of the axis. Reduce the softlimit range if the range is too large. Encoder reset is preferable if necessary to initialize the encoder turn counts.
E6046	%2d axis) Command angle is over the encoder useable range	Command angle is over the encoder useable range in CMOV operation.	Check the encoder offset setting and origin of the axis. Reduce the softlimit range if the range is too large. Encoder reset is preferable if necessary to initialize the encoder turn counts.
E6047	%2d axis) command value (angle) exceeded the encoder use range	Command angle is over the encoder useable range in an exceptional operation.	Check the encoder offset setting and origin of the axis. Reduce the softlimit range if the range is too large. Encoder reset is preferable if necessary to initialize the encoder turn counts.
E6048	%2d axis) Angle is over the encoder useable range	Angle is over the encoder useable range in initialization.	Check the encoder offset setting and origin of the axis. Encoder reset is preferable if necessary to initialize the encoder turn counts.
E6049	%2d axis) Angle is over the encoder useable range	Angle is over the encoder useable range.	Check the encoder offset setting and origin of the axis. Encoder reset is preferable if necessary to initialize the encoder turn counts.
E6050	%2d axis) Command angle exceeds the softlimit	The command angle exceeds the softlimit in jogging and manual operation	Operate the robot to be within the softlimit.
E6051	%2d axis) Command angle exceeds the softlimit	The command angle exceeds the softlimit in move operation	Modify the robot position in the program to be within the softlimit.
E6052	%2d axis) Command angle exceeds the softlimit	The command angle exceeds the softlimit in jogging and manual operation of the robot cooperation	Operate the robot to be within the softlimit.
E6053	%2d axis) Command value (angle) exceeded the soft limit	The command angle exceeds the softlimit in CMOV operation	Modify the robot position in the program to be within the softlimit.

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Code	Message	Cause	Remedy
E6054	%2d axis) Command value (angle) exceeded the soft limit	The command angle exceeds the softlimit in exceptional operation	Modify the robot position in the program to be within the softlimit. Please contact to the service office.
E6055	%2d axis) Angle is over the softlimit	Angle over the softlimit is detected in the initialization procedure.	Check the encoder offset value and the origin of the axis. Check the range of the softlimit.
E6056	%2d axis) Angle is over the softlimit	In operation, the softlimit that is set the location of the axis exceeded.	Check the encoder offset value and the origin of the axis. Check the range of the softlimit. Mofify the program if the working program is near the softlimit.
E6057	Command output wait time exceeded	State that makes it impossible to output a command through DSP.	Check whether there is abnormality with the DSP state.
E6058	Arm-formed angle of the command value too wide	During operation, the commanded position exceeded the allowable arm angle of the robot.	Correct the position of the program within the arm allowable angle.
E6059	Arm-formed angle of the cooperative control command value too wide	The commanded cooperative control position exceeded the allowable arm angle of the robot.	Correct the position of the program within the arm allowable angle. In case of the slave robot, adjust the step position of the master robot.
E6060	Arm-formed angle of the command value too wide	(During operation, exception processing) during operation, the commanded position exceeded the allowable arm angle of the robot.	Correct the position of the program within the arm allowable angle.
E6061	Current arm-formed angle too wide	(Initializing) the current arm-formed angle exceeded the allowable arm angle.	Check the axis origin set state. If the actual current arm angle is too wide, enter the system menu first and then adjust the current position through manual jog.
E6062	Current arm-formed angle too wide	Current arm-formed angle exceeded the allowable arm angle.	Check the axis origin set state. If the actual current arm angle is too wide, enter the system menu first, and then adjust the current position through manual jog.
E6063	Arm-formed angle of the command value too narrow	During operation, the commanded position exceeded the allowable arm angle of the robot.	Correct the position of the program within the arm allowable angle.

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Code	Message	Cause	Remedy
E6064	Arm-formed angle of the cooperative control command value too narrow	The commanded cooperative control position exceeded the allowable arm angle of the robot.	Correct the position of the program within the arm allowable angle. In case of the slave robot, adjust the step position of the master robot.
E6065	Arm-formed angle of the command value too narrow	(During operation, exception processing) during operation, the commanded position exceeded the allowable arm angle of the robot.	Correct the position of the program within the arm allowable angle.
E6066	Current arm-formed angle too narrow	(Initializing) the current arm-formed angle exceeded the allowable arm angle.	Check the axis origin set state. If the actual current arm angle is too narrow, enter the system menu first, and then adjust the current position through manual jog.
E6067	Current arm-formed angle too narrow	Current arm-formed angle exceeded the allowable arm angle.	Check the axis origin set state. If the actual current arm angle is too wide, enter the system menu first, and then adjust the current position through manual jog.
E6068	Upper arm angle of the command value exceeded the operation area	The commanded position exceeded the allowable operation angle between the surface and the upper arm.	Correct the position of the program within the allowable angle.
E6069	Upper arm angle of the cooperative control command value exceeded the operation area	The cooperative control commanded position exceeded the allowable operation angle between the surface and the upper arm.	Correct the position of the program within the upper arm allowable angle. In case of the slave robot, adjust the step position of the master robot.
E6070	Upper arm angle of the command value exceeded the operation area	(During operation, exception processing) during the operation, the commanded position exceeded the allowable operation angle between the surface and the upper arm.	Correct the position of the program within the arm allowable angle.

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Code	Message	Cause	Remedy
E6071	Current upper arm angle exceeded the operation area	(initializing) the current angle between the surface and the upper arm exceeded he allowable operation range.	Check the axis origin set state. If the actual upper arm angle is outside the operation range, enter the system menu first, and then adjust the current position through manual jog.
E6072	Current upper arm angle exceeded the operation area	Current angle between the surface and the upper arm exceeded he allowable operation range.	Check the axis origin set state. If the actual upper arm angle is outside the operation range, enter the system menu first, and then adjust the current position through manual jog.
E6073	Sensor speed too slow	Sensor input speed lower than the allowable speed.	Increase the sensor input speed, or adjust the min. allowable speed.
E6074	Sensor speed too fast	Sensor input speed higher than the allowable speed.	Increase the sensor input speed, or adjust the min. allowable speed.
E6075	Sensor sync preceding distance exceeded	Robot exceeded the sync position preceding distance.	Check whether the sensor input is normal.
E6076	Sensor sync preceding distance exceeded	Robot exceeded the sync position delay distance.	Lower the speed of the sensor-mounted system.
E6077	Abnormal tool number change process (state=%2d)	Tool number change is requested but failed due to the internal error.	Try it again. if the same error happens periodically, please contact to the service office.
E6078	Internal interference error (case=1)	Robot working range over is detected by the internal fault.	Modify the position of the program If the error happens periodically, please contact to the service office.
E6079	Internal interference error (case=2)	Robot working range over is detected by the internal fault.	Modify the position of the program If the error happens periodically, please contact to the service office.
E6080	Unexpected motion state (MPP:Motion Planner)	The Motion state falls into the unexpected state by internal fault.	Modify the position of the program If the error happens periodically, please contact to the service office.

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Code	Message	Cause	Remedy
E6081	Unexpected motion state (MC:Motion Commander)	The Motion state falls into the unexpected state by internal fault.	Modify the position of the program If the error happens periodically, please contact to the service office.
E6082	Traverse axis is not included in the UNIT in CNVY SYNC.	The UNIT in the program should indlude all traverse axes in Conveyor synchronization function.	Modify the UNIT information to include all traverse axes.
E6083	Wrong ACC/DEC parameters for Sync. Axes for special spec.	The robot type selected is for 2 axes traverse SYNC. The ACC/DEC parameter for the two axis should be same but different.	Modify the ACC/DEC parameters fo the axes.
E6084	Inverse kinematics failed in weaving tracking stop	Inverse kinematics failed when the robot stops after finishing the weaving motion.	Modify the program if the robot works near the limit.
E6085	Interpolation impossible in the robot path	The impossible robot path to interpolate is found.	If the path of the program, devide the positions into more steps and modify the target position.
E6086	Interpolation impossible to reach the target position	The impossible robot path to interpolate is found.	Check if the sign of positions of B Axis is different or the angle of wrist axis near 180 deg modify the target position.
E6087	Manual operation that the COWORK slave may not reach	The COWORK slave exceeded the working range while being moved by the master in manual operation.	The slave robot is near the border of working space. Operate within the working range.
E6088	Operation that the COWORK slave may not reach	The COWORK slave exceeded the working range during step forwarding or recycling.	The slave robot is near the border of working space. Modify the positons of the cooperation robots.
E6089	%d axis) target position reach time exceeded (multitask)	The multi-task axis can not reach the position within the defined accuracy of the STEP.	Check the axis is AXISCTRL OFF. Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.

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Code	Message	Cause	Remedy
E6090	%d axis) target position reach time exceeded (p interpolation)	The axis can not reach the position within the defined accuracy of the STEP (P interpolation).	Remove the interference object against the axis if necessary. Make the accuracy range wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.
E6091	TCP target position reach time exceeded (P interpolation)	TCP can not reach the position within the defined accuracy of the STEP (P interpolation).	Remove the interference object against the axis if necessary. Make the accuracy range wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.
E6092	TCP target position reach time exceeded (L and C interpolation)	TCP can not reach the position within the defined accuracy of the STEP (L, C interpolation).	Remove the interference object against the axis if necessary. Make the TCP accuracy range wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.
E6093	TCP accuracy is not satisfied (CNVY STEP)	TCP can not reach the position within the defined accuracy of the STEP (SensoySync CNVY STEP).	Remove the interference object against the axis if necessary. Reduce the conveyor speed. Make the TCP accuracy range wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.
E6094	TCP orientation accuracy is not satisfied (L,C)	TCP orientation can not reach the position within the defined accuracy of the STEP (L, C interpolation).	Remove the interference object against the axis if necessary. Make the TCP accuracy range wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.
E6095	%d axis) target position reach time exceeded (L and C interpolation)	The axis can not reach the position within the defined accuracy of the STEP (L, C interpolation).	Remove the interference object against the axis if necessary. Make the accuracy range wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.

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Code	Message	Cause	Remedy
E6096	%d aixs) traverse axis CV target position reach time exceeded	The traverse axis can not reach the accuracy while CNVY Sync.	Remove the interference object against the axis if necessary. Reduce the conveyor speed. Make the accuracy range of the traverse axis wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.
E6097	TCP target position reach time exceeded (L and C interpolation half)	TCP can not reach the position within the defined accuracy of the STEP (L, C interpolation Half condition).	Remove the interference object against the axis if necessary. Make the TCP accuracy range wider if it is too small.Refer to the trouble shooting manual of E0125. Please contact to the service office, if the error can not be solved.
E6098	%d step sensor sync start position exceeded the target position	The start position passed the target position in discontinuous step or the sync steps were not taught sequentialy in continuous step.	Correct the sync position teaching, or adjust the position of the sensors in sync and then start up again.
E6099	Failure in setting softlimit within encoder usable range	MCH file is protected.	Unlock the file and try again after reboot the controller.
E6100	MP ERROR: step_null	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6101	MP ERROR: step_im	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6102	MP ERROR: step_fwsp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6103	MP ERROR: step_fwsp1	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6104	MP ERROR: step_fwsp2	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.

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Code	Message	Cause	Remedy
E6105	MP ERROR: step_bwsp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6106	MP ERROR: step_fwsp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6107	MP ERROR: step_bwcp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6108	MP ERROR: step_sp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6109	MP ERROR: step_idp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6110	MP ERROR: pr_sp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6111	MP ERROR: pr_sp1	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6112	MP ERROR: pr_cp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6120	MP ERROR: pr_sprt	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6121	MP ERROR: pr_sp1rt	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6122	MP ERROR: pr_cprt	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6130	MP ERROR: plan_sp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.

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Code	Message	Cause	Remedy
E6131	MP ERROR: plan_sppr	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6132	MP ERROR: plan_sp1nmnp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6133	MP ERROR: plan_sp2nmnp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6134	MP ERROR: plan_sp1cm	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6135	MP ERROR: plan_sp2cm	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6136	MP ERROR: plan_cppr	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6137	MP ERROR: plan_p2im	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6138	MP ERROR: plan_cps1	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6139	MP ERROR: plan_cps2	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6140	MP ERROR: plan_cp2pr	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.
E6141	MP ERROR: plan_idp	Error generated while planning the motion.	If similar errors are generated even after trying re-startup, contact our company for inquiries.

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Code	Message	Cause	Remedy
E6142	Target Recovery postion error	The target recovery position was changed. When step-back was tried before completion of spot welding	After confirming the target position try re-startup
E6143	Target recovery range over.	Distance to the target position exceeded the set path recovery allowable distance. System -> Control parameter -> Control environment setting -> Auto mode path recovery allowable distance	Shift to manual mode, and recover the path; then, enter the set path recovery allowable distance before starting up again.
E6144	MP ERROR: Re-plan failed	Error generated while re-planning the motion.	Be sure the requested conditon of re-planning.
E6200	Failure to call a internal motion function0	Internal error (motion function call before the initialization code=0)	If the error persists, contact our company for inquiries.
E6201	Failure to call a internal motion function1	Internal error (motion function call before the initialization code=1)	If the error persists, contact our company for inquiries.
E6202	Failure to call a internal motion function2	Internal error (motion function call before the initialization code=2)	If the error persists, contact our company for inquiries.
E6203	Failure to call a internal motion function3	Internal error (motion function call before the initialization code=3)	If the error persists, contact our company for inquiries.
E6204	Failure to call a internal motion function4	Internal error (motion function call before the initialization code=4)	If the error persists, contact our company for inquiries.
E6205	Failure to call a internal motion function5	Internal error (motion function call before the initialization code=5)	If the error persists, contact our company for inquiries.
E6206	(%s axis) axis command max. speed exceeded	Axis command exceeded the allowable max. speed.	If the error persists, contact our company for inquiries.
E6207	Load estimation ended abnormally	The load estimation cannot be continued.	If the error persists, contact our company for inquiries.

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Code	Message	Cause	Remedy
E6208	Fault with the generation of the sensor sync. command	Impossible to generate the sensor sync. command.	Check whether the synchronization position for the sensor input is within the operable range.
E6209	(%s axis) axis command max. speed exceeded during weaving.	Axis command exceeded the allowable max. speed during weaving.	1) Reduce the frequency and width of weaving. Or change the weaving pattern and robot pose. And run the job again. 2)If the error persists, contact our company for inquiries.
E6210	Load estimation is not available because the axis is locked.	The robot axis (V, B, and R1) for load estimation is locked.	Unlock the robot axis in the axis lock menu.
E6211	Abnormal end of load estimation - Tool data change failed 1	The load estimation cannot be continued.	If the error persists, please contact us.
E6212	Abnormal end of load estimation - Tool data change failed 2	The load estimation cannot be continued.	If the error persists, please contact us.
E6213	Out of sensor sync target position motion range	The sensor sync target position is out of robot motion range.	Please check the sensor position.
E6214	Sensor sync inverse kinematics error (non-use area of axis B)	Inverse kinematics error occurred in the non-use area of axis B while creating a command.	Make sure that axis B is not close to 0 degrees during sync motion by changing the teaching.
E6215	Sensor sync inverse kinematics error (wrist axis interpolation)	Wrist axis interpolation inverse kinematics error occurred while creating the sensor sync command.	Check if the sync position for sensor input is within the movable range.
E6300	Endless rotation amount overflow(SerialEncoder Case1)	Endless step record position exceeded the encoder use range.	Adjust the step position after manually resetting the position of the endless using the R350 code.
E6301	Endless rotation amount overflow(SerialEncoder Case2)	Endless step record position exceeded the encoder use range.	Adjust the step position after manually resetting the position of the endless using the R350 code.

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Code	Message	Cause	Remedy
E6302	Endless rotation amount overflow(CompactEncoder Case1)	Endless step record position exceeded the encoder use range.	Adjust the step position after manually resetting the position of the endless using the R350 code.
E6303	Endless rotation amount overflow(CompactEncoder Case2)	Endless step record position exceeded the encoder use range.	Adjust the step position after manually resetting the position of the endless using the R350 code.
E6310	Error in the sealer pressurization force of %d-axis is too large.	The difference between the value measured by the pressure sensor and that measured for the motor has exceeded the permissible range.	Check the tuning condition of the sealer pressurization force.
E6311	The sealer pressurization force is too high during %d-axis filling.	The measured pressure has exceeded the upper limit.	Check the condition of the sealing equipment.
E6312	The sealer pressurization force is too high while %d-axis is on standby.	The sealer pressurization force has exceeded the permissible range.	Check the condition of the sealing equipment.
E6313	The sealer pressurization force of %d-axis is too low.	The sealer pressurization force is lower than the permissible range.	Check sealer leakage and the operating condition of the pressure sensor.
E6314	The sealer pressurization force of %d-axis has exceeded the upper limit.	The sealer pressurization force has exceeded the maximum permissible range.	Check the opening/closing condition of the discharge valve and the sealing equipment.
E6315	%d-axis sealer pressurization control time-out.	The time to target sealer pressurization force has been exceeded.	Check the set pressure and the condition of pressure tuning.
E6316	An overcurrent in sealer command has occurred.	The sealer axis command limit value has exceeded the permissible range.	Check the set value of the pressurization force and the tuning condition of the pressurization force.
E6317	The time to complete sealer filling has been exceeded.	The filling completion condition has not been met within the time limit.	Check the operating condition of the input valve and the pressure condition of the material feeding pump.

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Code	Message	Cause	Remedy
E6318	Abnormal data of sealer pressure sensor	There is an anomaly in the data of the input sensor.	Check the connection condition of the sensor.
E6319	Abnormal communications of the sealing equipment	An error has occurred in the communications with the sealing equipment.	Check the connection condition of the equipment.
E6320	The sealer valve control signal cannot be outputted.	It is not in the state where valve control signals can be outputted.	Stop the embedded PLC or run the equipment after setting SP11 to " On."
E6400	Torque error of axis %s over max. value	The torque of axis is over normal range.	1) Check the drive section such as reducer and bearing. 2) If there is no problem with the drive, increase the max. value of axis torque test.
E6401	Torque error of axis %s below min. value	The torque of axis is below normal range.	1) Check the belt and the other power system. 2) If there is no problem with the drive, reduce the min. value of axis torque test.
E6402	(Axis %s) Reducer over torque was detected (load estimation not performed).	Overtorque was detected with the reducer without executing load estimation.	Execute load estimation or enter correct tool load.
E6403	(Axis %s) Reducer overtorque detected (random change of tool info)	Overtorque was detected with the reducer and the randomly changed tool load.	Execute load estimation or enter correct tool load.
E8000	Tried a jog operation for which interpolation is impossible.	Posture that makes interpolation impossible, or tried the jog outside the operation area.	Use the axis angle jog or jog within the operation area.
E8001	Posture that makes the fixed TCP jog impossible	Posture that makes interpolation impossible.	Jog after changing to other posture using the axis angle jog.
E8002	(%d in order) impossible to process interpolation of the positioner sync command	Posture that makes interpolation impossible, or tried the jog outside the operation area.	Deactivate the sync jog, or jog within the operation area.

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Code	Message	Cause	Remedy
E8003	(%s axis) soft limit exceeded	The encoder data reached the set soft limit during the jog operation.	Move the robot within the set range.
E8004	Jog robot type error generated	Tried the job that is not supported by the set robot type.	Contact our company for inquiries.
E8005	Arm-formed angle of the jog command too wide	The commanded position exceeded the allowable arm angle of the robot.	Check whether the axis origin setting is normal, and jog within the allowable range.
E8006	Arm-formed angle of the cooperative control jog command too wide	The cooperative control jog commanded position exceeded the allowable arm angle of the robot.	Check whether the axis origin setting is normal, and jog within the allowable range.
E8007	Arm-formed angle of the jog command too narrow	The commanded position exceeded the allowable arm angle of the robot.	Check whether the axis origin setting is normal, and jog within the allowable range.
E8008	Arm-formed angle of the cooperative control jog command too narrow	The cooperative control jog commanded position exceeded the allowable arm angle of the robot.	Check whether the axis origin setting is normal, and jog within the allowable range.
E8009	Upper arm angle of the jog command exceeded the operation area	The jog commanded angle between the surface and the upper arm exceeded the allowable operation area.	Check the axis origin set state. If the actual upper arm angle is outside the operation range, enter the system menu first and then jog within the operation range.
E8010	Upper arm angle of the cooperative control jog command exceeded the operation area	The cooperative control jog commanded angle between the surface and the upper arm exceeded the allowable operation area.	Check the axis origin set state. If the actual upper arm angle is outside the operation range, enter the system menu first and then jog within the operation range.
E8011	Trying Motor On while operating the servo gun manual manipulation key	Prohibited to Try to Motor On while operating the servo gun manual key.	Do not press the manipulation key when executing Motor On.
E8012	The X-axis jog is prohibited in the current TH-axis position.(Check the LCD Non-Safety Jog Zone No.3)	TH-axis current position is within the setting range (Zone No.3) that could cause the X-axis movement interference.	1. Move the TH-axis out of the Zone No.3. 2. If there is no possibility of interference, change the range of Zone No.3.

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Code	Message	Cause	Remedy
E8013	The TH-axis jog is prohibited in the current X-axis position.(Check the LCD Non-Safety Jog Zone No.1)	X-axis current position is within the setting range (Zone No.1) that could cause the TH-axis movement interference.	1. Move the X-axis out of the Zone No.1. 2. If there is no possibility of interference, change the range of Zone No.1.
E8014	The TH-axis jog is prohibited in the current X-axis position.(Check the LCD Non-Safety Jog Zone No.2)	X-axis current position is within the setting range (Zone No.2) that could cause the TH-axis movement interference.	1. Move the X-axis out of the Zone No.2. 2. If there is no possibility of interference, change the range of Zone No.2.
E8015	The TH-axis jog is prohibited in the current X-axis position.(Check the LCD Non-Safety Jog Zone No.1, No.2)	X-axis current position is within the setting range (Zone No.1 or 2) that could cause the TH-axis movement interference.	1. Move the X-axis out of the Zone No.1 and Zone No.2. 2. If there is no possibility of interference, change the range of Zone No.1 or 2.
E8016	The TH-axis jog is prohibited in the current L-axis position.(Check the LCD Non-Safety Jog Zone No.4)	L-axis current position is within the setting range (Zone No.4) that could cause the TH-axis movement interference.	1. Move the L-axis out of the Zone No.4. 2. If there is no possibility of interference, change the range of Zone No.4.
E8017	The TH-axis jog is prohibited in the current R-axis position.(Check the LCD Non-Safety Jog Zone No.5)	R-axis current position is within the setting range (Zone No.5) that could cause the TH-axis movement interference.	1. Move the R-axis out of the Zone No.5. 2. If there is no possibility of interference, change the range of Zone No.5.
E8018	The X-axis jog is prohibited in the current L-axis position.(Check the LCD Non-Safety Jog Zone No.4)	L-axis current position is within the setting range (Zone No.4) that could cause the X-axis movement interference.	1. Move the L-axis out of the Zone No.4. 2. If there is no possibility of interference, change the range of Zone No.4.
E8019	The X-axis jog is prohibited in the current R-axis position.(Check the LCD Non-Safety Jog Zone No.5)	R-axis current position is within the setting range (Zone No.5) that could cause the X-axis movement interference.	1. Move the R-axis out of the Zone No.5. 2. If there is no possibility of interference, change the range of Zone No.5.

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Code	Message	Cause	Remedy
E8020	The jog for the sealer axis cannot be used.	The jog function cannot be used because the sealing parameter setting is not completed.	Finish the setting of parameters related to sealing.
E8021	Individual jogs of the additional axis cannot be used.	Individual jog functions can not be used in the additional axis sync mode.	Release the additional axis sync mode.
E8030	The hand is detected by the collision sensor during the operation of the %s axis).	The hand is in the detection range of the collision sensor.	Move the hand backward to move out of the detection range.
E10000	Robot %d and ARM interference was detected (Level 1).	Robot entered the interference area.	Retract the robot from the interference area by changing the arm interference detection function to the invalid mode.
E10001	Robot %d and ARM interference was detected (Level 2).	Robot entered the expected interference area.	Retract the robot from the interference area by changing the arm interference detection function to the invalid mode.
E10002	The function of ARM interference detection is not working(HiNet error)	Hinet for cooperative control is not working.	1) Check the cooperative control communication state in System / Control parameter / Network / Ethernet. 2) Check whether the Ethernet communication cable is in good condition.
E10003	The function of ARM interference detection is not working(COWORK error)	COWORK cannot be executed as in validity of cooperative control.	Set the cooperative control functior as enabled in the menu of System / Control parameter / Network / Service / Cooperative control.
E10004	The function of ARM interference detection is not working(Common coordinate error)	COWORK cannot be executed as no common coordinate.	Set the cooperative robot common coordinate system in the setting menu of / System / Auto calibratior / Cooperative robot common coordinate system.
E10005	HiNet Communication error (WATCHDOG_DETECTED)	HiNet detected watch-dog.	Check the communications connections and if the problem persists, replace the communication cables and Ethernet Hub.

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Code	Message	Cause	Remedy
E10006	HiNet Communication error (COMM_BUFFER_ERROR)	HiNet does not work.	Check the connection state of Ethernet for the cooperative control, and, if the problem persists replace the communication line and the Ethernet hub.
E10007	HiNet Communication error(NET_NOT_READY)	HiNet does not work.	Check the connection state of Ethernet for the cooperative control network, and if the problem persists, replace communication cables and Ethernet Hub.
E10008	HiNet Communication error(COMM_RX_SEQUENCE_ERROR)	HiNet does not work.	Check the connection state of Ethernet for the cooperative control network, and if the problem persists, replace communication cables and Ethernet Hub.
E10009	HiNet Communication error(TX_RETRANSMITTED)	HiNet does not work.	Check the connection state of Ethernet for the cooperative control network, and if the problem persists, replace communication cables and Ethernet Hub.
E10010	HiNet Communication error(TX_RETRANSMIT_ERROR).	HiNet does not work.	Check the connection state of Ethernet for the cooperative control network, and if the problem persists, replace communication cables and Ethernet Hub.
E10011	HiNet Communication error(LOOPBACK_TEST_FAIL).	HiNet does not work.	Check the connection state of Ethernet for the cooperative control network, and if the problem persists, replace communication cables and Ethernet Hub.
E10012	HiNet Communication error(COMM_INVALID_RID).	HiNet does not work.	Check the connection state of Ethernet for the cooperative control network, and if the problem persists, replace communication cables and Ethernet Hub.

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Code	Message	Cause	Remedy
E10013	HiNet Communication error(TOO_MANY_ERROR).	HiNet does not work.	Check the connection state of Ethernet for the cooperative control network, and if the problem persists, replace communication cables and Ethernet Hub.
E10014	HiNet Communication error	HiNet does not work. Some of the robot which should be in the HiNet is missing	Check the connection state of Ethernet for the cooperative control, and, turn on and then off the power of the robot that has a problem with cooperative control monitoring. If the problem persists, replace the communication line and the Ethernet hub.
E10015	Conveyor number is out of range for CNVYSYNC.	The assigned conveyor number of CNVYSYNC command has mistaken.	Modify after checking CNVYSYNC command of program.
E10016	Data error of the conveyor parameter.	Will be generated when the machine integer file is abnormal.	Recover using the machine integer backup file or prepare again.
E10017	Conveyor pulse is being input to down count.	Conveyor parameter is wrong.	Check the System/Application Parameter/Sensor synchronization/Synchronization parameter menu.
E10018	There is no response from the counterpart robot (%d) because of a fault with HiNet.	There is delay in or no response from the counterpart robot on HiNet	Check the state of HiNet.
E10019	No cooperative counterpart robot is not existent. (Rob Cnt:%d)	The count of the robots that can cooperate on HiNet is less than 2.	Check the state and setting of HiNet.
E10020	Time for sending and receiving the cooperative control command is exceeded	There was delay in the time of sending and receiving a cooperation command through HiNet.	Check the state of HiNet.
E10021	COWORK WITH sync number not matched.	The COWORK WITH commands of different sync mumber were matched.	Match the sync numbers of COWORK WITH commands in location where the cooperative robot will synchronize. And run the job.

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Code	Message	Cause	Remedy
E10022	COWORK master command buffer full(MC)	A number of master command exceeded command buffer size.	Restart the program or operation. When the same error occurred again, please contact to Hyundai Robotics.
E10023	COWORK master command buffer full(MP)	A number of master command exceeded command buffer size.	Restart the program or operation. When the same error occurred again, please contact to Hyundai Robotics.
E10024	COWORK master command buffer full(ST)	A number of master command exceeded command buffer size.	Restart the program or operation. When the same error occurred again, please contact to Hyundai Robotics.
E10025	COWORK master command buffer full(Jog Start)	A number of master command exceeded command buffer size.	Restart the program or operation. When the same error occurred again, please contact to Hyundai Robotics.
E10026	COWORK master command buffer full(Move Init)	A number of master command exceeded command buffer size.	Restart the program or operation. When the same error occurred again, please contact to Hyundai Robotics.
E12000	Undefined playback error_MKUCRD.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12001	Undefined playback error_ATDC.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12002	Undefined playback error_CalViaPs.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12003	Undefined playback error_CalCrViaPs.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12004	Undefined playback error_CalXPoint.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12005	Undefined playback error_CalXLine.	Error with the system (main software)	Please back up all files of controller and send them to our company.

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Code	Message	Cause	Remedy
E12006	Undefined playback error_PMOVEXE_P2E.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12007	Undefined playback error_SPLINE1.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12008	Undefined playback error_SPLINE2.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12009	Undefined playback error_SPLINE3.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12010	Undefined playback error_PME_EWS.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12011	Undefined playback error_TCE_EWS.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12012	Undefined playback error_ARTP1.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12013	Undefined playback error_ARTP_LST1.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12014	Undefined playback error_ARTP_LST2.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12015	Undefined playback error_ARTP_LST3.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12016	Undefined playback error_ARTP2.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12017	Undefined playback error_ARTP_LST4.	Error with the system (main software)	Please back up all files of controller and send them to our company.

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Code	Message	Cause	Remedy
E12018	Undefined playback error_ARSP_LST.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12019	Undefined playback error_ARSP1.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12020	Undefined playback error_ARSP2.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12021	Undefined playback error_ARSP3.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12022	Undefined playback error_LVSSS1.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12023	Undefined playback error_LVSSS2.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12024	Undefined playback error_LVSSS3.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12025	Undefined playback error_LVSSS4.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12026	Undefined playback error_FI1.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12027	Undefined playback error_FI2.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12028	Undefined playback error_FI3.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12029	Undefined playback error_FI4.	Error with the system (main software)	Please back up all files of controller and send them to our company.

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Code	Message	Cause	Remedy
E12030	Undefined playback error_FI5.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12031	Undefined playback error_FI6.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12032	Undefined playback error_CP.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12033	Undefined playback error_WTG.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12034	Undefined playback error_MPV.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E12035	Command statement for which independent execution is impossible	Tried executing a command that it is impossible to execute through independent execution of the command.	Check the command in the command independent execution setting.
E12036	Impossible to execute in a cooperative control section	Command unexecutable in the cooperative control section. Only the CMOV and REFP commands can be used.	Correct the program using an executable command.
E12037	Impossible to execute in an area that is not a cooperative control section	CMOV command can be executed only in the cooperative control section.	Check the cooperative control state
E12038	All traverse axes shoule be included in the UNIT of the STEP	All traverse axes shoule be included in the UNIT of the STEP for positioner Sync, Stationary tool, CNVY and Robot Cooperation.	Modify the UNIT information for all traverse axes to be included.
E12039	Servo gun axis not included in the SPOT step unit	Servo gun axes shoule be included in the UNIT for SPOT STEP	Modify the UNIT information to include servo gun axis.
E12040	All traverse axes shoule be included in the UNIT	All traverse axes shoule be included in the UNIT for positioner Sync, Stationary tool, CNVY and Robot Cooperation.	Modify the UNIT number currently selected for all traverse axes to be included.

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Code	Message	Cause	Remedy
E12041	All traverse axes shoule be included in the UNIT	All traverse axes shoule be included in the UNIT for coordinate transformation of BASE, USER, MasterEnd	Modify the UNIT number currently selected for all traverse axes to be included. Otherwise the coordinate system should be ROBOT or AXIS.
E12042	Target of MOVE for CNVY is out of workspace.	The estimated target position of CNVY STEP is out of working range of the robot.	Modify the MOVE position to be within the workspace. Slow down the conveyor speed not to exceed the workspace.
E12043	Search Target of MOVE for CNVY is out of workspace.	The estimated SEARCH target position of CNVY STEP is out of working range of the robot.	Modify the MOVE position to be within the workspace. Slow down the conveyor speed not to exceed the workspace.
E12044	Target of MOVE L(or C) is out of workspace.	Inverse kinematics results in wrist axis angles out of workspace	Modify the MOVE position to be within the workspace. Positions in the coordinate system such as BASE, ROBOT, USER should be modified.
E12045	Impossible to intorpolate MOVE L(or C)	Travel distance from the start to target of S Axis is longer than 180 deg	Modify the program not to be longer than 180 deg in S axis
E12046	Impossible to intorpolate MOVE L(or C)	H and V axis configuration are different between start and target(ABOVE, BELOW CONFIG)	Modify the STEP as MOVE P. Only Move P is possible for the configuration.
E12047	Impossible to intorpolate MOVE L(or C)	The target or start position is located in B axis Dead-Zone (B DEAD_ZONE)	Use wrist interpolation in the B Dead-Zone menu or modify the STEP as MOVE P.
E12048	Impossible to intorpolate MOVE L(or C)	The target position can not be reached with start position config. (IK CONFIG mismatch)	Modify the STEP position/orientation or modify the STEP as MOVE P.
E12049	Impossible to intorpolate MOVE L(or C)	The signs of B axis positon of start and target position are different, otherwise wrist axis(R2,B,R1) travel distance is longer than 180deg (B axis sign change, wrist travel distance over 180deg)	Use wrist interpolation in the B Dead-Zone menu or modify the STEP as MOVE P.

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Code	Message	Cause	Remedy
E12050	Impossible to intorpolate MOVE L(or C)	The signs of A2 axis positon of start and target position are different.(A2 travel distance is too much)	Modify the STEP position/orientation or modify the STEP as MOVE P.
E12051	Impossible to intorpolate MOVE L(or C)	Rotation of axis S and R of 4-axis robot was exceeded by 180° (an axis moved over 180°).	In case of the interpolation L and C record the MOVE command by dividing. Otherwise use the interpolation P.
E12052	Impossible to intorpolate MOVE L(or C)	The target position of the MOVE deviated from workspace. (LCD robot kinematic error)	Modify the STEP position to be within workspace.
E12053	Impossible to intorpolate MOVE L(or C)	The target position of the MOVE deviated from workspace. (DELTA robot kinematic error)	Modify the STEP position to be within workspace.
E12054	Impossible to intorpolate MOVE L(or C)	Travel distance of R Axis is longer than 180 deg. (DELTA robot R axis over 180deg)	Modify the step position of the move in order for R axis to be within 180deg.
E12055	Impossible to intorpolate MOVE L(or C)	Travel distance of S Axis is longer than 180 deg (S axis over 180deg)	Modify the STEP position to be within 180deg.
E12056	Impossible to intorpolate MOVE L(or C) - exceptional case	Exceptional error. Impossible to use MOVE L(or C)	Modify the STEP as MOVE P.
E12057	Robot Positon of SPOT is out of working range	Robot position after compensating SPOT equilization is out of working range.	Modify the STEP position just before the SPOT command to be within the robot workspace. Check the Clearance(Fix tip/Move tip) and wear consumption of tips of the servo gun.
E12058	Robot Positon of SPOT is out of working range	Robot position after compensating SPOT equilization is out of working range.(wrist angle over)	Modify the STEP position just before the SPOT command to be within the robot workspace. Check the Clearance(Fix tip/Move tip) and wear consumption of tips of the servo gun.
E12059	Posture that makes the spot interpolation on processing impossible	Travel distance from the start to target of S Axis is longer than 180 deg.	Check the Clearance(Fix tip/Move tip) and wear consumption of tips of the servo gun.

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Code	Message	Cause	Remedy
E12060	Posture that makes the spot interpolation on processing impossible	H and V axis configuration are different between start and target(ABOVE, BELOW CONFIG)	Modify the STEP as MOVE P. Only Move P is possible for the configuration.
E12061	Impossible for STEP position to use SPOT function	The target or start position is located in B axis Dead-Zone (B DEAD_ZONE)	Modify the position of the STEP position not to be near B Dead-Zone(near 0 deg). Otherwise Fix tip clearance should be 0 in the welding condition(for no equalizing motion of the Fix tip).
E12062	Impossible for STEP position to use SPOT function	The target position of SPOT can not be reached with start position config. (IK CONFIG mismatch)	Modify the step position of the SPOT to be within workspace.
E12063	Impossible for STEP position to use SPOT function	The signs of B axis positon of start and target position are different, otherwise wrist axis(R2,B,R1) travel distance is longer than 180deg (B axis sign change, wrist travel distance over 180deg)	Modify the STEP to avoid B-Dead Zone. Otherwise Fix tip clearance should be 0 in the welding condition(for no equilizing motion of the Fix tip).
E12064	Impossible for STEP position to use SPOT function	The signs of A2 axis positon of start and target position are different.(A2 travel distance over)	Modify the step position of the SPOT to be within workspace.
E12065	Impossible for STEP position to use SPOT function	Rotation of axis S and R of 4-axis robot was exceeded by 180° (an axis moved over 180°).	Modify the step position of the SPOT to be within workspace.
E12066	Impossible for STEP position to use SPOT function	LCD robot kinematic error	Modify the step position of the STOP to be within workspace.
E12067	Impossible for STEP position to use SPOT function	DELTA robot kinematic error	Modify the step position of the STOP to be within workspace.
E12068	Impossible for STEP position to use SPOT function	DELTA robot kinematic error	Modify the step position of the STOP to be within workspace.
E12069	Impossible for STEP position to use SPOT function	The travel distance of S Axis of the robot is over 180 deg (5DOF robot S Axis over 180 deg)	Modify the step position of the STOP to be within workspace.

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Code	Message	Cause	Remedy
E12070	Impossible for STEP position to use SPOT function(exceptions)	Exceptions occurred.	Modify the step position of the STOP to be within workspace. Otherwise Fix tip clearance should be 0 in the welding condition(for no equalizing motion of the Fix tip)
E12071	Trying SvClamp off while not in SvClamp On	Servo Clamp function SvClamp OFF can be executed for the Servogun which is already SvClamp ON	Modify the program to execute SvClamp ON before SvClamp OFF
E12072	The wrong task number is passed to the error handling process.	There is an error in the task number of the parameters delivered to the error handling process.	Please back up all files of controller and then contact us.
E12073	%2d) Traverse Axis can not be AXISCTRL OFF	Traverse axis is not designed for AXISCTRL OFF	Modify the program not to get the axis AXISCTRL OFF. Only Servogun, Jig and Positioner axis can be allowed.
E12074	%2d) Axis is out of range for AXISCTRL OFF	Robot axis and the wrong number is not be allowed for AXCTRL OFF.	Plese check the axis number for AXISCTRL OFF.
E12075	%2d)Axis(exceptions) is not allowed for AXISCTRL OFF	The input number is invalid for AXISCTRL OFF.	Plese check the axis number for AXISCTRL OFF.
E12076	Internal tool number error(01):'Search Shift Data'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12077	Internal tool number error(02):'Encoder to Base'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12078	Internal tool number error(03):'Encoder to Robot'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12079	Internal tool number error(04):'Axis to Base'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.

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Code	Message	Cause	Remedy
E12080	Internal tool number error(05):'Axis to Robot'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12081	Internal tool number error(06):'Current Step'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12082	Internal tool number error(07):'Relative Step'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12083	Internal tool number error(08):'Online Shift'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12084	Internal tool number error(09):'SVG Clear'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12085	Internal tool number error(10):'EQless Gun'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12086	Internal tool number error(11):'Move Exe'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12087	Internal tool number error(12):'Arc Retry 1'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12088	Internal tool number error(13):'Arc Retry 2'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.

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Code	Message	Cause	Remedy
E12089	Internal tool number error(14):'Arc Retry 3'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12090	Internal tool number error(15):'Arc Retry 4'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12091	Internal tool number error(16):'Arc Retry 5'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12092	Internal tool number error(17):'Arc Retry 6'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12093	Internal tool number error(18):'Arc Restart 1'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12094	Internal tool number error(19):'Arc Restart 2'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12095	Internal tool number error(20):'Arc Restart 3'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12096	Internal tool number error(21):'Arc Restart 4'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12097	Internal tool number error(22):'Arc Restart 5'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.

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Code	Message	Cause	Remedy
E12098	Internal tool number error(23):'Arc Restart 6'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12099	Internal tool number error(24):'LVS Search'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12100	Internal tool number error(25):'5 Seam P'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12101	Internal tool number error(26):'Max Axis'	While calculation is being performed internally by the controller, an abnormal tool number is inputted.	Back up all files in the controller, please send them to our company.
E12102	Stopping time (5 seconds) exceeded-1	Stopping time is over 5 sec. MOVE command is not OFF(StopWaitState)	If acc./dec. time of the additional axis is too long, readjust the time. Otherwise, if this error persists, backup the all files and send them to our office.
E12103	Stopping time (5 seconds) exceeded-2	Stopping time is over 5 sec. SPOT command is not OFF(StopWaitState)	Check whether servo gun stick to the pannel or not and clearances of welding conditions. if this error persists, backup the all files and send them to our office.
E12104	Stopping time (5 seconds) exceeded-3	COWORK SLAVE is not OFF within the specified 5 sec. (StopWaitState)	If this error persists, backup the all files and send them to our office.
E12105	Stopping time (5 seconds) exceeded-4	Eqless SPOT command is not OFF within the specified 5 sec. (StopWaitState)	Check whether Eqless gun stick to the pannel or not and clearances of welding conditions. if this error persists, backup the all files and send them to our office.
E12106	Stopping time (5 seconds) exceeded-5	MOVE command is not OFF within the specified 5 sec. (IntrExecState)	If acc./dec. time of the additional axis is too long, readjust the time. Otherwise, if this error persists, backup the all files and send them to our office.

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Code	Message	Cause	Remedy
E12107	Stopping time (5 seconds) exceeded-6	MOVE command is not OFF within the specified 5 sec. (ArcRetryState)	If acc./dec. time of the additional axis is too long, readjust the time. Otherwise, if this error persists, backup the all files and send them to our office.
E12108	Stopping time (5 seconds) exceeded-7	MOVE command is not OFF within the specified 5 sec.(ArcRestartState)	If acc./dec. time of the additional axis is too long, readjust the time. Otherwise, if this error persists, backup the all files and send them to our office.
E12109	Stopping time (5 seconds) exceeded-8	MOVE command is not OFF within the specified 5 sec.(LvsSearchState)	If acc./dec. time of the additional axis is too long, readjust the time. Otherwise, if this error persists, backup the all files and send them to our office.
E12110	Circular interpolation position improper of CalViaPs	The recorded steps for CalvisPs are too close or on a linear line, making it impossible to make a circular curve.	Correct the step position to make a circular curve.
E12111	Circular interpolation position improper(Improper reference point position case 1)	The recorded steps are too close or on a linear line, making it impossible to make a circular curve.	Correct the step position to make a circular curve.
E12112	Circular interpolation position improper(Improper reference point position case2)	The recorded steps are too close or on a linear line, making it impossible to make a circular curve.	Correct the step position to make a circular curve.
E12113	Subtask program step tool number error	The subtask program does not support the tool number change.	Use the same tool number in the subtask program.
E12114	Internal tool number error(27):'Tool Check/Set'	Incorrect tool number was entered during internal calculation of controller.	Please back up all files of controller and then send them to us.
E12120	Sealer commands cannot be executed.	The setting of the sealing condition is not completed.	Finish the setting of the sealing condition.
E12121	Error in the setting of the sealer gun number	The setting of the sealer gun number is invalid.	Check the setting of the gun number and the gun-assignment signal.

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Code	Message	Cause	Remedy
E12200	Undefined playback error_TRIGGOUT(OX,OY,OZ)	System (main software) error	Please back up all files of controller and then send them to us.
E12201	Undefined playback error_MES_PICHK	System (main software) error.	Please back up all files of controller and then send them to us.
E12202	Undefined playback error_M92E_PICHK	System (main software) error.	Please back up all files of controller and then send them to us.
E12203	Undefined playback error_FIFO_PICHK	System (main software) error.	Please back up all files of controller and then send them to us.
E12204	Undefined playback error_M80_PICHK	System (main software) error.	Please back up all files of controller and then send them to us.
E12205	Undefined playback error_M83_PICHK	System (main software) error.	Please back up all files of controller and then send them to us.
E12206	Undefined playback error_PCCHK	System (main software) error.	Please back up all files of controller and then send them to us.
E12207	Undefined playback error_M95_PALPU	System (main software) error.	Please back up all files of controller and then send them to us.
E12208	Undefined playback error_GUNSEA_END	System (main software) error.	Please back up all files of controller and then send them to us.
E12209	Axis %s) Servo gun subtask drive unavailable (Corresponding axis: AXISCTRL ON state)	The AXISCTRL control is on for the axis of the gun number when executing the SubTask program SPOT command statement. Change to AXISCTRL OFF state so as to execute SPOT in the subtask.	Adjust AXISCTRL state of the axis when executing SPOT command statement.

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Code	Message	Cause	Remedy
E12210	Axis %s) Servo gun main task drive unavailable (Corresponding axis: AXISCTRL OFF state)	The axis AXISCTRL control is OFF for the gun number when executing SPOT command statement of MainTask program. Change it to AXISCTRL ON to execute SPOT in the MainTask.	Adjust AXISCTRL state of the axis when executing SPOT command statement.
E12211	There is no reference step (previous step) of circular arc interpolation.	There is no reference step (previous step) for the circular arc interpolation.	Add a reference step position before current step for the circular arc interpolation.
E12212	There is no reference step (previous step) of circular arc interpolation. (spline)	There is no reference step (previous step) for the circular arc interpolation.	Add a reference step position before current step for the circular arc interpolation.
E12213	There is no reference step (next step) of circular arc interpolation.	There is no reference step (next step) to operate the circular interpolation.	Add a reference step position after current step for the circular arc interpolation.
E12214	Failed to read reference step of circular arc interpolation	The reference step data of circular arc interpolation was damaged.	Rerecord the step data.
E12215	Out of motion area as the result of coordinate conversion (MKUCRD)	The position or coordinate conversion result of (MKUCRD) is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12216	Out of motion area as the result of coordinate conversion (ATDC)	The position or coordinate conversion result of (ATDC) is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12217	Out of motion area as the result of coordinate conversion (CalTVSft)	The position or coordinate conversion result of (CalTVSft) is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12218	Out of motion area as the result of coordinate conversion (CalViaPs)	The position or coordinate conversion result of (CalViaPs) is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.

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Code	Message	Cause	Remedy
E12219	Out of motion area as the result of coordinate conversion (CalCirViaPs)	The position or coordinate conversion result of (CalCirViaPs) is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12220	Out of motion area as the result of coordinate conversion (CalXPoint)	The position or coordinate conversion result of (CalCirViaPs) is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12221	Out of motion area as the result of coordinate conversion (CalXLine)	The position or coordinate conversion result of (CalXLine) is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12222	Out of motion area as the result of coordinate conversion (LangCheckPosition)	The position in the selected step or coordinate conversion result is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12223	Out of motion area as the result of coordinate conversion (LangExecuteStatement)	The position in the step to execute or coordinate conversion result is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12224	Out of motion area as the result of coordinate conversion (LaserTracking)	The position in the step to execute LaserTracking or coordinate conversion result is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12225	Out of motion area as the result of coordinate conversion (ArcRetry)	The position or coordinate conversion result of Arc Retry is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12226	Out of motion area as the result of coordinate conversion (ArcRetry_LaserTracking)	The position or coordinate conversion result of ArcRetry_LaserTracking is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12227	Out of motion area as the result of coordinate conversion (ArcRetry_LaserTracking2)	The position or coordinate conversion result of ArcRetry_LaserTracking is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.

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Code	Message	Cause	Remedy
E12228	Out of motion area as the result of coordinate conversion (ArcRetry_LaserTracking3)	The position or coordinate conversion result of ArcRetry_LaserTracking is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12229	Out of motion area as the result of coordinate conversion (ArcRetry_LaserTracking4)	The position or coordinate conversion result of ArcRetry_LaserTracking is out of robot motion range.	Change the robot position or position of robot installation and work, and then retry it.
E12230	Out of motion area as the result of coordinate conversion (ArcRestart_LvsOn)	The LVS ON start position or coordinate conversion result of Arc Restart is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12231	Out of motion area as the result of coordinate conversion (ArcRestart)	The start position or coordinate conversion result of Arc Restart is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12232	Out of motion area as the result of coordinate conversion (ArcRestart_Circular)	The start position or coordinate conversion result of Arc Restart is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12233	Out of motion area as the result of coordinate conversion (ArcRestart_SavePose)	The start position or coordinate conversion result of Arc Restart is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12234	Out of motion area as the result of coordinate conversion (Lvs_SearchStart)	The search start position or coordinate conversion result of LVS is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12235	Out of motion area as the result of coordinate conversion (Lvs_SearchTgt)	The search position or coordinate conversion result of LVS is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12236	Out of motion area as the result of coordinate conversion (Lvs_SearchStart3)	The search start position of LVS is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.

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Code	Message	Cause	Remedy
E12237	Out of motion area as the result of coordinate conversion (Lvs_SearchStart4)	The search start position of LVS is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12238	Out of motion area as the result of coordinate conversion (REFP)	The position of the arc weaving reference point (REFP) is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12239	Out of motion area as the result of coordinate conversion (Lvs_On)	The start position (Lvs On state) of step is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12240	Out of motion area as the result of coordinate conversion (RobotMovePose)	The position or coordinate conversion result of Robot Pose is out of robot motion area.	Change the robot position or position of robot installation and work, and then retry it.
E12241	TRIGGOUT(X/Y/Z): Unsupported coordinate system	Recorded step coordinate system is not a BASE nor a USER one.	Check the step coordinate system with the TRIGGOUT(X/Y/Z) function recorded.
E12242	TRIGGOUT(X/Y/Z): User coordinate system mismatch	The user coordinate systems (current and recorded steps) are different.	Check the user coordinate system of the recorded step.
E14000	Object and member must be delimited with '.'.	Syntax error that object name is used without member name or false delimiter is used.	Use the format of {object name}.{member name}. (e.g.: AXIS3.CurFBack)
E14001	Syntax error of hexa-decimal constant number.	A character that is not a hexadecimal number was used after the prefix "&H".	After the prefix "&H", use only "0" – "9", "A" – "F", or "a" – "f".
E14002	Syntax error of binary constant number.	A character that is not a binary number was used after the prefix " &B".	After the prefix "&B", use only "0" or "1".
E14003	Syntax error of arithmetic parameter.	The syntax of the statement's arithmetic parameter is incorrect.	Correct the arithmetic parameter value in accordance with the syntax of arithmetic expression.

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Code	Message	Cause	Remedy
E14004	Syntax error of output variable parameter.	The syntax of the command's output variable parameter is incorrect.	Correct the output variable parameter value in accordance with the syntax of output variable. Arithmetic expression is not permitted.
E14005	The right-hand side of arith.assign.stmt. must be arith.expr.	Syntax error of the arithmetic expression of the right hand side of arithmetic assignment statement.	Correct the arithmetic expression of the right hand side of assignment operator '=' in accordance with the syntax rules.
E14006	The right-hand side of string assign.stmt. must be string expr.	Syntax error of the string expression of the right hand side of string assignment statement.	Correct the string expression of the right hand side of assignment operator '=' in accordance with the syntax rules.
E14007	The right-hand side of pose assign.stmt must be pose expr.	Syntax error of the pose expression of the right hand side of pose assignment statement.	Correct the pose expression of the right hand side of assignment operator '=' in accordance with the syntax rules.
E14008	The right-hand side of shift assign.stmt. must be shift expr.	Syntax error of the shift expression of the right hand side of shift assignment statement.	Correct the shift expression of the right hand side of assignment operator '=' in accordance with the syntax rules.
E14009	The right-hand side of tool assign. stmt. must be tool expr.	Syntax error of the tool expression of the right hand side of tool assignment statement.	Correct the tool expression of the right hand side of assignment operator '=' in accordance with the syntax rules.
E14010	Syntax error of the condition expr. param.	The condition expression parameter of flow-control statement is not in accordance with the syntax rules.	Correct the condition expression in accordance with the syntax rules.
E14011	Syntax error of the result status variable param.	Only arithmetic variables are permitted as result status variable parameter receiving command execution result.	Correct the result status variable parameter in accordance with the syntax rules.
E14012	Invalid variable type.	The name of variable type does not conform to syntax.	Use only permitted variable types like Integer, Double, String, Pose, and Shift.
E14013	Axis-name parameter is invalid.	Axis-name parameter does not conform to syntax.	Use only axis-names that are set in current system.

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Code	Message	Cause	Remedy
E14014	IP address parameter is invalid.	IP address parameter does not conform to syntax.	Input as the format of XXX.XXX.XXX.XXX without double-quotation mark.(X is decimal numbers)
E14015	Object number exceeded the limit.	The index of the object exceeded the valid range.	Specify the object index within the valid range.
E14016	The right-hand side of output assign.stmt. must be arith.expr.	Syntax error of the arithmetic expression of the right hand side of output assignment statement.	Correct the arithmetic expression of the right hand side of assignment operator '=' in accordance with the syntax rules.
E14017	After "AX_", axis name is incorrect.	After "AX_", only alphanumeric and '_'(underscore) characters are permitted as axis name, and it should be no less than 1 character.	Correct the axis name after "AX_" in accordance with the syntax rules.
E14018	Unsupported system variable.	System variable's name has failed to be identified.	Correct the system variable name in accordance with the syntax rules.
E14019	Unsupported arc-welding variable.	Arc-welding variable's name has failed to be identified.	Correct the arc-welding variable name in accordance with the syntax rules.
E14020	Unsupported welding-time variable.	After "WeldTime.", unsupported member variable is used.	Check if the welding-time variable's spelling is incorrect. Or check if the software version is old, so doesn't support the syntax.
E14026	Illegal exponent notataion.	Exponent notataion of a constant number is not in accordance with the syntex.	After 'E' or 'e', there should be an integer number without whitespace.
E14041	Unmatched pair of arith.expr.stmt's parenthesis.	In arithmetic expression, the pair of parenthesis characters '(' and ')' is not matched.	Check the number of parenthesises of arithmetic expression to confirm whether they are correctly paired. Using brace highlighing function of some editor like HRNotePad, you can easily check a complex parenthesis structure.

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Code	Message	Cause	Remedy
E14042	Unmatched pair of string expr's parenthesis.	In string expression, the pair of parenthesis characters '(' and ')' is not matched.	Check the number of parenthesises of string expression to confirm whether they are correctly paired.
E14043	Unmatched pair of pose const's parenthesises.	The pair of parenthesis characters '(' and ')' of pose constant is not matched.	Check if there is missing open or close parenthesis in pose constant.
E14044	Unmatched pair of shift const's parenthesises.	The pair of parenthesis characters '(' and ')' of shift constant is not matched.	Check if there is missing open or close parenthesis in shift constant.
E14045	Arith.function's open parenthesis is missing.	There is no open parenthesis after the name of arithmetic function.	Check if open parenthesis is missed or a false character is inserted after the name of arithmetic function.
E14046	Arith.function's close parenthesis is missing.	There is no close parenthesis at the end of arithmetic function.	Check if close parenthesis is missed or a false character is inserted at the end of arithmetic function.
E14047	String function's open parenthesis is missing.	There is no open parenthesis after the name of string function.	Check if open parenthesis is missed or a false character is inserted after the name of string function.
E14048	String function's close parenthesis is missing.	There is no close parenthesis at the end of string function.	Check if close parenthesis is missed or a false character is inserted at the end of string function.
E14150	Syntax error of MOVE stmt's UNTIL parameter.	An arithmetic expression should be input as MOVE statement's UNTIL parameter.	Correct the UNTIL parameter in accordance with arithmetic syntax.
E14151	Syntax error of MOVE stmt's interrupt status variable.	An arithmetic variable should be input as MOVE statement's interrupt status variable parameter.	Correct the interrupt status variable parameter in accordance with arithmetic variable syntax.
E14152	The axis is not supported by ENDLESS stmt.	ENDLESS statement only supports R1 and additional axis(Tn).	Use supported axis name. If you input RESET or ZERO, check if you mis-type the spelling.
E14153	Syntax error of MKDIR stmt's location param.	Source location parameter doesn't confirm to the syntax.	Specify TP, USB, or EXT.

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Code	Message	Cause	Remedy
E14154	Syntax error of LOADF stmt's source location.	Source location parameter doesn't confirm to the syntax.	Specify TP, USB, or EXT.
E14155	Syntax error of SAVEF smtm's dest. location.	Destination location parameter doesn't confirm to the syntax.	Specify TP, USB, or EXT.
E14156	Syntax error of MKDIR statement's path.	Path parameter doesn't confirm to the syntax.	Specify the path parameter as a legal string expression.
E14157	Syntax error of LOADF stmt's source pathname.	Source path/filename parameter doesn't confirm to the syntax.	Specify source path/filename parameter as legal string expression.
E14158	Syntax error of LOADF stmt's dest. filename.	Destination filename parameter doesn't confirm to the syntax.	Specify destination filename parameter as legal string expression.
E14159	Syntax error of SAVEF stmt's source filename.	Source filename parameter doesn't confirm to the syntax.	Specify source filename parameter as legal string expression.
E14160	Syntax error of SAVEF stmt's dest. path/name.	Destination path/filename parameter doesn't confirm to the syntax.	Specify source path/filename parameter as legal string expression.
E14161	ENDLESS axis service environment error.	ENDLESS axis mechanism is not specified.	Specify ENDLESS axis in system/initialization/mechanism setting menu.
E14162	The step structure is not able to use the ENDLESS axis.	There is no ENDLESS axis in the step unit information.	Check ENDLESS axis of the step by QuickOpen function.
E14165	Syntax error of FOR stmt's counter variable.	Only arithmetic variable is permitted as FOR statement's counter variable.	Correct the FOR statement's counter variable in accordance with the syntax of arithmetic variable.
E14166	Syntax error of FOR statement's initial-value.	As FOR statement's initial-value, only arithmetic expression is permitted.	Correct the FOR statement's initial-value in accordance with the syntax of the arithmetic expression.
E14167	Syntax error of FOR statement's end-value.	As FOR statement's end-value, only arithmetic expression is permitted.	Correct the FOR statement's end-value in accordance with the syntax of the arithmetic expression.

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Code	Message	Cause	Remedy
E14168	Syntax error of the FOR statement's interval-value.	As the FOR statement's interval-value, only arithmetic expression is permitted.	Correct the FOR statement's interval-value in accordance with the syntax of the arithmetic expression.
E14170	Syntax error of TOOLCHNG stmt's change target param.	An invalid syntax was specified as TOOLCHNG statement's change target parameter(C),	Check the TOOLCHNG statement's syntax, correct the target parameter value.
E14172	An error with the ENET.SEND statement buffer variable syntax.	An invalid syntax was designated for the buffer variable argument of the ENET.SEND statement.	Designate BUFV[n] for the buffer variable argument of the ENET.SEND statement.
E14173	An error with the syntax of the number of bytes for transmission of the ENET.SEND statement	An invalid syntax was designated for the argument of the number of bytes of the ENET.SEND statement.	Correct the value of the number of bytes of the ENET.SEND statement according to the arithmetic syntax.
E14250	The argument isn't suitable for the statement format.	Unsyntactical argument was used for the statement.	Check the statement syntax and change the format of argument.
E14251	Argument value exceeded the minimum range.	Entered argument value exceeded allowed minimum range.	Check the statement syntax and change the argument to a same or larger value than the minimum range.
E14252	Argument value exceeded the maximum range.	Entered argument value exceeded allowed maximum range.	Check the statement syntax and change the argument to a same or smaller value than the maximum range.
E14262	Failed assignment statement to arithmetic variable	Failed to execute an assignment statement to the arithmetic variable	Check if there is any error on the left side of assignment statement and then VAR file.
E14263	Failed in assignment statement to string variable.	Failed to execute an assignment statement to the string variable	Check if there is any error on the left side of assignment statement and then STR file.
E14264	Failed assignment statement to POSE variable	Failed to execute an assignment statement to the POSE variable	Check if there is any error on the left side of assignment statement and then POS file.
E14265	Failed in assignment statement to shift variable.	Failed to execute an assignment statement to the SHIFT variable.	Check if there is any error on the left side of assignment statement and then SFT file.

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Code	Message	Cause	Remedy
E14266	Failed assignment statement to ID variable	Failed to execute an assignment statement to the ID variable	Check if there is any error on the left side of assignment statement and then IDV file.
E14267	Failed in assignment statement to read-only system variable.	The left-side system variable is read-only, so cannot be assigned a value.	Check any error of job file under progress, and then use a substitutable variable.
E14268	Failed in assignment statement to read-only arc-welding variable.	The arc welding parameter on the left is read-only so a value cannot be substituted.	Check any error of job file under progress, and then use a substitutable variable.
E14269	Failed to substitute to index variable of FOR statement	Failed to substitute to index variable of FOR statement	Check the index variable and the VAR or IDV file.
E14273	Failed to substitute to POSE output factor	Failed to substitute to POSE variable used as the output factor of command statement	Check if there is any problem with the POSE variable, and then check the POS file.
E14274	Failed to substitute to SHIFT output factor	Failed to substitute to SHIFT variable used as the output factor of command statement	Check if there is any problem with the SHIFT variable and then check the SFT file.
E14293	FLOW control block error (Different table program numbers)	Current program number does not match the block table.	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.
E14294	FLOW control block error (Table search failed)	Failed to search program counter in the block table	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.
E14295	FLOW control block error (Invalid target index)	The target index value is out of valid table range.	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.
E14296	FLOW control block error (Invalid END target index)	END target index value is out of valid table range.	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.

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Code	Message	Cause	Remedy
E14297	FLOW control block error (Table END search failed)	Failed to search END target in the block table	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.
E14298	FLOW control block error (CASE statement)	Failed to evaluate corresponding SELECT conditional equation	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.
E14299	FLOW control block error (Address scan failed)	Failed to register address scan	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.
E14300	Flow-control block processing error.	An error occurred in executing robot language flow-control statement.	Back up every file of controller, and contact to A/S member in Hyundai Robotics. TEL : +82-53-670-7115 E-Mail: robotas@hyundai-robotics.co.kr.
E14301	Robot lang. flow-control block closing error.	Flow-control block like IF~ENDIF, FOR~NEXT, or SELECT~END_SELECT is not properly closed.	Check the JOB program's flow-control statements are properly paired, and correct it to proper nesting structure.
E14302	No corresponding flow-control stmt. (ELSEIF - IF)	There is no IF statement corresponding to ELSEIF statement.	Check the JOB program if IF statement is missed, correct the syntax.
E14303	Corresponding flow-control stmt.error. (ELSEIF - IF, ELSEIF)	The flow-control statement corresponding to the ELSEIF statement is not IF or ELSEIF statement.	Check if an IF statement is missed in JOB program, or the nesting structure of flow-control statement is unpaired. Correct the syntax.
E14304	No corresponding flow-control stmt. (ELSE - IF)	There is no IF statement corresponding to ELSE statement.	Check the JOB program if IF statement is missed, correct the syntax.
E14305	Corresponding flow-control stmt.error. (ELSE - IF, ELSEIF)	The flow-control statement corresponding to the ELSE statement is not IF or ELSEIF statement.	Check if an IF statement is missed in JOB program, or the nesting structure of flow-control statement is unpaired. Correct the syntax.

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Code	Message	Cause	Remedy
E14306	No corresponding flow-control stmt. (ENDIF - IF)	There is no IF statement corresponding to ENDIF statement.	Check the JOB program if IF statement is missed, correct the syntax.
E14307	Corresponding flow-control stmt.error (ENDIF - IF, ELSEIF, ELSE)	The flow-control statement corresponding to the ENDIF statement is not IF, ELSEIF, or ELSE statement.	Check if an IF statement is missed in JOB program, or the nesting structure of flow-control statement is unpaired. Correct the syntax.
E14308	No corresponding flow-control stmt. (CASE - SELECT)	There is no SELECT statement corresponding to CASE statement.	Check the JOB program if SELECT statement is missed, correct the syntax.
E14309	Corresponding flow-control stmt.error. (CASE - SELECT)	The flow-control statement corresponding to the CASE statement is not SELECT statement.	Check if a SELECT statement is missed in JOB program, or the nesting structure of flow-control statement is unpaired. Correct the syntax.
E14310	No corresponding flow-control stmt. (CASE ELSE - SELECT, CASE)	There is no SELECT or CASE statement corresponding to CASE ELSE statement.	Check the JOB program if SELECT statement is missed, correct the syntax.
E14311	Corresponding flow-control stmt.error (CASE ELSE - SELECT, CASE)	The flow-control statement corresponding to the CASE ELSE statement is not SELECT or CASE statement.	Check if a SELECT statement is missed in JOB program, or the nesting structure of flow-control statement is unpaired. Correct the syntax.
E14312	No corresponding flow-control stmt. (END_SELECT - SELECT)	There is no SELECT statement corresponding to END_SELECT statement.	Check the JOB program if SELECT statement is missed, correct the syntax.
E14313	Corresponding flow-control stmt. error. (END_SELECT - SELECT, CASE, CASE ELSE)	The flow-control statement corresponding to the END_SELECT statement is not SELECT, CASE, or CASE ELSE statement.	Check if a SELECT statement is missed in JOB program, or the nesting structure of flow-control statement is unpaired. Correct the syntax.
E14314	No corresponding flow-control stmt. (EXIT_SELECT - SELECT, CASE, CASE ELSE)	There is no SELECT, CASE or CASE ELSE statement corresponding to EXIT_SELECT statement.	Check the JOB program if SELECT statement is missed, correct the syntax.

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Code	Message	Cause	Remedy
E14318	No corresponding flow-control stmt. (NEXT - FOR)	There is no FOR statement corresponding to NEXT statement.	Check the JOB program if FOR statement is missed, correct the syntax.
E14319	Corresponding flow-control stmt. error (NEXT - FOR)	The flow-control statement corresponding to the NEXT statement is not FOR statement.	Check if a FOR statement is missed in JOB program, or the nesting structure of flow-control statement is unpaired. Correct the syntax.
E14320	The amount of flow-control stmts. exceeded the capa.	There are so many flow-control statements in main and sub JOBs that the capacity has been exceeded.	Reduce the number of flow-control statements in JOB program.
E14321	Failed in branching from block IF statement.	Cannot find the position of ELSEIF/ELSE/ENDIF in address table.	Don't move the cursor position, execute the JOB in order.
E14322	Failed in branching from block ELSEIF statement.	Cannot find the position of next ELSEIF or ELSE/ENDIF in address table.	Don't move the cursor position, execute the JOB in order.
E14323	Failed in branching from block ELSE statement.	Cannot find the position of next ENDIF in address table.	Don't move the cursor position, execute the JOB in order.
E14324	Failed in branching from CASE statement.	Cannot find the position of next CASE or END_SELECT in address table.	Don't move the cursor position, execute the JOB in order.
E14325	Failed in branching from FOR to NEXT statement.	Cannot find the position of corresponding NEXT in address table.	Don't move the cursor position, execute the JOB in order.
E14326	Failed in branching from NEXT to FOR statement.	Cannot find the position of corresponding FOR in address table.	Don't move the cursor position, execute the JOB in order.
E14327	Failed in branching from EXIT FOR to NEXT statement.	Cannot find the position of corresponding NEXT in address table.	Don't move the cursor position, execute the JOB in order.
E14328	Failed in branching from EXIT SELECT to END_SELECT statement.	Cannot find the position of corresponding END_SELECT in address table.	Don't move the cursor position, execute the JOB in order.

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Code	Message	Cause	Remedy
E14331	The num. of line-no. exceeded the max.(1000/JOB).	In the JOB program, line-numbers are specified more than the limit.	Reduce the number of line-number specified in the JOB program.
E14332	Duplicated line-no. in same JOB	Same line-number is specified in the same JOB's multiple location.	Change the line-number into unused number in the JOB.
E14333	The num. of label exceeded the max.(100/JOB)	In the JOB program, labels are specified more than the limit.	Reduce the number of label specified in the JOB program.
E14334	Duplicated label in same JOB	Same label is specified in the same JOB's multiple location.	Change the label into unused name in the JOB.
E14335	Undefined line-number.	Branching to an inexistent line-number is attempted.	Check if the line-number is not specified at the destination of branching. Or check if a wrong line-number is specified.
E14336	Undefined label.	Branching to an inexistent label is attempted.	Check if the label is not specified at the destination of branching. Or check if the label's spelling is mis-typed.
E14337	Syntax error of address.	The syntax of address is incorrect.	Check the syntax of the address. It must be legal line-number, label, or step-number.
E14338	Syntax error of step-number.	The syntax of step-number is incorrect.	Check if the step-number conforms to the syntax(S1~S999).
E14339	Syntax error of label.	After '*', legal alphanumeric indentifier has to be come.	Correct the label in accordance with the syntax.
E14351	INPUT statement shelter address branching fault.	Failed in branching to shelter address.	Check if the INPUT statement shelter address is an existent address.
E14352	WAIT statement shelter address branching fault.	Failed in branching to shelter address.	Check if the WAIT statement shelter address is an existent address.
E14353	GOTO statement address branching fault.	Failed in branching to specified address.	Check if the GOTO statement branch address is an existent address.

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Code	Message	Cause	Remedy
E14354	GOSUB statement address branching fault.	Failed in branching to specified address.	Check if the GOSUB statement branch address is an existent address.
E14355	ON GOTO statement address branching fault.	Failed in branching to specified address.	Check if the ON GOTO statement branch address is an existent address.
E14356	Simple IF statement's THEN address branching fault.	Failed in branching to the address specified in THEN.	Check if the branch address specified in THEN is an existent address.
E14357	Simple IF statement's ELSE address branching fault.	Failed in branching to the address specified in ELSE.	Check if the branch address specified in ELSE is an existent address.
E14358	SONL statement shelter address fault.	Failed in branching to shelter address.	Check if the SONL statement shelter address is an existent address.
E14361	Line number is not allowed in step.	In step, there is a line number not a step number.	Remove the line number.
E14362	Step number is not allowed in function.	In function, there is a step number not a line number.	Remove the step number.
E14400	The pose const's user crd-sys. num. exceeded the range(1~10).	The pose constant's user coordinate system number is set to be exceeded the valid range(1~10).	Set the user coordinate system number to be within valid range(1~10).
E14401	On a axis-crd. pose const., cart.(XYZ) element can't be read.	On a pose constant which is axis-coordinate, reading cartesian element was attempted. (e.g. V23!=P*.RY)	Access to only axis-coordinate element. (e.g. V23!=P*.J3)
E14402	On a cart-crd. pose const., axis-crd.(J) element can't be read.	On a pose constant which is cartesian-coordinate, reading axis element was attempted. (e.g. V23!=P*.J3)	Access to only cartesian-coordinate element. (e.g. V23!=P*.RY)
E14403	On a axis-crd. pose variable, cart.(XYZ) element can't be accessed.	On a pose variable which is axis-coordinate, reading or writing cartesian element was attempted. (e.g. V23!=P*.RY)	Access to only axis-coordinate element. (e.g. V23!=P43.J3 or, P43.J3=V23!)

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Code	Message	Cause	Remedy
E14404	On a cart-crd. pose variable, axis-crd.(J) element can't be accessed.	On a pose variable which is cartesian-coordinate, reading or writing (from/to) axis element was attempted. (e.g. V23!=P43.J3 or, P43.J3=V23!)	Access to only cartesian-coordinate element. (e.g. V23!=P*.RY)
E14405	Pose constant's unit # exceeded the range.	The /UNIT number of pose constant exceeded the valid range(0~7).	Set the /UNIT number of pose constant within valid range(0~7).
E14406	The num. of axes doesn't match betw. axis-crd. pose const. and unit	The number of elements in the axis-coordinate pose constant's parenthesis is different from number of unit's axes.	Match the number of elements in pose constant's parenthesis to the number of unit's axes. (If unit is unspecified, it must be matched to total number of axes.)
E14407	The num. of axes doesn't match betw. cart-crd. pose const. and unit	The number of elements in the parenthesis of pose constant which is cartesian-coordinate is different from the number of unit's axes+1(config).	Match the number of elements in pose constant's parenthesis to the number of unit's axes+1. (If unit is unspecified, it must be matched to total number of axes+1.)
E14408	Invalid pose element syntax.	The syntax of pose element name specified in P* or pose variable is wrong.	Check if the pose element name's spelling is wrong.
E14409	Joint(J) pose element index > tot.axes.	Joint(J) pose element index was set to be bigger than the total axes.	Set the index value to be (J's index <= total axes).
E14410	Add-axis(T) pose element index > add-axes.	Add-axis(T) pose element's index was set to be bigger than the number of add-axes.	Set the index value to be (T's index <= add-axes).
E14411	Invalid pose CFG element syntax.	In {pose}.CFG.{element name} syntax, unsupported element name was used.	Check whether the element name spelling is wrong. Or, check whether the controller software version is an old version that does not support the relevant syntax.
E14412	Attempt to read an uninitialized pose variable.	It was attempted to read the value of pose variable in which a value is not assigned.	Supplement the job in a way that ensures that an enabled value is assigned into the variable. Or, copy the pose file that contains an enabled value into the main board.

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Code	Message	Cause	Remedy
E14413	Syntax error of pose expression parameter.	The parameter is not legal pose expression.	Correct the parameter in accordance with the pose-expression syntax.
E14414	Syntax error of pose variable output parameter.	As an output parameter, only a pose variable is permitted.	Correct the output parameter in accordance with the pose-variable syntax.
E14415	POSE/SHIFT variable and number of machine parameter axes are different (IdVar).	The number of axes of POSE/SHIFT variable (ID variable) does not match that of ROBOT.MCH defined with system initialization.	Set the same POSE/SHIFT variable file or number of axes of POSE/SHIFT constant with the system setting.
E14416	POSE/SHIFT variable and number of machine parameter axes are different (TONL).	The number of axes of (TONL) POSE/SHIFT variable does not match that of ROBOT.MCH defined during system initialization.	Set the same POSE/SHIFT variable file or number of axes of POSE/SHIFT constant with the system setting.
E14417	POSE/SHIFT variable and number of machine parameter axes are different (TONL case2).	The number of axes of (TONL) POSE/SHIFT variable does not match that of ROBOT.MCH defined during system initialization.	Set the same POSE/SHIFT variable file or number of axes of POSE/SHIFT constant with the system setting.
E14418	POSE/SHIFT variable and number of machine parameter axes are different (CalViaPS).	The number of axes of POSE/SHIFT variable (ID variable) used for CalViaPS does not match that of ROBOT.MCH defined with system initialization.	Set the same POSE/SHIFT variable file or number of axes of POSE/SHIFT constant with the system setting.
E14419	POSE/SHIFT variable and number of machine parameter axes are different (CalViaPs case2).	The number of axes of CalViaPs POSE/SHIFT variable does not match that of ROBOT.MCH defined during system initialization.	Set the Axis count of the POSE/SHIFT variable(or constant) file to match the system setting.
E14420	POSE/SHIFT variable and number of machine parameter axes are different (CalXLine).	The number of axes of CalXLine POSE/SHIFT variable does not match that of ROBOT.MCH defined during system initialization.	Set the same POSE/SHIFT variable file or number of axes of POSE/SHIFT constant with the system setting.

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Code	Message	Cause	Remedy
E14421	POSE/SHIFT variable and number of machine parameter axes are different (CalXLine case2).	The number of axes of CalXLine POSE/SHIFT variable does not match that of ROBOT.MCH defined during system initialization.	Set the same POSE/SHIFT variable file or number of axes of POSE/SHIFT constant with the system setting.
E14450	The user crd-sys. num. of pose to shift is not specified.	The pose's coordinate system is an unnumbered user coordinate system, so it should follow the system's user coordinate system number. But, the number is not set in the system.	Input the user coordinate system number in the condition setting section using T/P, or designate using the SELUCRD command.
E14451	The crd-sys. of pose to shift is unreg. user crd-sys.	The pose to shift is specified as user coordinate system. But, this user coordinate system number is not registered in the system.	Select a program arbitrarily, and then record the X direction and the XY plane surface. After that, register the coordinate system in the menu of System > Control parameter > Register coordinate system. If you want to execute within the teaching program, refer to the MKUCRD command.
E14452	Cart. pose to axis-shift broke away from opr-range.	When the axis shift operation is progressing, if the pose coordinate system is cartesian, it will be first converted into the axis coordinate pose. However, when the cartesian pose exceeds the robot operation area, conversion will not take place.	Ensure that the pose cartesian coordinate value is within the robot operation area.
E14453	Failed to transform the shifted pose to orig. crd-sys.	There is an error generated when executing cartesian shifting by converting the pose into the cartesian coordinate system, and then converting it back into its original coordinate system.	May be a case in which the axis coordinate pose cartesian shift result is outside the operation area, making it impossible to recover to the axis coordinate system. Make sure that the pose shift result is within the robot operation area.
E14454	The num. of user crd-sys. of shift unspecified.	As the shift coordinate system is a user coordinate system without numbers, it is required to follow the number setting of the user coordinate system. However, there is no number set in the system.	Input the user coordinate system number in the condition setting section using T/P, or designate using the SELUCRD command.

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Code	Message	Cause	Remedy
E14455	The crd-sys of shift is unreg. user crd-sys.	The shift is designated with the user coordinate system. However, the user coordinate system number is not registered in the system.	Select a program arbitrarily, and then record the X direction and the XY plane surface. After that, register the coordinate system in the menu of System > Control parameter > Register coordinate system. If you want to execute within the teaching program, refer to the MKUCRD command.
E14456	The user crd-sys's # of shift const exceeded the range(1~10).	The shift constant user coordinate system number is designated exceeding the enabled range (1~10).	Designate the shift constant user coordinate system number within the enabled range (1~10).
E14457	On the axis-crd. shift variable, cart.(XYZ) element is inaccessible.	For the shift variable of the axis coordinate method, reading or writing of cartesian elements is tried. (for example, V23!=R43.RY or, R43.RY=V23!)	Approach only the axis coordinate element. (for example, V23!=R43.J3 or, R43.J3=V23!)
E14458	On the cart. shift variable, axis(J) element is inaccessible.	For the shift variable of the cartesian method, reading or writing of axis coordinate elements is tried. (for example, V23!=R43.J3 or, R43.J3=V23!)	Approach only the cartesian element. (for example, V23!=R43.RY or, R43.RY=V23!)
E14459	The num. of axes is not matched betw. axis-crd. shift const. and robot.	Count of elements in the parentheses of the shift constant of the axis coordinate method is different from the axis count of the robot.	Match the count of elements in the parentheses of the shift constant with the axis count of the robot.
E14460	The num. of elements of cart-crd. shift const. must be 6.	Count of elements in the parentheses of the shift constant of the cartesian coordinate method is 6 (X,Y,Z,RX,RY,RZ).	Correct the count of elements in the parentheses of the shift constant to 6.
E14461	Invalid shift element syntax.	Syntax wrong with the shift element name designated in the shift variable.	Check whether the shift element name spelling is wrong.
E14462	Joint(J) shift element index > max axis num.	Joint (J) shift element index is designated larger than the max. axis count (16).	Designate the index value in a way to ensure (J index value <= max. axis count).

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Code	Message	Cause	Remedy
E14464	Invalid shift CFG element syntax.	{Shift}.CFG. In the syntax of {element name}, unsupported element names are used.	Check whether the element name spelling is wrong. Or, check whether the controller software version is an old version that does not support the relevant syntax.
E14465	Attempt to read an uninitialized shift variable.	Tried reading the value of the shift variable that has no value assigned.	Supplement the job in a way that ensures that an enabled value is assigned into the variable. Or, copy the shift file that contains an enabled value into the main board.
E14466	Syntax error of shift variable ouput parameter.	As an output parameter, only shift variable is permitted.	Correct the output parameter in accordance with the shift-variable syntax.
E14490	Buffer variable element syntax is invalid.	An invalid type attribute syntax of BUFV.	Check if the type attribute syntax of BUFV is incorrect.
E14491	This is a type conversion that exceeds the buffer variable area.	The position acquired by adding the type size to the offset of BUFV exceeded the BUFV area (64kb).	Use an offset position that does not exceed the area.
E14492	The buffer variable value is an invalid floating-point real number.	When reading real number properties (F4, F8, f4, f8), the binary values are interpreted as invalid real numbers.	Investigate the reason that the binary data is not valid.
E14500	Invalid variable information.	Error with the system (main software)	Please back up all files of controller and send them to our company.
E14501	Invalid system variable.	System variables, not enabled, used	Check whether the system variable name spelling is wrong, or whether "_" is added before the general variable by mistake..
E14502	Invalid WEAVCmd member.	WEAVCmd object member name not enabled.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14503	Invalid F* member.	F*(Force) object member name not enabled.	Check whether the spelling of the object member name is wrong, and correct it when necessary.

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Code	Message	Cause	Remedy
E14504	Invalid FB member.	FB (external fieldbus) object member name not enabled.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14505	Invalid FN member.	FN (embedded fieldbus) object member name not enabled.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14506	Invalid ENET member.	ENET (Ethernet) object member name not enabled.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14507	Invalid AXIS member.	AXIS member name not enabled.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14508	Invalid DrvTest member.	Invalid DrvTest member name.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14509	Invalid BrakeTest member.	Invalid BrakeTest object member name.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14510	Invalid GasPChk member.	Invalid GasPChk member name.	Check whether the spelling of the object member name is wrong, and correct it when necessary.
E14511	G.Int. variable's index exceeded valid range.	Index of the global integer variable exceeded the enabled range (1~600).	Designate the global integer variable index according to the enabled range.
E14512	G.Real variable's index exceeded valid range.	Index of the global real number variable exceeded the enabled range (1~600).	Designate the global real number variable index according to the enabled range.
E14513	G.String variable's index exceeded valid range.	Index of the global string variable exceeded the enabled range (1~999).	Designate the global string variable index according to the enabled range.
E14514	G.Pose variable's index exceeded valid range.	Index of the global pose variable exceeded the enabled range (1~9999).	Designate the global pose variable index according to the enabled range.
E14515	G.Shift variable's index exceeded valid range.	Index of the global shift variable exceeded the enabled range (1~9999).	Designate the global shift variable index according to the enabled range.

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Code	Message	Cause	Remedy
E14516	L.Int. variable's index exceeded valid range.	Index of the local integer variable exceeded the enabled range (1~50).	Designate the local integer variable index according to the enabled range.
E14517	L.Real variable's index exceeded valid range.	Index of the local real number variable exceeded the enabled range (1~50).	Designate the local real number variable index according to the enabled range.
E14518	L.String variable's index exceeded valid range.	Index of the local string variable exceeded the enabled range (1~100).	Designate the local string variable index according to the enabled range.
E14519	L.Pose variable's index exceeded valid range.	Index of the local pose variable exceeded the enabled range (1~100).	Designate the local pose variable index according to the enabled range.
E14520	L.Shift variable's index exceeded valid range.	Index of the local shift variable exceeded the enabled range (1~50).	Designate the local shift variable index according to the enabled range.
E14521	M relay variable's index exceeded valid range.	Index of the M relay variable exceeded the enabled range.	Designate the local shift variable index according to the enabled range. _MB1~2000 _MW1~1000 _ML1~500 _MF1~500
E14522	Tool variable's index exceeded valid range.	Index of the tool variable exceeded the enabled range (1~32).	Designate the tool variable index according to the enabled range.
E14523	HiNet I/O variable's index exceeded valid range.	Index of the HiNet I/O variable exceeded the enabled range.	Designate the HiNet I/O variable index according to the enabled range. GE1~16 DE1~128
E14524	The index valid range of the buffer variable is exceeded	The index value of BUFV exceeded the valid range (0 to 65535).	Designate the index value of BUFV according to the valid range.
E14526	DO variable's index exceeded valid range.	Index of the DO variable exceeded the enabled range (1~4100).	Designate the DO variable index according to the enabled range.
E14527	DI variable's index exceeded valid range.	Index of the DI variable exceeded the enabled range (1~4100).	Designate the DI variable index according to the enabled range.

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Code	Message	Cause	Remedy
E14528	Y variable's index exceeded valid range.	Index of the Y variable exceeded the enabled range (1~8192).	Designate the Y variable index according to the enabled range.
E14529	X variable's index exceeded valid range.	Index of the X variable exceeded the enabled range (1~8192).	Designate the X variable index according to the enabled range.
E14530	AO variable's index exceeded valid range.	Index of the AO variable exceeded the enabled range (1~32).	Designate the AO variable index according to the enabled range.
E14531	AI variable's index exceeded valid range.	Index of the AI variable exceeded the enabled range (1~32).	Designate the AI variable index according to the enabled range.
E14532	SO variable's index exceeded valid range.	Index of the SO variable exceeded the enabled range (1~32, 101~104).	Designate the SO variable index according to the enabled range.
E14533	SI variable's index exceeded valid range.	Index of the SI variable exceeded the enabled range (1~8, 101~104).	Designate the SI variable index according to the enabled range.
E14541	Undefined global variable.	The global variable is not registered in variable dialog box.	Before access the global ID variable, register the variable in the variable dialog box.
E14542	Undefined local variable.	The local variable is not defined in the subprogram.	Before access the local ID variable, define the variable with DIM or PARAM statement. Don't skip the DIM or PARAM statement which defined the variable.
E14546	Failed in getting the ID variable value.	Error occurred while getting ID variable value.	1) Check the syntax of the job program. 2) If the cause is unknown, transfer the backup file to the A/S department of our company.
E14548	Failed in creating ID local variable.	In process of creating ID local variable by DIM statement, an error has occurred.	Delete the local variable files and retry the whole task.
E14551	Only bit output variable is permitted as the parameter.	YB, YW which are not bit are not permitted as output variable.	Use single bit output variable(Y, DO, SO).
E14552	The number of Arithmetic variable is out of range.	The numeric value of Arithmetic variable is out of limited range.	The number of variable must be within the number range of the variable type.

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Code	Message	Cause	Remedy
E14553	The number of Arithmetic variable is out of range. (case2)	The numeric value of Arithmetic variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14554	The number of POSE variable is out of range.	The numeric value of POSE variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14555	The number of SHIFT variable is out of range.	The numeric value of SHIFT variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14556	The number of Output variable is out of range.	The numeric value of variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14557	The number of Input variable is out of range.	The numeric value of Input variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14558	The number of ID variable is out of range.	The numeric value of ID variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14559	The number of Output Assign variable is out of range.	The numeric value of Output Assign variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14560	The number of System Assign variable is out of range.	The numeric value of System Assign variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14561	The number of Arc parameter variable is out of range.	The numeric value of Arc parameter variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14562	The number of ENET variable is out of range.	The numeric value of ENET variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14563	The number of DrvTest (drive test command) variable is out of range.	The numeric value of DrvTest variable is out of limited range.	The number of variable must be within the number range of the variable type.

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Code	Message	Cause	Remedy
E14564	The number of BrakeTest (brake test command) variable is out of range.	The numeric value of brake test command variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14565	The number of GasPChk (gas spring test command) variable is out of range.	The numeric value of gas spring test command variable is out of limited range.	The number of variable must be within the number range of the variable type.
E14566	Incorrect variable number.(POSE Constant Element)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14567	Incorrect variable number.(Arithmetic Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14568	Incorrect variable number.(String Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14569	Incorrect variable number.(POSE Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14570	Incorrect variable number.(SHIFT Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14571	Incorrect variable number.(POSE Variable Element)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14572	Incorrect variable number.(SHIFT Variable Element)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14573	Incorrect variable number.(TOOL Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14574	Incorrect variable number.(Object Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.

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Code	Message	Cause	Remedy
E14575	Incorrect variable number.(Output Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14576	Incorrect variable number.(Input Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14577	Incorrect variable number.(System Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14578	Incorrect variable number.(PLC Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14579	Incorrect variable number.(ID Variable)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14580	Incorrect variable number.(PoseMSTRef)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14581	Incorrect variable number.(Step Number)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14582	Incorrect variable number.(PAINT)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14583	Incorrect variable number.(PAINT case2)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14584	Incorrect variable number.(SELBRUSH)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14585	Incorrect variable number.(ENET)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14586	Incorrect variable number.(DrvTest)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.

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Code	Message	Cause	Remedy
E14587	Incorrect variable number.(BrakeTest)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14588	Incorrect variable number.(GasPChk)	The syntax of constant used as the number of variable or equation is incorrect.	Check if the syntax of number of variable is correct.
E14590	The buffer variable number was used incorrectly	The syntax of the constant or formula used as the number of the variable is incorrect.	Check if the syntax of the variable number is correct.
E14600	Syntax error of the location of func's arith-param.	Required to input an arithmetic expression in the arithmetic parameter position of a function.	Check whether the arithmetic expression syntax is wrong, and correct it.
E14601	Syntax error of the location of func's string-param.	Required to input a string expression in the string parameter position of a function.	Check whether the string expression syntax is wrong, and correct it.
E14602	The string function's suffix '$' was missed.	In the string function, there should be the suffix "$". (for example: LEFT$(V3$,5))	Check whether the suffix "$" is missed, and correct it.
E14603	(CSTORS)Coordinate system error of the global pose variable.	The pose coordinate system in CSTORS function has become angle or encoder.	Modify to BASE,ROBOT,USER coordinate system about pose variable(n,n+1).
E14604	(CSTORS)Global pose file or data error.	The global pose file or data does not exist.	1) Check the global pose file. 2) Confirm it again after pose data creation.
E14605	(CSTORS)Axis number error of global pose variable.	There is the difference of axis number between pose variable and controller.	Check axis number of the pose variable.
E14606	(CSTORS)Function factor is out of range.	The factor in CSTORS function is wrong.	Input range as 1'st(1~9999),2'nd(1~2),3'th(0~1).
E14700	No whitespace after NOT operator.	There is no whitespace after NOT operator.	Input 1 or more whitespaces after NOT operator.
E14701	No whitespace after AND operator.	There is no whitespace after AND operator.	Input 1 or more whitespaces after AND operator.
E14702	No whitespace after OR operator.	There is no whitespace after OR operator.	Input 1 or more whitespaces after OR operator.

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Code	Message	Cause	Remedy
E14703	No whitespace after XOR operator.	There is no whitespace after XOR operator.	Input 1 or more whitespaces after XOR operator.
E14704	Right-hand side of ^ operator is not legal arithmetic expression.	Only arithmetic expression is permitted in right-hand side of ^ operator.	Correct the ^ operator's right-hand side to legal arithmetic expression.
E14705	Right-hand side of sting-comparison operator is not legal string expression.	After left-hand side string expression and =, <> operator, string expression should be come as right-hand side.	Correct the right-hand side of string-comparison operator as a legal string expression.
E14800	The float value exceeding the integer range has been changed to an integer.	The float value being changed to an integer has exceeded the maximum value(2147483647) of integer.	Modify the HRBASIC formula for the calculated float value not to exceed the maximum value of the integer.
E14801	AnalyzeParam service is not supported.	main b/d doesn't support the AnalyzeParam service.	Match the software version between TP and main b/d.
E14802	The SoftLimit member is not valid.	The members of SoftLimit system variable are Min and Max.	Change the format of variable to a correct one.
E14803	Incorrect axis name was used for the SoftLimit variable.	The axis name does not exist with current robot, or it is incorrect.	Change the name to a correct one.
E16000	File(ROBOT.CON) version is abnormal.	ROBOT.CON version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.CON.
E16001	File(ROBOT.MCH) version is abnormal.	ROBOT.MCH version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.MCH.
E16002	File(ROBOT.SWD) version is abnormal.	ROBOT.SWD version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.SWD.
E16003	File(ROBOT.PAL) version is abnormal.	ROBOT.PAL version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.PAL.
E16004	File(ROBOT.PNT) version is abnormal.	ROBOT.PNT version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.PNT.
E16005	File(ROBOT.AAS) version is abnormal.	ROBOT.AAS version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.AAS.

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Code	Message	Cause	Remedy
E16006	File(ROBOT.AAE) version is abnormal.	ROBOT.AAE version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.AAE.
E16007	File(ROBOT.AAV) version is abnormal.	ROBOT.AAV version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.AAV.
E16008	File(ROBOT.WEV) version is abnormal.	ROBOT.WEV version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.WEV.
E16009	File(ROBOT.AAP) version is abnormal.	ROBOT.AAP version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.AAP.
E16010	File(ROBOT.FBU) version is abnormal.	ROBOT.FBU version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.FBU.
E16011	File(ROBOT.ADC) version is abnormal.	ROBOT.ADC version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.ADC.
E16012	File(ROBOT.ADP) version is abnormal.	ROBOT.ADP version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.ADP.
E16013	File(ROBOT.AGP) version is abnormal.	ROBOT.AGP version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.AGP.
E16014	File(ROBOT.AVC) version is abnormal.	ROBOT.AVC version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.AVC.
E16015	File(ROBOT.EFB) version is abnormal.	ROBOT.EFB version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.EFB.
E16016	File(ROBOT.CLB) version is abnormal.	ROBOT.CLB version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.CLB.
E16017	File(ROBOT.CLG) version is abnormal.	ROBOT.CLG version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.CLG.
E16018	File(ROBOT.SAF) version is abnormal.	ROBOT.SAF version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.SAF.
E16019	File(ROBOT.SWI) version is abnormal.	ROBOT.SWI version is higher than main software(version up fault).	Execute the system initialization or download of stored ROBOT.SWI.
E16101	Pose/shift file header type not enabled.	Pose/shift file header type is wrong.	By referring to the other pose/shift files, correct the wrong section of the file header string.

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Code	Message	Cause	Remedy
E16201	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Axis spec is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16202	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Axis spec is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16203	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Axis struct is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16204	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Axis struct is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16205	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Axis struct sub is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16206	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Axis struct sub is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16207	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Board number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16208	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Board number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16209	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in DSP number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16210	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in DSP number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16211	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Axis number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16212	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Axis number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16213	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Axis rotation direction is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16214	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Axis rotation direction is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16215	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Reduction ratio(numerator) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16216	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Reduction ratio(numerator) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16217	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Reduction ratio(denominator) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16218	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Reduction ratio(denominator) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16219	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Rotation radius is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16220	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Rotation radius is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16221	Setting value in MCH file is less than the minimum.	#022 Value of Additional Axis type in Brake number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16222	The MCH file set value is larger than the maximum value.	#022 Value of Additional Axis type in Brake number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16223	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Axis spec is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16224	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Axis spec is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16225	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Axis struct is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16226	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Axis struct is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16227	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Axis struct sub is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16228	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Axis struct sub is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16229	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Axis spec number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16230	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Axis spec number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16231	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Add axis number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16232	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Add axis number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16233	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Axis rotation direction is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16234	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Axis rotation direction is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16235	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Reduction ratio(numerator) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16236	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Reduction ratio(numerator) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16237	Setting value in MCH file is less than the minimum.	#023 Value of Change axis constant setting in Reduction ratio(denominator) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16238	The MCH file set value is larger than the maximum value.	#023 Value of Change axis constant setting in Reduction ratio(denominator) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16239	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Axis spec is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16240	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Axis spec is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16241	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Axis struct is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16242	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Axis struct is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16243	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Axis struct sub is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16244	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Axis struct sub is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16245	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Board number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16246	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Board number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16247	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in DSP number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16248	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in DSP number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16249	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Axis number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16250	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Axis number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16251	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Axis rotation direction is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16252	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Axis rotation direction is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16253	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Reduction ratio(numerator) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16254	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Reduction ratio(numerator) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16255	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Reduction ratio(denominator) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16256	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Reduction ratio(denominator) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16257	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Rotation radius is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16258	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Rotation radius is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16259	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Brake number is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16260	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Brake number is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16261	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Pinion radius is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16262	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Pinion radius is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16263	Setting value in MCH file is less than the minimum.	#063 Value of Robot Axis type in Reducer Max Toque is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16264	The MCH file set value is larger than the maximum value.	#063 Value of Robot Axis type in Reducer Max Toque is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16265	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in DefaultPoseType is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16266	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in DefaultPoseType is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16267	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in DeleteConfirm is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16268	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in DeleteConfirm is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16269	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in WI_IReleaseDisable is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16270	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in WI_IReleaseDisable is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16271	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in ExtPrgSelType is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16272	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in ExtPrgSelType is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16273	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in ColliSensorProc is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16274	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in ColliSensorProc is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16275	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in ColliSensorLogic is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16276	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in ColliSensorLogic is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16277	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in PBackProgExtUpdate is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16278	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in PBackProgExtUpdate is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16279	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in ManOperationAtStop is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16280	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in ManOperationAtStop is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16281	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in PstarCrd is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16282	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in PstarCrd is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16283	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in PstarSel is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16284	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in PstarSel is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16285	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in PboxDisconnect is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16286	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in PboxDisconnect is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16287	The CON file set value is smaller than the minimum value.	#003 Value of User parameter in TpWatchdogTime is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16288	Setting value in CON file is larger than the maximum.	#003 Value of User parameter in TpWatchdogTime is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16289	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Arc Welding Data Save is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16290	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Arc Welding Data Save is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16291	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Assign welding current port is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16292	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Assign welding current port is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16293	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Assign welding voltage port is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16294	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Assign welding voltage port is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16295	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Welder error state input is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16296	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Welder error state input is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16297	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Welding wire state input is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16298	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Welding wire state input is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16299	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Gas pressure state input is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16300	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Gas pressure state input is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16301	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Inching output at retract is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16302	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Inching output at retract is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16303	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Autosave when I/V modify is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16304	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Autosave when I/V modify is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16305	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Auto Monitoring Setting when Arc Welding is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16306	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Auto Monitoring Setting when Arc Welding is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16307	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Digital Filter for Arc Sensing is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16308	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Digital Filter for Arc Sensing is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16309	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Filter for High Weight Arc Torch is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16310	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Filter for High Weight Arc Torch is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16311	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Allow Arc Welding In Manual Mode is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16312	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Allow Arc Welding In Manual Mode is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16313	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Input Data Type For Sensing is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16314	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Input Data Type For Sensing is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16315	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Sensing Data Endianness is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16316	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Sensing Data Endianness is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16317	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Input Port Num For Sensing is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16318	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Input Port Num For Sensing is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16319	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Maximum Value Of Sensing is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16320	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Maximum Value Of Sensing is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16321	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Minimum Value Of Sensing is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16322	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Minimum Value Of Sensing is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16323	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Maximum Range Of Input Data is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16324	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Maximum Range Of Input Data is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16325	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Minimum Range Of Input Data is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16326	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Minimum Range Of Input Data is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16327	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Welding CND Type For Sensing is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16328	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Welding CND Type For Sensing is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16329	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Arc Welding Data is cleared after Welding is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16330	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Arc Welding Data is cleared after Welding is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16331	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM(Arc Welding Data Monitoring) Communication Method is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16332	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM(Arc Welding Data Monitoring) Communication Method is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16333	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Data Type is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16334	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Data Type is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16335	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Analog Current Characteristic(A) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16336	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Analog Current Characteristic(A) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16337	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Analog Current Characteristic(V) is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16338	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Analog Current Characteristic(V) is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16339	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Analog Voltage Scale is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16340	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Analog Voltage Scale is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16341	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Word Endianess is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16342	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Word Endianess is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16343	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Current Port Assignment is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16344	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Current Port Assignment is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16345	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Voltage Port Assignment is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16346	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Voltage Port Assignment is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16347	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Current Scale is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16348	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Current Scale is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16349	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Voltage Scale is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16350	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Voltage Scale is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16351	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Physical(Input) Min Value is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16352	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Physical(Input) Min Value is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16353	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Physical(Input) Max Value is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16354	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Physical(Input) Max Value is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16355	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Transmission(Output) Min Value is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16356	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Transmission(Output) Min Value is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16357	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in SensorAWDM Digital Transmission(Output) Max Value is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16358	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in SensorAWDM Digital Transmission(Output) Max Value is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16359	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Speed ratio watch function in Arc welding zone is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16360	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Speed ratio watch function in Arc welding zone is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16361	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Reserved variable 1 for Arc application is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16362	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Reserved variable 1 for Arc application is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16363	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Reserved variable 2 for Arc application is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16364	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Reserved variable 2 for Arc application is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16365	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Reserved variable 3 for Arc application is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16366	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Reserved variable 3 for Arc application is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16367	The CON file set value is smaller than the minimum value.	#018 Value of Arc application in Reserved variable 4 for Arc application is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16368	Setting value in CON file is larger than the maximum.	#018 Value of Arc application in Reserved variable 4 for Arc application is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16369	The CON file set value is smaller than the minimum value.	#043 Value of DeviceNet Slave Stack Settings in OnOff is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16370	Setting value in CON file is larger than the maximum.	#043 Value of DeviceNet Slave Stack Settings in OnOff is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16371	The CON file set value is smaller than the minimum value.	#043 Value of DeviceNet Slave Stack Settings in CAN Port is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16372	Setting value in CON file is larger than the maximum.	#043 Value of DeviceNet Slave Stack Settings in CAN Port is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16373	The CON file set value is smaller than the minimum value.	#043 Value of DeviceNet Slave Stack Settings in Baudrate is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16374	Setting value in CON file is larger than the maximum.	#043 Value of DeviceNet Slave Stack Settings in Baudrate is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16375	The CON file set value is smaller than the minimum value.	#043 Value of DeviceNet Slave Stack Settings in MacID is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16376	Setting value in CON file is larger than the maximum.	#043 Value of DeviceNet Slave Stack Settings in MacID is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16377	The CON file set value is smaller than the minimum value.	#043 Value of DeviceNet Slave Stack Settings in IOSize is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.

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Code	Message	Cause	Remedy
E16378	Setting value in CON file is larger than the maximum.	#043 Value of DeviceNet Slave Stack Settings in IOSize is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16379	The CON file set value is smaller than the minimum value.	#043 Value of DeviceNet Slave Stack Settings in Input Clear is less than the minimum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E16380	Setting value in CON file is larger than the maximum.	#043 Value of DeviceNet Slave Stack Settings in Input Clear is larger than the maximum. 1)The changed version is not compatible with the previous version. 2)The file is damaged. 3)Correct the set value of the file manually.	Check the relevant item and, if nothing is wrong, change the " Inspect File When Initializing" to the invalid mode, and then reboot. 1) Perform initialization, or copy the backup file of a proper version. 2) Perform initialization, or copy the backup file of a proper version. 3) Check the validation of setting value.
E17030	Failed in writing execution mark. (Job header link damaged.) Format the main b/d!	Because of a fault with the backup memory of the main board, the connection between the directory entry and the Job file header is damaged.	Delete the problematic job file and restore the backup file. Or, format the main board, and restore the system with backup files.
E17031	Failed in writing execution mark. (STEP %d link damaged.) Format the main b/d!	Because of a fault with the backup memory of the main board, the connection between the steps of the Job file is damaged.	Delete the problematic job file and restore the backup file. Or, format the main board, and restore the system with backup files.

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Code	Message	Cause	Remedy
E17032	Failed in writing execution mark. (STEP cmd. link damaged.) Format the main b/d!	By corruption of main board backup memory, the link between steps' of JOB file has been damaged.	Delete the problematic job file and restore the backup file. Or, format the main board, and restore the system with backup files.
E17033	Failed in writing execution mark. (FUNC %d link damaged.) Format the main b/d!	By corruption of main board backup memory, the link between steps' of JOB file has been damaged.	Delete the problematic job file and restore the backup file. Or, format the main board, and restore the system with backup files.
E17110	Failed to load RINFO XML to DOM	RInfo.xml file is corrupted or not found in the SD card.	1) Check if the SD card is inserted. 2) Contact us.
E17111	Failed to load MOTOR XML to DOM	motor.xml file is corrupted or not found in the SD card.	1) Check if the SD card is inserted. 2) Contact us.
E17112	Failed to load AMP XML to DOM	amp.xml file is corrupted or not found in the SD card.	1) Check if the SD card is inserted. 2) Contact us.
E17113	Failed to load REDUCER XML to DOM	reducer.xml file is corrupted or not found in the SD card.	1) Check if the SD card is inserted. 2) Contact us.
E17114	Failed to load POSITIONER XML to DOM	positioner.xml file is corrupted or not found in the SD card.	1) Check if the SD card is inserted. 2) Contact us.
E17115	Failed to find RINFO XML root element	The Rinfo.xml file is corrupt or does not exist.	1) Check if the SD card is inserted. 2) Contact us.
E17116	Failed to find MOTOR XML root element	The motor.xml file is corrupt or does not exist.	1) Check if the SD card is inserted. 2) Contact us.
E17117	Failed to find AMP XML root element	The amp.xml file is corrupt or does not exist.	1) Check if the SD card is inserted. 2) Contact us.
E17118	Failed to find REDUCER XML root element	The reducer.xml file is corrupt or does not exist.	1) Check if the SD card is inserted. 2) Contact us.
E17119	Failed to find POSITIONER XML root element	The positioner.xml file is corrupt or does not exist.	1) Check if the SD card is inserted. 2) Contact us.
E17210	Failed to back up current project.	Failed to copy current project file from SRAM to the sub folder of SD card.	1) Check if the SD card is inserted. 2) Check if remaining is enough.

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Code	Message	Cause	Remedy
E17211	Failed to restore the project.	Failed to copy the newly selected project file from the sub folder of SD card to SRAM.	1) Check if the SD card is inserted. 2) Check if the main b/d does not have enough SRAM capacity. 3) Check if the JOB file syntax is correct.
E17212	The save path for the project name is not found.	There is not a sub folder having the same name with the project name in the SD card.	1) Check if the project name is correct. 2) Check the project sub folder in the file manager and then reconfigure it.
E17213	It is impossible to deselect a project that includes a job being played back.	It is possible to select another project only when the playback of the current project is completed.	Return to the main job program, or initialize the playback cycle with R0 [ENTER] and perform the project selection.
E17610	Failed in reading while updating RINT.	While updating parameter of RINT or RINTA by SEA execution, failed in reading.	Delete the problematic JOB file and restore to the back-up file. Or, initialize the main board and restore the system with back-up file.
E17611	Failed in writing while updating RINT.	While updating parameter of RINT or RINTA by SEA execution, failed in writing.	Delete the problematic JOB file and restore to the back-up file. Or, initialize the main board and restore the system with back-up file.
E17620	Failed to write to ROBOT.CON file	ROBOT.CON file is damaged.	Delete ROBOT.CON file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.
E17621	Failed to read to ROBOT.CON file	ROBOT.CON file is damaged.	Delete ROBOT.CON file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.
E17622	Failed to write to ROBOT.MCH file	ROBOT.MCH file is damaged.	Delete ROBOT.MCH file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.

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Code	Message	Cause	Remedy
E17623	Failed to read to ROBOT.MCH file	ROBOT.MCH file is damaged.	Delete ROBOT.MCH file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.
E17624	Failed to write to ROBOT.PAL file	ROBOT.PAL file is damaged.	Delete ROBOT.PAL file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.
E17625	Failed to read to ROBOT.PAL file	ROBOT.PAL file is damaged.	Delete ROBOT.PAL file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.
E17626	Failed to write to ROBOT.PNT file	ROBOT.PNT file is damaged.	Delete ROBOT.PNT file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.
E17627	Failed to read to ROBOT.PNT file	ROBOT.PNT file is damaged.	Delete ROBOT.PNT file, and then recover it with a backup file. Alternatively, initialize the mainboard, and then recover the system with a backup file.
E18000	(%s axis) Vibration control parameter(JLK_change) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18001	(%s axis) Vibration control parameter(DTRatio) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18002	(%s axis) Vibration control parameter(Select_DO) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.

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Code	Message	Cause	Remedy
E18003	(%s axis) Vibration control parameter((Select_Obs) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18004	(%s axis) Vibration control parameter(VibSW1K2) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18005	(%s axis) Vibration control parameter(VibSW2K3) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18006	(%s axis) Vibration control parameter(Ref_DT_Ratio) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18007	(%s axis) Vibration control parameter(RatioDI) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18008	(%s axis) Vibration control parameter(SelVel) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18009	(%s axis) Vibration control parameter(FriGainFv1) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18010	(%s axis) Vibration control parameter(FriGainFv2) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18011	(%s axis) Vibration control parameter(FriGainFs) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.

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Code	Message	Cause	Remedy
E18012	(%s axis) Vibration control parameter(FriGainFv1Bk) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18013	(%s axis) Vibration control parameter(FriGainFv2Bk) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18014	(%s axis) Vibration control parameter(FriGainFsBk) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18015	(%s axis) Vibration control parameter(FriTh) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18016	(%s axis) Vibration control parameter(FTRatio) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18017	(%s axis) Vibration control parameter(PosMode) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18018	(%s axis) Vibration control parameter(Kscale) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18019	(%s axis) Vibration control parameter(RMap_change) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18020	(%s axis) Vibration control parameter(dFricTrqc) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18021	(%s axis) Vibration control parameter(Gfriv1) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.

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Code	Message	Cause	Remedy
E18022	(%s axis) Vibration control parameter(Gfriv2) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18023	(%s axis) Vibration control parameter(Select_FullFF_change) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18024	(%s axis) Vibration control parameter(FullFF_Ratio) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18025	(%s axis) Vibration control parameter(KF) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18026	(%s axis) Vibration control parameter(KB) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18027	(%s axis) Vibration control parameter(K1scale_P) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18028	(%s axis) Vibration control parameter(K1scale_V) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18029	(%s axis) Vibration control parameter(K4scale_P) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18030	(%s axis) Vibration control parameter(K4scale_V) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18031	(%s axis) Vibration control parameter(K2scale) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.

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Code	Message	Cause	Remedy
E18032	(%s axis) Vibration control parameter(K3scale) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18033	(%s axis) Vibration control parameter(CtrlModeOn) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18034	(%s axis) Vibration control parameter(CtrlMode) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18035	(%s axis) Vibration control parameter(tau1) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18036	(%s axis) Vibration control parameter(tau2) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18037	(%s axis) Vibration control parameter(tau3) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18038	(%s axis) Vibration control parameter(tau4) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18039	(%s axis) Vibration control parameter(tau5) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18040	(%s axis) Vibration control parameter(P_s) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18041	(%s axis) Vibration control parameter(I_s) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18042	(%s axis) Vibration control parameter(D_s) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.

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Code	Message	Cause	Remedy
E18043	(%s axis) Vibration control parameter(K2_s) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18044	(%s axis) Vibration control parameter(K3_s) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18045	(%s axis) Vibration control parameter(VFF_s) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18046	(%s axis) Vibration control parameter(InpModeObs) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18047	(%s axis) Vibration control parameter(WmFreq) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18048	(%s axis) Vibration control parameter(DOBMode) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18049	(%s axis) Vibration control parameter(DOBMax) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18050	(%s axis) Vibration control parameter(QfiltFreq) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18051	(%s axis) Vibration control parameter(Kscale_inv) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.
E18052	(%s axis) Vibration control parameter(Kscale_inv_sqrt) error	Exceeded the valid parameter range.	If an error is generated even after initializing the system, contact our company for inquiries.

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Code	Message	Cause	Remedy
E18100	Amp assignment number not known.	Relevant category amp number definition not existent	Contact our company for inquiries.
E18101	Motor and amp type assignment number not known.	Relevant category amp number definition not existent	Contact our company for inquiries.
E18102	Kinematics module information not existent.	Relevant category kinematics module information not existent.	Contact our company for inquiries.
E18103	Reducer information not existent.	Relevant category reducer information not existent.	Contact our company for inquiries.
E18104	(%s axis) control parameter Ip value error	Ip value improper.	Initialize the control parameter.
E18105	(%s axis) acceleration and deceleration parameter Itp value error	Ip value improper.	Initialize the acceleration and deceleration parameter.
E18106	The setting of (%s-axis) sealer discharge rate is inadequate.	The setting value of the sealer discharge rate has not been assigned.	Set the sealer discharge rate in the additional axis setting.
E21001	The axis for brake test was not selected.	The axis for brake test was not selected in the brake test function.	In the brake test setting dialog box, select the brake test item.
E21002	Undefined error occurred in the brake test.	Unexpected error occurred in the brake test process.	When the problem repeats itself, contact the A/S staff of our company.

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Code	Message	Cause	Remedy
E21003	An error of the brake release test occurred.	The robot is stopped by the brake release function error.	1) Check whether the brake of the axis that has abnormality operates normally. 6) If there is no abnormality with the wiring, replace the motor. 2) 2) With the manual output of the brake signal of the system board, check if the brake is released. 3) Check that the current tool information, test implementation position, and gain value are the same with those of the setting of reference values. 4) With the manual output of the brake signal of the system board, check if the brake is released. 5) If there is no anomaly on the system board, check the wiring of the brake signal cable.
E21004	An error occurred during the brake test reference value settings.	The data for test reference value was too small.	1) Check the motor wiring of the Axis that all maximum value were detected by zero. 2) If there is no error in wiring, please check the motor.
E21005	Axis angle of test result was abnormal. (Hold>Release)	During the brake test reference value settings, Axis angle of brake hold test was greater than brake release test.	1) Check the brake wiring of controller. 2) If there is no error in wiring or a error is fixed, please reexecute the brake test reference value setting.
E21006	%d axis)torque application ratio exceeded the normal range.	The torque to be applied during the brake inspection exceeded the range of 20%–60%.	1) In the brake inspection setting dialogue box, check whether the relevant setting is normal. If there is abnormality, correct it. 2) If the problem repeats itself, you are kindly required to contact our A/S engineer.

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Code	Message	Cause	Remedy
E21011	The gas spring pressure is lower than the minimum error level.(%d bar)	The pressure estimated through the gas spring pressure inspection function is under the minimum error level for the gas spring.	1) Check the tool load validity of the robot. 2)Check if the load estimation for the robot has been done correctly. 3) After checking the load information, re-run the gas pressure estimation function. 4) If the error is detected again, check the actual pressure of the gas spring.
E21012	The gas spring pressure is higher than the maximum error level.(%d bar)	The pressure estimated through the gas spring pressure inspection function exceeded the maximum error level for the gas spring.	1) Check the tool load validity of the robot. 2)Check if the load estimation for the robot has been done correctly. 3) After checking the load information, re-run the gas pressure estimation function. 4) If the error is detected again, check the actual pressure of the gas spring.
E21013	This robot does not support the gas spring pressure inspection function.	This robot model does not support the gas spring pressure inspection function.	Delete the gas spring pressure inspection command.
E21014	The section of gas spring pressure inspection is too short.	Data that are needed for estimation are insufficient because the gas spring pressure inspection section is too short.	1) Record two or more steps between function start and end. 2) Record the H axis movement direction of the work program within the section differently. 3) If the moving time is too short, reduce the speed or extend the moving distance.
E21015	The gas spring pressure test has terminated abnormally.	An error has occurred during the gas spring pressure test, the test has terminated.	Reexcute the gas spring pressure test.
E21016	An error has occureed during gas spring pressure calculation.	The data for gas spring pressure test is abnormal.	1) Please run the gas pressure test command after normal MOVE command. 2) Please run the command after checking whether the number is normal.

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Code	Message	Cause	Remedy
E21021	Not authorized to execute the load estimation command.	Currently not authorized to execute the load estimation command. (unauthorized user)	1) If load estimation needs to be executed, progress it manually. 2) Delete the relevant command before executing.
E21031	The temperature value measured by the temperature sensor for the vacuum robot is lower than the reference value.	The temperature value measured by the temperature sensor for the vacuum robot is lower than the minimum setting value.	1) Check whether the relevant setting is normal in the sensor setting dialog box for the vacuum robot, and take corrective action if any abnormality is found. 2) Please contact our warranty personnel if the problem recurs.
E21032	The temperature value measured by the temperature sensor for the vacuum robot is higher than the reference value.	The temperature value measured by the temperature sensor for the vacuum robot is higher than the maximum setting value.	1) Check whether the relevant setting is normal in the sensor setting dialog box for the vacuum robot, and take corrective action if any abnormality is found. 2) Please contact our warranty personnel if the problem recurs.
E21033	The flow value measured by the flow sensor for the vacuum robot is lower than the reference value.	The flow value measured by the flow sensor for the vacuum robot is lower than the minimum setting value.	1) Check whether the relevant setting is normal in the sensor setting dialog box for the vacuum robot, and take corrective action if any abnormality is found. 2) Please contact our warranty personnel if the problem recurs.
E21034	The flow value measured by the flow sensor for the vacuum robot is higher than the reference value.	The flow value measured by the flow sensor for the vacuum robot is higher than the maximum setting value.	1) Check whether the relevant setting is normal in the sensor setting dialog box for the vacuum robot, and take corrective action if any abnormality is found. 2) Please contact our warranty personnel if the problem recurs.
E21036	The number of flow sensors for the vacuum robot does not match.	The number of flow sensors recognized for the vacuum robot does not match with the number of sensors set for the vacuum robot.	Check whether the number of flow sensors is normal in the sensor setting dialog box for a vacuum robot, and take corrective action if any abnormality is found. 2) Check whether there is a flow sensor disconnected.

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Code	Message	Cause	Remedy
E21037	The number of fiber sensors for the vacuum robot does not match.	The number of fiber sensors recognized for the vacuum robot does not match with the number of sensors set for the vacuum robot.	1) Check whether the number of fiber sensors is normal in the sensor setting dialog box for the vacuum robot, and take corrective action if any abnormality is found. 2) Check whether there is a fiber sensor disconnected.
E22201	Buffer FULL error during public physical signal output.	Too many amount of output signal in continuous motion.	Set the step's accuracy to 0, so as to change it to incontinuous motion.
E22202	Buffer FULL error during public logical signal output.	Too many amount of output signal in continuous motion.	Set the step's accuracy to 0, so as to change it to incontinuous motion.
E22203	Buffer FULL error during private signal output.	Too many amount of output signal in continuous motion.	Set the step's accuracy to 0, so as to change it to incontinuous motion.
E22204	Buffer FULL error during HiNet group signal output.	Too many amount of output signal in continuous motion.	Set the step's accuracy to 0, so as to change it to incontinuous motion.
E22205	Buffer FULL error during HiNet bit signal output.	Too many amount of output signal in continuous motion.	Set the step's accuracy to 0, so as to change it to incontinuous motion.
E22206	Buffer FULL error during analog signal output.	Too many amount of output signal in continuous motion.	Set the step's accuracy to 0, so as to change it to incontinuous motion.
E22207	Buffer FULL error during weaving parameter setting.	Too many amount of output signal in continuous motion.	Set the step's accuracy to 0, so as to change it to incontinuous motion.
E22401	Exceeded the index range of built-in PLC relay.	One relay operand of the built-in PLC ladder exceeded the range.	Check if there is an indirect address operand which exceeds the relay type range in the ladder program.
E23008	Impossible to use the embedded DeviceNet master CAN port	CAN port is already being used in the embedded DeviceNet slave.	1) If not using the embedded DeviceNet slave, turn it off. 2) Use a CAN port that is not used in the embedded DeviceNet slave.

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Code	Message	Cause	Remedy
E23027	Not authorized to use the embedded DeviceNet master	No license existent for the embedded DeviceNet master.	Execute one of the following two procedures. 1) Mount the BD574 board on the main board. 2) Get a license code issued by contacting the sales department of our company, and input it.
E23045	Impossible to use the embedded DeviceNet slave FB5	FB5 is already being used in BD570 or BD58A CC-Link.	If not using the BD570 or BD58A CC-Link slave, turn it off.
E23046	Impossible to use the embedded DeviceNet slave FB5	FB5 is already being used in BD525 CC-Link IE.	If not using the BD525 CC-Link IE, turn it off.
E23047	Impossible to use the embedded DeviceNet slave CAN port	CAN port is already being used in the embedded DeviceNet slave.	Execute one of the following two procedures. 1) If not using the embedded DeviceNet master, turn it off. 2) Use a CAN port that is not used in the embedded DeviceNet master
E23067	Not authorized to use the embedded DeviceNet slave	No license existent for the embedded DeviceNet master.	Execute one of the following procedures. 1) Mount the BD574 board on the main board. 2) Get a license code issued by contacting the sales department of our company, and input it.

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Code	Message	Cause	Remedy
E23078	Error with the embedded DeviceNet slave communication	Communication off with the DeviceNet master.	1) Check the connection state of the communication cable.(such as plug-in state, damage to the cable, and damage to the connector) 2) Check whether the termination resistor (121 Ohm) is installed. With the power of all nodes turned off, when the resistance value between CAN_H and CAN_L is measured, the value should be near 60 Ohm. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) Check whether the communication cable length exceeds the specification. 6) If the problem persists, lower the communication speed.
E23090	PROFIBUS-DP master channel initialization failed	Error generated while initializing the BD525 master channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23100	PROFIBUS-DP master watchdog time exceeded	Watchdog time out occurred in the BD525 PROFIBUS-DP master board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.
E23101	PROFIBUS-DP master initialization failed	Error generated while initializing the BD525 PROFIBUS-DP master.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23102	BD525 PROFIBUS master database approach error	Inside the BD525 board, the database necessary for setting the PROFIBUS-DP master protocol is not opened.	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.

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Code	Message	Cause	Remedy
E23103	BD525 PROFIBUS master setting not existent	PROFIBUS-DP master setting not existent. (Not configured)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23104	BD525 PROFIBUS master setting fault	Error with the PROFIBUS-DP master setting. (Configuration fault)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23105	BD525 PROFIBUS master data set broken	Data inside the PROFIBUS-DP master not enabled. (Inconsistent data set)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23106	BD525 PROFIBUS master data set not matched	Data set inside the PROFIBUS-DP master does not match. (Data set mismatch)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23107	BD525 PROFIBUS master use not authorized	No license existent for the PROFIBUS-DP master.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23108	BD525 PROFIBUS master parameter error	Error found inside the PROFIBUS-DP master.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23109	BD525 PROFIBUS master network address error	Inside the PROFIBUS-DP master, a network address, not enabled, is set.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23110	BD525 PROFIBUS master security memory not attached	Security memory not attached inside the PROFIBUS-DP master board.	Hardware defective. Replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23111	BD525 PROFIBUS master network fault	Error found with the PROFIBUS-DP master network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23112	BD525 PROFIBUS master connection stopped	I/O connection stopped with more than one of the nodes. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23113	BD525 PROFIBUS master connection timeout	I/O connection off with more than one of the nodes. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23114	BD525 PROFIBUS master network without a node	Network without a node.	Check the state of the nodes on the network.
E23115	BD525 PROFIBUS master node address duplicated	Nodes with the same node address are existent on the network.	Check whether there is duplication of node numbers across the network.

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Code	Message	Cause	Remedy
E23116	BD525 PROFIBUS master communication cable connection defective	Cable not connected normally. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23117	BD525 PROFIBUS master error	Error generated with the BD525 PROFIBUS-DP master. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23118	BD525 PROFIBUS master communication error	Communication error generated with the BD525 PROFIBUS-DP master.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23123	BD525 PROFIBUS FB3 not available	FB3 is being used by BD525 CC-Link IE slave.	Use BD525 CC-Link IE slave or turn it off.
E23130	PROFIBUS slave channel initialization failed	Error generated while initializing the BD525 slave channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23140	BD525 PROFIBUS slave watchdog time exceeded	Watchdog time exceeded in the PROFIBUS-DP slave board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.

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Code	Message	Cause	Remedy
E23141	BD525 PROFIBUS slave initialization failed	Error generated while initializing the PROFIBUS-DP slave. (General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23142	BD525 PROFIBUS slave database error	Inside the BD525 board, the database necessary for setting the PROFIBUS-DP slave protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23143	BD525 PROFIBUS slave setting not existent	PROFIBUS-DP slave setting not existent. (Not configured)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23144	BD525 PROFIBUS slave setting fault	Error with the PROFIBUS-DP slave setting. (Configuration fault)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23145	BD525 PROFIBUS slave data set broken	Data inside the PROFIBUS-DP slave not enabled. (Inconsistent data set)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23146	BD525 PROFIBUS slave data set not matched	Data set inside the PROFIBUS-DP slave does not match. (Data set mismatch)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23147	BD525 PROFIBUS slave use not authorized	No license existent for the PROFIBUS-DP slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23148	BD525 PROFIBUS slave parameter error	Parameter error found inside the PROFIBUS-DP slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.

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Code	Message	Cause	Remedy
E23149	BD525 PROFIBUS slave address error	Inside the PROFIBUS-DP slave, an address, not enabled, is set.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23150	BD525 PROFIBUS slave security memory not attached	Security memory not attached inside the PROFIBUS-DP slave board.	Hardware defective. Replace the BD525 communication board.
E23151	BD525 PROFIBUS slave network fault	Error found with the PROFIBUS-DP network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23152	BD525 PROFIBUS slave communication connection stopped	I/O connection stopped with the master. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23153	BD525 PROFIBUS slave communication timeout	Communication disconnected. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23154	BD525 PROFIBUS network without a node	Network without a node.	Check the state of the nodes on the network.

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Code	Message	Cause	Remedy
E23155	BD525 PROFIBUS slave node address duplicated	Nodes with the same address are existent on the network.	Check whether there is duplication of node addresses across the network.
E23156	BD525 PROFIBUS slave communication cable connection defective	Cable not connected normally. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23157	BD525 PROFIBUS slave error	Error generated with the BD525 PROFIBUS-DP slave. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23158	BD525 PROFIBUS slave communication error	Communication error generated with the BD525 PROFIBUS-DP slave.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23164	BD570/BD58A CC-Link FB5 impossible to use	FB5 is being used in the embedded DeviceNet slave.	If not using the embedded DeviceNet slave, turn it off.
E23166	BD570/BD58A CC-Link FB5 impossible to use	FB5 is being used in the CC-Link IE field slave.	If not using the CC-Link IE field slave, turn it off.

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Code	Message	Cause	Remedy
E23198	BD570/BD58A CC-Link communication error	Communication error with the BD570/BD58A CC-Link slave.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23199	BD570/BD58A CAN communication error	Error with the CAN communication between the main board and BD570/BD58A.	1) Check the connection state of the CAN communication cable (such as plug-in state, damage to the cable, and damage to the connector) inside the controller. 2) Check the termination resistor.
E23200	BD525 CC-Link FB3 impossible to use	FB3 is being used in the BD52x fieldbus channel 3.	If not using the BD52x fieldbus channel 3, turn it off.
E23201	BD525 CC-Link FB3 impossible to use	FB3 is being used in the BD525 real time Ethernet channel 3.	If not using the BD525 real time Ethernet channel 3, turn it off.
E23202	BD525 CC-Link FB3 impossible to use	FB3 is being used in the BD525 fieldbus channel 3.	If not using the BD525 fieldbus channel 3, turn it off.
E23203	BD525 CC-Link FB3 impossible to use	FB5 is being used in the CC-Link IE field slave.	If not using the CC-Link IE field slave, turn it off.
E23210	BD525 CC-Link slave channel initialization failed	Error generated while initializing the BD525 slave channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23220	BD525 CC-Link slave watchdog time exceeded	Watchdog time out occurred in the CC-Link slave board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.

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Code	Message	Cause	Remedy
E23221	BD525 CC-Link slave initialization failed	Error generated while initializing the CC-Link slave. (General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23222	BD525 CC-Link slave database error	Inside the BD525 board, the database necessary for setting the CC-Link slave protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23223	BD525 CC-Link slave setting not existent	CC-Link slave setting not existent. (Not configured)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23224	BD525 CC-Link slave setting fault	Error with the CC-Link slave setting. (Configuration fault)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23225	BD525 CC-Link slave data set broken	Data inside the CC-Link slave not enabled. (Inconsistent data set)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23226	BD525 CC-Link slave data set not matched	Data set inside the CC-Link slave does not match. (Data set mismatch)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23227	BD525 CC-Link slave use not authorized	No license existent for the CC-Link slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23228	BD525 CC-Link slave parameter error	Parameter error found inside the CC-Link slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.

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Code	Message	Cause	Remedy
E23229	BD525 CC-Link slave network address error	Inside the CC-Link slave, a network address, not enabled, is set.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E22430	BD525 CC-Link slave security memory not attached	Security memory not attached inside the CC-Link slave board.	Hardware defective. Replace the BD525 communication board.
E23231	BD525 CC-Link slave network fault	Error found with the CC-Link network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23232	BD525 CC-Link slave communication connection stopped	I/O connection stopped with the master. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23233	BD525 CC-Link slave communication timeout	Communication disconnected. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23234	BD525 CC-Link network without a node.	Network without a node.	Check the state of the nodes on the network.

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Code	Message	Cause	Remedy
E23235	BD525 CC-Link slave node number duplicated	Nodes with the same node number are existent on the network.	Check whether there is duplication of node numbers across the network.
E23236	BD525 CC-Link slave communication cable connection defective	Cable not connected normally. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23237	BD525 CC-Link slave error	Error generated with the BD525 CC-Link slave. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23238	BD525 CC-Link slave communication error	Communication error generated with the BD525 CC-Link slave.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the termination resistor. 3) Check the cabling state, and minimize the effect from external noise. 4) Check the ground state of the communication cable. 5) If the problem persists, lower the communication speed.
E23250	PROFINET IO master channel initialization failed	Error generated while initializing the BD525 master channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23260	PROFINET IO master watchdog time exceeded	Watchdog time exceeded in the BD525 PROFINET IO master board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.
E23261	PROFINET IO master initialization failed	Error generated while initializing the BD525 PROFINET IO master. (General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23262	PROFINET IO master database error	Inside the BD525 board, the database necessary for setting the PROFINET IO master protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23263	PROFINET IO master setting not existent	BD525 board PROFINET IO master setting not existent. (Not configured)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23264	PROFINET IO master setting fault	Error with the BD525 board PROFINET IO master setting. (Configuration fault)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23265	PROFINET IO master data set broken	Data inside the BD525 board PROFINET IO master not enabled. (Inconsistent data set)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23266	PROFINET IO master data set not matched	Data set inside the BD525 board PROFINET IO master does not match. (Data set mismatch)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23267	PROFINET IO master use not authorized	No license existent for the BD525 PROFINET IO master.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23268	PROFINET IO master parameter error	Parameter error found inside the BD525 PROFINET IO master.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23269	PROFINET IO master network address error	Inside the D525 PROFINET IO master, a network address, not enabled, is set.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23270	PROFINET IO master security memory not attached	Security memory not attached inside the BD525 PROFINET IO master board.	Hardware defective. Replace the BD525 communication board.
E23271	PROFINET IO master network fault	Error found with the BD525 PROFINET IO master network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23272	PROFINET IO master connection stopped	I/O connection stopped with more than one of the nodes. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23273	PROFINET IO master connection timeout	I/O connection off with more than one of the nodes that are communicating. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23275	PROFINET IO master duplicated IP address node found	Nodes that have the same IP address as the PROFINET IO master are existent on the network.	Check whether there is duplication of IP addresses across the network.

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Code	Message	Cause	Remedy
E23276	PROFINET IO master communication cable connection defective	Ethernet cable not connected normally, or Ethernet link with the partner system deactivated. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet connection partner system (such as link LEDs, power).
E23277	PROFINET IO master error	Error generated with the PROFINET IO master. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23278	PROFINET IO master communication error	Communication error generated with the PROFINET IO master.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23280	PROFINET IO slave FB3 impossible to use	FB3 is already being used in the BD521/BD522 fieldbus.	If not using the BD521 or BD522 fieldbus channel 3, turn it off.
E23282	PROFINET IO slave FB3 impossible to use	FB3 is already being used in BD525 fieldbus slave.	If not using the BD525 fieldbus channel 3, turn it off.
E23283	PROFINET IO slave FB3 impossible to use	FB3 is already being used in CC-Link IE slave.	If not using the CC-Link IE slave, turn it off.
E23290	PROFINET IO slave channel initialization failed	Error generated while initializing the BD525 slave channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23300	PROFINET IO slave watchdog time exceeded	Watchdog time exceeded in the BD525 PROFINET IO slave board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.

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Code	Message	Cause	Remedy
E23301	PROFINET IO slave initialization failed	Error generated while initializing the BD525 PROFINET IO slave. (General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23302	PROFINET IO slave database error	Inside the BD525 board, the database necessary for setting the PROFINET IO slave protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23303	PROFINET IO slave setting not existent	BD525 board PROFINET IO slave setting not existent. (Not configured)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23304	PROFINET IO slave setting fault	Error with the BD525 PROFINET IO slave setting. (Configuration fault)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23305	PROFINET IO slave data set broken	Data inside the BD525 board PROFINET IO slave not enabled. (Inconsistent data set)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23306	PROFINET IO slave data set not matched	Data set inside the BD525 board PROFINET IO slave does not match. (Data set mismatch)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23307	PROFINET IO slave use not authorized	No license existent for the BD525 PROFINET IO slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23308	PROFINET IO slave parameter error	Parameter error found inside the BD525 PROFINET IO slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23309	PROFINET IO slave network address error	Inside the BD525 PROFINET IO slave, a network address, not enabled, is set.	1) Check the IP address setting of the PROFINET IO slave. 2) If the problem persists, replace the communication board.
E23310	PROFINET IO slave security memory not attached	Security memory not attached inside the BD525 PROFINET IO slave board.	Hardware defective. Replace the BD525 communication board.
E23311	PROFINET IO slave network fault	Error found with the BD525 PROFINET IO slave network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23312	PROFINET IO slave communication connection stopped	Communication connection stopped. (Connection closed)	1) Check whether configuration is normal in the master. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23313	PROFINET IO slave communication connection timeout	Communication disconnected in the middle of communicating. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23315	PROFINET IO slave duplicated IP address node found	Nodes that have the same IP address as the PROFINET IO slave are existent on the network.	Check whether there is duplication of IP addresses across the network.
E23316	PROFINET IO slave communication cable connection defective	Ethernet cable not connected normally, or Ethernet link with the partner system deactivated. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet connection partner system (such as link LEDs, power).

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Code	Message	Cause	Remedy
E23317	PROFINET IO slave error	Error generated with the PROFINET IO slave. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23318	PROFINET IO slave communication error	Communication error generated with the PROFINET IO slave.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23330	Ethernet/IP master channel initialization failed	Error generated while initializing the BD525 master channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23340	Ethernet/IP master watchdog time exceeded	Watchdog time exceeded in the Ethernet/IP master board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.
E23341	Ethernet/IP master initialization failed	Error generated while initializing the BD525 Ethernet/IP master. (General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23342	Ethernet/IP master database error	Inside the BD525 board, the database necessary for setting the Ethernet/IP master protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23343	Ethernet/IP master setting not existent	BD525 board Ethernet/IP master setting not existent. (Not configured)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.

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Code	Message	Cause	Remedy
E23344	Ethernet/IP master setting fault	Error with the BD525 board Ethernet/IP master setting. (Configuration fault)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23345	Ethernet/IP master data set broken	Data inside the BD525 board Ethernet/IP master not enabled. (Inconsistent data set)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23346	Ethernet/IP master data set not matched	Data set inside the BD525 board Ethernet/IP master does not match. (Data set mismatch)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23347	Ethernet/IP master use not authorized	No license existent for the BD525 Ethernet/IP master.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23348	Ethernet/IP master parameter error	Parameter error found inside the BD525 Ethernet/IP master.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23349	Ethernet/IP master network address error	Inside the BD525 Ethernet/IP master, a network address, not enabled, is set.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23350	Ethernet/IP master security memory not attached	Security memory not attached inside the BD525 Ethernet/IP master board.	Hardware defective. Replace the BD525 communication board.
E23351	Ethernet/IP master network fault	Error found with the BD525 Ethernet/IP master network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.

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Code	Message	Cause	Remedy
E23352	Ethernet/IP master connection stopped	I/O connection stopped with more than one of the nodes. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23353	Ethernet/IP master connection timeout	I/O connection off with more than one of the nodes that are communicating. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23355	Ethernet/IP master duplicated IP address node found	Nodes that have the same IP address as the Ethernet/IP master are existent on the network.	Check whether there is duplication of IP addresses across the network.
E23356	Ethernet/IP master communication cable connection defective	Ethernet cable not connected normally, or Ethernet link with the partner system deactivated. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet connection partner system (such as link LEDs, power).
E23357	Ethernet/IP master error	Error generated with the Ethernet/IP master. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23358	Ethernet/IP master communication error	Communication error generated with the Ethernet/IP master.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23360	Ethernet/IP slave FB3 impossible to use	FB3 is already being used in the BD521/BD522 fieldbus.	If not using the BD521 or BD522 fieldbus channel 3, turn it off.
E23362	Ethernet/IP slave FB3 impossible to use	FB3 is already being used in BD525 fieldbus slave.	If not using the BD525 fieldbus channel 3, turn it off.

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Code	Message	Cause	Remedy
E23363	Ethernet/IP slave FB3 impossible to use	FB3 is already being used in CC-Link IE slave.	If not using the CC-Link IE slave, turn it off.
E23370	Ethernet/IP slave channel initialization failed	Error generated while initializing the BD525 slave channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23380	Ethernet/IP slave watchdog time exceeded	Watchdog time exceeded in the BD525 Ethernet/IP slave board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.
E23381	Ethernet/IP slave initialization failed	Error generated while initializing the BD525 Ethernet/IP slave. (General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23382	Ethernet/IP slave database error	Inside the BD525 board, the database necessary for setting the Ethernet/IP slave protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23383	Ethernet/IP slave setting not existent	BD525 board Ethernet/IP slave setting not existent. (Not configured)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23384	Ethernet/IP slave setting fault	Error with the BD525 board Ethernet/IP slave setting. (Configuration fault)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23385	Ethernet/IP slave data set broken	Data inside the BD525 board Ethernet/IP slave not enabled. (Inconsistent data set)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.

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Code	Message	Cause	Remedy
E23386	Ethernet/IP slave data set not matched	Data set inside the BD525 board Ethernet/IP slave does not match. (Data set mismatch)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the communication board.
E23387	Ethernet/IP slave use not authorized	No license existent for the BD525 Ethernet/IP slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23388	Ethernet/IP slave parameter error	Parameter error found inside the BD525 Ethernet/IP slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23389	Ethernet/IP slave network address error	Inside the BD525 Ethernet/IP slave, a network address, not enabled, is set.	1) Check the IP address setting of the Ethernet/IP slave. 2) If the problem persists, replace the communication board.
E23390	Ethernet/IP slave security memory not attached	Security memory not attached inside the BD525 Ethernet/IP slave board.	Hardware defective. Replace the BD525 communication board.
E23391	Ethernet/IP slave network fault	Error found with the BD525 Ethernet/IP slave network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23392	Ethernet/IP slave communication connection stopped	Communication connection stopped. (Connection closed)	1) Check whether configuration is normal in the master. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).

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Code	Message	Cause	Remedy
E23393	Ethernet/IP slave communication connection timeout	Communication disconnected in the middle of communicating. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23395	Ethernet/IP slave duplicated IP address node found	Nodes that have the same IP address as the Ethernet/IP slave are existent on the network.	Check whether there is duplication of IP addresses across the network.
E23396	Ethernet/IP slave communication cable connection defective	Ethernet cable not connected normally, or Ethernet link with the partner system deactivated. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet connection partner system (such as link LEDs, power).
E23397	Ethernet/IP slave error	Error generated with the Ethernet/IP slave. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23398	Ethernet/IP slave communication error	Communication error generated with the Ethernet/IP slave.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23410	EtherCAT master channel initialization failed	Error generated while initializing the BD525 master channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23420	EtherCAT master watchdog time out	Watchdog time out occurred in the BD525 EtherCAT master board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.
E23421	EtherCAT master initialization failed	Error generated while initializing the BD525 EtherCAT master. (General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23422	EtherCAT master database error	Inside the BD525 board, the database necessary for setting the EtherCAT master protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23423	EtherCAT master setting not existent	BD525 board EtherCAT master setting not existent. (Not configured)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23424	EtherCAT master setting fault	Error with the BD525 board EtherCAT master setting. (Configuration fault)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23425	EtherCAT master data set broken	Data inside the BD525 board EtherCAT master not enabled. (Inconsistent data set)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23426	EtherCAT master data set not matched	Data set inside the BD525 board EtherCAT master does not match. (Data set mismatch)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23427	Not authorized to use the EtherCAT master	No license existent for the BD525 EtherCAT master.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23428	EtherCAT master parameter error	Parameter error found inside the BD525 EtherCAT master.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23429	EtherCAT master network address error	There is set an invalid network address inside the BD525 EtherCAT master.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23430	EtherCAT master security memory not attached	Security memory not attached inside the BD525 EtherCAT master board.	Hardware defective. Replace the BD525 communication board.
E23431	EtherCAT master network fault	Error found with the BD525 EtherCAT master network. (Network Fault)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23432	EtherCAT master connection stopped	I/O connection stopped with more than one of the nodes. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23433	EtherCAT master connection timeout	I/O connection off with more than one of the nodes that are communicating. (Connection timeout)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23435	EtherCAT master duplicated IP address node found	Nodes that have the same IP address as the EtherCAT master are existent on the network.	Check whether there is duplication of IP addresses across the network.

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Code	Message	Cause	Remedy
E23436	EtherCAT master communication cable connection defective	Ethernet cable not connected normally, or Ethernet link with the partner system deactivated. (Cable disconnected)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet connection partner system (such as link LEDs, power).
E23437	EtherCAT master error	Error generated with the EtherCAT master. (General)	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23438	EtherCAT master communication error	Communication error generated with the EtherCAT master.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of nodes by checking their LEDs.
E23440	EtherCAT slave can't use FB3	FB3 is already being used by BD521/BD522 fieldbus	If not using the BD521 or BD522 fieldbus channel 3, turn it off.
E23442	EtherCAT slave can't use FB3	FB3 is already being used in the BD525 Fieldbus slave.	If not using BD525 Fieldbus, turn it off
E23443	EtherCAT slave can't use FB3	FB3 is already being used in the CC-Link IE slave	If not using CC-Link IE slave, turn it off
E23450	EtherCAT slave channel initialization failed	Error generated while initializing the BD525 slave channel.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23460	EtherCAT slave watchdog timeout	Watchdog time out occurred in the BD525 EtherCAT slave board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.

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Code	Message	Cause	Remedy
E23461	EtherCAT lave initialization failed	Error generated in BD525 software while initializing the BD525 DeviceNet slave.(General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23462	EtherCAT slave database error	Inside the BD525 board, the database necessary for setting the EtherCAT slave protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23463	EtherCAT slave is not configured	BD525 board EtherCAT slave setting not existent. (Not configured)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23464	EtherCAT slave setting fault	Error with the BD525 board EtherCAT slave setting. (Configuration fault)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23465	EtherCAT slave data set broken	Data inside the BD525 board EtherCAT slave not enabled. (Inconsistent data set)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23466	EtherCAT slave data set not matched	Data set inside the BD525 board EtherCAT slave does not match. (Data set mismatch)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23467	Not authorized to use the EtherCAT slave	No license existent for the BD525 EtherCAT slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23468	EtherCAT slave parameter error	Parameter error found inside BD525 EtherCAT slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23469	EtherCAT slave network address error	Invalid network address was set for the BD525 EtherCAT slave.	1) check the node address for EtherCAT slave. 2) If the problem persists, replace the BD525 communication board.
E23470	EtherCAT slave security memory not attached	Security memory is not attached inside the BD525.	Hardware defective. Replace the BD525 communication board.
E23471	EtherCAT slave network fault	Error found with the BD525 EtherCAT slave network. (Network Fault)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23472	EtherCAT slave connection stopped	Communication connection stopped. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23473	EtherCAT slave communication timeout	Communication disconnected in the middle of communicating. (Connection timeout)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23475	EtherCAT slave duplicated node address	Node that have the same node address is existent on the network.	Check whether there is duplication of node addresses across the network.
E23476	EtherCAT slave communication cable connection defective	BD525 DeviceNet slave cable is disconnected	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23477	EtherCAT slave general error	General error occurred in the EtherCAT slave.	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23478	EtherCAT slave communication error	Communication error generated with the EtherCAT slave.	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23520	CC-Link IE slave FB3 impossible to use	FB3 is already being used in the BD52x fieldbus.	If not using the BD521/BD522 fieldbus channel 3, turn it off.

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Code	Message	Cause	Remedy
E23521	CC-Link IE slave FB3 impossible to use	FB3 is already being used in the BD525 real-time Ethernet slave.	If not using the BD525 real time Ethernet channel 3, turn it off.
E23522	CC-Link IE slave FB3 impossible to use	FB3 is already being used in the BD525 fieldbus.	If not using the BD525 fieldbus channel 3, turn it off.
E23524	CC-Link IE slave FB5 impossible to use	FB5 is already being used in the embedded DeviceNet slave.	If not using the DeviceNet slave, turn it off.
E23525	CC-Link IE slave FB5 impossible to use	FB5 is already being used in BD570 or BD58A CC-Link.	If not using the BD570 or BD58A CC-Link slave, turn it off.
E23527	CC-Link IE slave FB5 impossible to use	FB5 is already being used in BD525 RAPIEnet.	If not using the BD525 RAPIEnet slave, turn it off.
E23530	CC-Link IE slave initialization error	Error generated while initializing the communication module. (General)	Reset by clicking the system reset button. If the problem persists even after resetting the system, replace the communication board.
E23531	CC-Link IE slave initialization start failed	Communication module initialization procedure not started normally (Start Init failed)	Reset by clicking the system reset button. If the problem persists even after resetting the system, replace the communication board.
E23532	CC-Link IE slave initialization end failed	Communication module initialization procedure not ended normally (End Init failed)	Reset by clicking the system reset button. If the problem persists even after resetting the system, replace the communication board.
E23533	CC-Link IE slave initialization time exceeded	Error generated in the procedure of initializing the communication module.	Reset by clicking the system reset button. If the problem persists even after resetting the system, replace the communication board.
E23534	CC-Link IE slave node number is 0.	CC-Link IE field slave node number, set in the TP, is 0.	Set the CC-Link IE field slave node number as 1~120.
E23535	CC-Link IE slave node number range exceeded	CC-Link IE field slave node number, set in the TP, is larger than 120.	Set the CC-Link IE field slave node number as 1~120.
E23536	CC-Link IE slave node number is 0.	Node number, set using the dip switch of the CC-Link IE field slave board, is 0.	Set the node number for the dip switch (pin 1~7), which is the communication board setting switch, as 1~120.

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Code	Message	Cause	Remedy
E23537	CC-Link IE slave node number range exceeded	Node number, set using the dip switch of the CC-Link IE field slave board, is larger than 120.	Set the node number for the dip switch (pin 1~7), which is the communication board setting switch, as 1~120.
E23538	CC-Link IE slave network number is 0.	CC-Link IE field slave network number, set in the TP, is 0.	Set the CC-Link IE field slave network number as 1~239.
E23539	CC-Link IE slave network number range exceeded	CC-Link IE field slave network number, set in the TP, is larger than 239.	Set the CC-Link IE field slave network number as 1~239.
E23540	CC-Link IE slave board watchdog time exceeded	Watchdog time exceeded in the CC-Link IE slave board.	Check whether the communication board is mounted normally on the controller. If the problem persists, replace the communication board.
E23553	CC-Link IE slave communication open failed	Communication connection failed after initializing the CC-Link IE slave. (30 seconds exceeded)	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of the master.
E23558	CC-Link IE slave communication error	Communication off with the CC-Link IE master.	1) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector). 2) Check the state of the Ethernet link. 3) Check the state of the master.
E23560	BD525 DeviceNet slave can't use FB3	FB3 is already being used by BD521/BD522 fieldbus	If not using BD521 or BD523, turn it off
E23561	BD525 DeviceNet slave can't use FB3	FB3 is already being used by BD525 realtime ethernet	If not using BD525 realtime ethernet,turn it off
E23563	BD525 DeviceNet slave can't use FB3	FB3 is already being used by CC-Link IE slave	If not using CC-Link IE slave,turn it off
E23570	BD525 DeviceNet slave initialization failed	Error generated while initializing the BD525 DeviceNet slave	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23580	BD525 DeviceNet slave watchdog timeout	Watchdog time out occurred in the BD525 DeviceNet slave board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.
E23581	BD525 DeviceNet slave initialization failed	Error generated in BD525 software while initializing the BD525 DeviceNet slave.(General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23582	BD525 DeviceNet slave database error	Inside the BD525 board, the database necessary for setting the DeviceNet slave protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23583	BD525 DeviceNet slave is not configured	BD525 DeviceNet slave setting not existent. (Not configured)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23584	BD525 DeviceNet slave setting fault	Error with the BD525 board DeviceNet slave setting. (Configuration fault)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23585	BD525 DeviceNet slave data set broken	Data inside the BD525 board DeviceNet slave not enabled. (Inconsistent data set)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23586	BD525 DeviceNet slave data set not matched	Data set inside the BD525 DeviceNet slave does not match. (Data set mismatch)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23587	Not authorized to use the BD525 DeviceNet slave	No license existent for the BD525 DeviceNet slave	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23588	BD525 DeviceNet slave parameter error	Parameter error found inside BD525 DeviceNet slave.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23589	BD525 DeviceNet slave network address error	There is set an invalid node address inside the BD525 DeviceNet slave.	1) check the node address for DeviceNet slave. 2) If the problem persists, replace the BD525 communication board.
E23590	BD525 DeviceNet slave security memory not attached	Security memory is not attached inside the BD525.	Hardware defective. Replace the BD525 communication board.
E23591	BD525 DeviceNet slave network fault	Error found with the BD525 DeviceNet slave network. (Network Fault)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23592	BD525 DeviceNet slave connection stopped	Communication connection stopped. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23593	BD525 DeviceNet slave communication timeout	Communication disconnected in the middle of communicating. (Connection timeout)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23595	BD525 DeviceNet slave duplicated node address	Node that have the same node address is existent on the network.	Check whether there is duplication of node addresses across the network.
E23596	BD525 DeviceNet slave communication cable connection defective	Communication cable not connected normally. (Cable disconnected)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).

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Code	Message	Cause	Remedy
E23597	BD525 DeviceNet slave general error	General error occurred in the DeviceNet slave.	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23598	BD525 DeviceNet slave communication error	Communication error generated with the DeviceNet slave	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23600	BD525 DeviceNet slave duplicated MAC ID	Duplicate MAC ID found. (0xC0620001)	Check if there is a duplicated MAC ID on the DeviceNet network.
E23601	BD525 DeviceNet slave invalid baudrate	Invalid Baudrate entered in Init Stack request.	1) Check whether the problem persists by rebooting the controller. 2) Check the BD525 DeviceNet slave settings. 3) If the problem persists, replace the BD525 communication board.
E23602	BD525 DeviceNet slave invalid MAC ID	Invalid MAC ID entered in Init Stack request.	1) Check whether the problem persists by rebooting the controller. 2) Check the BD525 DeviceNet slave settings. 3) If the problem persists, replace the BD525 communication board.
E23603	BD525 DeviceNet slave no configuration	There isn't DeviceNet slave's configuration information	1) Check whether the problem persists by rebooting the controller. 2) Check the BD525 DeviceNet slave settings. 3) If the problem persists, replace the BD525 communication board.
E23604	BD525 DeviceNet slave CAN BUS OFF detected	CAN BUS OFF error detected in the DeviceNet network.	1) Check the communication power(24VDC). 2) Check the connection state of the communication cable.
E23605	BD525 DeviceNet slave no network access	Communication is not detected in the DeviceNet network. (No network access)	1) Check the communication power(24VDC). 2) Check the connection state of the communication cable.

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Code	Message	Cause	Remedy
E23606	BD525 DeviceNet slave bus stop	Communication stopped in the DeviceNet network. (BUS Stop)	1) Check whether the problem persists by rebooting the controller. 2) Check the BD525 DeviceNet slave settings. 3) If the problem persists, replace the BD525 communication board.
E23607	No BD525 DeviceNet slave communication	Communication is not detected in the DeviceNet network. (No communication)	1) Check the communication power(24VDC). 2) Check the connection state of the communication cable.
E23608	BD525 DeviceNet slave 24VDC network power missing	24V network power for DeviceNet isn't normal.	Check the communication power(24VDC).
E23609	BD525 DeviceNet slave internal error	Error found in the application layer of BD525 communication protocol stack.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23650	BD525 DeviceNet master initialization failed	Error generated while initializing the BD525 DeviceNet master	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23660	BD525 DeviceNet master watchdog timeout	Watchdog time out occurred in the BD525 DeviceNet master board.	1) Check whether the BD525 board is mounted normally on the controller. 2) If the problem persists, replace the communication board. 3) Check whether there is abnormality with the back plane bus by replacing the main board.
E23661	BD525 DeviceNet master initialization failed	Error is generated in BD525 software while initializing the BD525 DeviceNet slave.(General)	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23662	BD525 DeviceNet master database error	Inside the BD525 board, the database necessary for setting the DeviceNet master protocol is not opened. (Assess failed)	1) Check whether the problem persists by rebooting the controller. 2) Download the network setting through Sycon.net again. 3) If the problem persists, replace the communication board.
E23663	BD525 DeviceNet master no configuration	BD525 DeviceNet master setting not existent. (Not configured)	1) Download the network setting with Sycon.net. 2) If the problem persists, replace the communication board.
E23664	BD525 DeviceNet master setting fault	Error with the BD525 board DeviceNet master setting. (Configuration fault)	1) Download the network setting through Sycon.net. 2) If the problem persists, replace the communication board.
E23665	BD525 DeviceNet master data set broken	Data inside the BD525 board DeviceNet master not enabled. (Inconsistent data set)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23666	BD525 DeviceNet master data set not matched	Data set inside the BD525 DeviceNet master does not match. (Data set mismatch)	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23667	Not authorized to use the BD525 DeviceNet master	No license existent for the BD525 DeviceNet master.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23668	BD525 DeviceNet master parameter error	Parameter error found inside the BD525 DeviceNet master.	1) Download the network setting through Sycon.net again. 2) If the problem persists, replace the communication board.
E23669	BD525 DeviceNet master network address error	There is set an invalid node address inside the BD525 DeviceNet master.	1) Check the MAC ID setting 2) If the problem persists, replace the communication board.
E23670	BD525 DeviceNet master security memory not attached	Security memory not attached inside the BD525 DeviceNet master board.	Hardware defective. Replace the BD525 communication board.

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Code	Message	Cause	Remedy
E23671	BD525 DeviceNet master network fault	Error found with the BD525 DeviceNet master network. (Network Fault)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector)
E23672	BD525 DeviceNet master connection closed	Communication connection stopped. (Connection closed)	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23673	BD525 DeviceNet master connection timeout	Communication disconnected. (Connection timeout)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23675	BD525 DeviceNet master duplicated MAC ID	Duplicated MAC ID	Check whether there is duplication MAC ID across the network
E23676	BD525 DeviceNet master communication cable connection disconnected	Communication cable not connected normally. (Cable disconnected)	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23677	BD525 DeviceNet master error (General)	General error occurred in the DeviceNet master.	Check the error codes in detail from the setting and diagnosis screen, and then check the contents of errors in the protocol interface manual.
E23678	BD525 DeviceNet master communication error	Communication error generated with the DeviceNet master.	Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23680	BD525 DeviceNet master invalid baudrate	Invalid Baudrate entered in Init Stack request.	Check whether configuration is normal.
E23681	BD525 DeviceNet master invalid MAC ID	Invalid MAC ID entered in Init Stack request.	Check whether configuration is normal.
E23682	BD525 DeviceNet master setting error	Configured 'Production Inhibit Time' is smaller then 'Expected Packet Rate'.	Check whether configuration is normal.

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Code	Message	Cause	Remedy
E23683	BD525 DeviceNet master communication error (nonresponse node)	There is a nonresponse node in the slave nodes.	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23684	BD525 DeviceNet master BUS offline	Bus is not communicating	1) Check whether configuration is normal. 2) Check the connection state of the communication cable (such as plug-in state, damage to the cable, and damage to the connector).
E23685	BD525 DeviceNet master 24VDC network power missing	24V network power for DeviceNet isn't normal.	Check the communication power(24VDC).
E23686	BD525 DeviceNet master internal error	Error found in the application layer of BD525 communication protocol stack.	1) Check whether the problem persists by rebooting the controller. 2) If the problem persists, replace the BD525 communication board.
E23720	RAPIEnet slave FB5 impossible to use	FB5 is already being used in the embedded DeviceNet slave.	If not using the embedded DeviceNet slave, turn it off.
E23721	RAPIEnet slave FB5 impossible to use	FB5 is already being used in BD570 or BD58A CC-Link.	If not using the BD570 or BD58A CC-Link slave, turn it off.
E23722	RAPIEnet slave FB5 impossible to use	FB5 is already being used in BD525 CC-Link.	If not using the BD525 CC-Link slave, turn it off.
E23723	RAPIEnet slave initialization error	Error generated while initializing the communication module. (General)	Reset by clicking the system reset button. If the problem persists even after resetting the system, replace the communication board.
E23724	RAPIEnet slave initialization start failed	Communication module initialization procedure not started normally (FB Init Reset failed)	Reset by clicking the system reset button. If the problem persists even after resetting the system, replace the communication board.
E23725	The RAPIEnet slave station number is 0.	RAPIEnet IE Field slave node number, set in the TP, is 0.	Set the RAPIEnet field slave station number within the range of 1 to 99

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Code	Message	Cause	Remedy
E23726	The RAPIEnet slave station number range exceeded	The RAPIEnet field slave station number set through the TP is larger than 99.	Set the RAPIEnet field slave station number within the range of 1 to 99
E23727	An error with the setting of the RAPIEnet slave dip switch	The RAPIEnet field slave station numbers set through the TP is different from the RAPIEnet field slave station number applied.	Set the RAPIEnet daughterboard dip switch to 0. Replace the board if the problem continues after the change.
E23728	The range of the RAPIEnet slave input is 0.	The RAPIEnet field input range set through the TP is 0.	Set the RAPIEnet field slave input within the range of 1 to 60.
E23729	RAPIEnet slave input range exceeded	The RAPIEnet field input range set through the TP is larger than 60.	Set the RAPIEnet field slave input within the range of 1 to 60.
E23730	The RAPIEnet slave output range is 0.	The RAPIEnet field output range set through the TP is 0.	Set the RAPIEnet field slave output within the range of 1 to 60.
E23731	RAPIEnet slave output range exceeded	The RAPIEnet field output range set through the TP is larger than 60.	Set the RAPIEnet field slave output within the range of 1 to 60.
E23732	RAPIEnet daughterboard stopped	The RAPIEnet daughterboard has stopped.	There is a problem with the RAPIEnet daughterboard. Replace the communication board.
E23733	RAPIEnet slave communication station number duplicated	The RAPIEnet slave communication station number is duplicated.	Check the communication station numbers of the connected RAPIEnet slaves and set each of them differently.
E23734	RAPIEnet slave communication error	Communication off with the RAPIEnet master	1) Check the status of the communication cable (status relatec to plug-in, damage to the cable, damage to the connector, etc.). 2) Check the status of the Ethernet link. 3) Check the status of the master.
E23735	Error with the RAPIEnet Daughther board communication	Exchanging the data with the RAPIEnet daughterboard has stopped.	There is a problem with the operation of the communication board. Replace the communication board.

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Code	Message	Cause	Remedy
E23736	An error with the preparation for the operation of the RAPIEnet daughterboard	There is a problem with the exchanging and processing of data on the RAPIEnet daughterboard.	There is a problem with the operation of the communication board. Replace the communication board.
E26000	CIE:Motor power is off.	Motor power is not on.(CIE:Command Independent Execution)	Turn on motor power in auto mode.
E26001	CIE:The driving mode is wrong.	There is not auto mode.(CIE:Command Independent Execution)	Turn on motor power in auto mode.
E26002	CIE:ROBOT.SWD does not exist.	The SPOT/GUNSEA command executed without ROBOT.SWD file.(CIE:Command Independent Execution)	Execute again after making of ROBOT.SWD file.
E26003	CIE:MOVE command error.	The grammer for MOVE command is wrong.(CIE:Command Independent Execution)	Check the command in System/Application parameter/Command independent execution menu.
E26004	CIE:This command can't execution.	This command can't using for independant drive.(CIE:Command Independent Execution)	Check the command in System/Application parameter/Command independent execution menu.
E26005	CIE:Undefinded command.	This command is not registered on robot language.(CIE:Command Independent Execution)	Check the command in System/Application parameter/Command independent execution menu.
E26100	TaskStart:Duplicated execution of the same program.	The program of the TaskStart command is already operating.	Check the operating state of sub-tasks.
E26101	TaskStart:Attempt duplicate operation for the same task	The task number of TaskStart command is already being executed.	Check the operation state of subtask.
E26102	Remote start-up unavailable: Emergency stop processing	Emergency stop motion in processing.	Retry after finishing emergency stop processing.

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Code	Message	Cause	Remedy
E26103	Remote start-up unavailable: Internal stop key	The internal stop key is enabled.	Check the internal stop key and retry.
E26104	Remote start-up unavailable: Internal control mode	The control mode selected was internal.	Check the control mode and retry.
E27001	Conveyor pulse line abnormal	Conveyor pulse not inputted.	1) Check the conveyor encoder power. 2) Check the access of the conveyor encoder pulse line. 3) Replace the conveyor I/F board.
E27002	Conveyor pulse allowable frequency exceeded	Conveyor pulse count inputted using a larger value than the allowable frequency.	1) Check the allowable frequency set value. 2) Check whether noise signals are being inputted into the pulse line.
E27003	Conveyor I/F board access abnormal	Problem with the connection to the conveyor I/F board.	1) Check the access state of the CAN communication cable. 2) Check whether the conveyor I/F board board program is removed. 3) Check whether there is abnormality with the conveyor I/F board power. 4) If there is no abnormality with the above items, replace the conveyor I/F board. 5) If the same phenomenon persists even after replacing the conveyor I/F board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E27004	Conveyor pulse allowable speed exceeded	Conveyor allowable speed high	1) Check the conveyor allowable speed set value. 2) Check whether noise signals are being inputted into the pulse line.

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Code	Message	Cause	Remedy
E27005	Communication with the conveyor I/F board is disconnected.	The communication with the conveyor board is cut off abruptly.	1) Check the access state of the CAN communication cable. 2) Check whether the conveyor I/F board board program is removed. 3) Check whether there is abnormality with the conveyor I/F board power. 4) If there is no abnormality with the above items, replace the conveyor I/F board. 5) If the same phenomenon persists even after replacing the conveyor I/F board, replace the main board. 6) If the same phenomenon continues even after the main board is replaced, replace the CAN cable.
E28100	The learning control function is disabled(Teaching)	The MOVE command including IL option is taught while the learning control is disabled.	Enable the learning control function to use the IL option in MOVE command.
E28101	The learning control function is disabled(Playback)	The MOVE command including IL option is executed while the learning control is disabled.	Enable the learning control function to use the IL option in MOVE command.
E28102	The learning control function is disabled(All initialization)	The whole initialization is executed while the learning control is disabled.	Enable the learning control function.
E28103	The learning control function is disabled(Selected initialization)	The initialization of the selected item is executed while the learning control is disabled.	Enable the learning control function.
E28104	The learning control function is disabled(Setting)	The parameter setting is executed while the learning control is disabled.	Enable the learning control function.
E28105	ROBOT.INL does not exist(Teaching)	MOVE command including IL option is taught without ROBOT.INL.	1)If you do not enable the learning control function after initialization, enable the function. 2)If you delete the ROBOT.INL file, enable after disable the function to make the file.

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Code	Message	Cause	Remedy
E28106	ROBOT.INL does not exist(Playback)	MOVE command including IL option is executed without ROBOT.INL.	1)If you do not enable the learning control function after initialization, enable the function. 2)If you delete the ROBOT.INL file, enable after disable the function to make the file.
E28107	ROBOT.INL does not exist(All initialization)	The whole initialization is executed without ROBOT.INL.	1)If you do not enable the learning control function after initialization, enable the function. 2)If you delete the ROBOT.INL file, enable after disable the function to make the file.
E28108	ROBOT.INL does not exist(Selected initialization)	The initialization of the selected item is executed without ROBOT.INL.	1)If you do not enable the learning control function after initialization, enable the function. 2)If you delete the ROBOT.INL file, enable after disable the function to make the file.
E28109	ROBOT.INL does not exist(Setting)	The parameter setting ROBOT.INR is executed without ROBOT.INL.	1)If you do not enable the learning control function after initialization, enable the function. 2)If you delete the ROBOT.INL file, enable after disable the function to make the file.
E28120	Unit that does not support the tip dressing function	The relevant unit is not set as a tip dressing axis.	1) Set the tip dressing axis as independent unit. 2) Set the tip dressing axis specification as jig. 3) Set the tip dressing axis configuration as rotation.
E28121	All indexes of the statement independent execution are being used.	Statements are inputted into all indexes of the statement independent execution.	Delete the independent execution statements that are not used.
E28122	Tip dressing not performed	The tip dressing is not performed normally because the gun tip did not contact the tip dresser.	1) Check the gun tip and the tip dresser blade. 2) Check whether the tip dresser contacts the gun teaching position.

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Code	Message	Cause	Remedy
E28123	Unit that is performing tip dressing.	The set unit is the one that is currently performing the tip dressing.	1) Execute the command after the tip dressing is ended. 2) Check the tip dresser unit number.
E28180	The motor ON is locked because of the system lock function.	The motor ON function is prohibited because of the system lock function.	Contract the user with the authority of the engineer and release the motor ON lock.
E30000	Pressure is not matched in time.	The pressure is not matched in time during spot welding. 1)Insufficient command offset of servo gun. 2) The pressure-current table is not set. 3)The servo gun does not work properly. 4)The brake is not released.	1) Adjust the command offset of welding gun parameter. 2) Set the pressure-current table. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and power system(motor, amp). 4)Check related parts such as brakes and brake boards.
E30001	Pressure is not matched in time.(gun check)	The pressure is not matched in time during spot welding.(gun check) 1) Servo gun can't be controlled properly. 2) The setting of servo gun is not proper.	1) Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip. 2) Check the panel thickness, command offset and teaching point.
E30002	Pressure is not matched in time during moving.	The pressure is not matched in time during spot welding.(during moving) 1) The setting of servo gun is not proper. 2) Servo gun can't be controlled properly. 3) The pressure-current table is not set.	1) Check the panel thickness, command offset and teaching point. 2) Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip. 3) Set the pressure-current table.
E30003	Pressure is not matched in time during pressing.	The pressure is not matched in time during spot welding.(during pressing) 1) The setting of servo gun is not proper. 2) The pressure-current table is not set. 3) Servo gun can't be controlled properly.	1) Check the panel thickness, command offset and teaching point. 2) Set the pressure-current table. 3) Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip.

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Code	Message	Cause	Remedy
E30004	Pressure is not matched in time.	Pressure is not matched in time during gun search. 1) Tip consumption is larger than max tip consumption of servo gun parameter. 2) The pressure-current table is not set. 3)The servo gun does not work properly. 4)The brake is not released.	1) Adjust the max tip consumption of welding gun parameter. 2) Set the pressure-current table. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and power system(motor, amp). 4)Check related parts such as brakes and brake boards.
E30005	Pressure is not matched in time.(gun check)	Pressure is not matched in time during gun search.(gun check) 1) Servo gun can't be controlled properly. 2) The setting of servo gun is not proper.	1) Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip. 2) Check the panel thickness, command offset and teaching point.
E30006	Pressure is not matched in time during moving.	Pressure is not matched in time during gun search.(during moving) 1) The setting of servo gun is not proper. 2) Servo gun can't be controlled properly. 3) The pressure-current table is not set.	1) Check the panel thickness, command offset and teaching point. 2) Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip. 3) Set the pressure-current table.
E30007	Pressure is not matched in time during pressing.	Pressure is not matched in time during gun search.(during pressing) 1) The setting of servo gun is not proper. 2) The pressure-current table is not set. 3) Servo gun can't be controlled properly.	1) Check the panel thickness, command offset and teaching point. 2) Set the pressure-current table. 3) Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip.
E30008	Error signal input from welding machine.(during spot welding)	1)Error of welding power source. 2) Wrong signal is input from ladder or PLC program.	1)Check the welding power source. 2) Correct the ladder or PLC program.
E30009	Error signal input from welding machine.(during gun search)	1)Error of welding power source. 2) Wrong signal is input from ladder or PLC program.	1)Check the welding power source. 2) Correct the ladder of PLC program.

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Code	Message	Cause	Remedy
E30010	Servo gun open time(5 sec) is exceeded during gun search.	1) Servo gun is interfered with peripherals. 2) Servo gun can't be controlled properly.	1) Check the interference of moving tip. 2) Check the controllabity and power status of the servo gun.
E30011	Servo gun open time(5 sec) is exceeded during re-spot welding.	1) Servo gun is stuck with material. 2) Servo gun is interfered with peripherals. 3) Servo gun can't be controlled properly.	1) Check the stick status of moving tip 2) Check the interference of moving tip. 3) Check the controllabity and power status of the servo gun.
E30012	Servo gun open time(5 sec) is exceeded during spot welding	1) Servo gun is stuck with material. 2) Servo gun is interfered with peripherals. 3) Servo gun can't be controlled properly.	1) Check the stick status of moving tip or set the re-welding count. 2) Check the interference of moving tip. 3) Check the controllabity and power status of the servo gun.
E30013	EQless gun open time(5 sec) is exceeded during gun search.	1) Gun is interfered with peripherals. 2) EQless gun can't be controlled properly.	1) Check the interference of moving tip. 2) Check the status of EQless gun.
E30014	EQless gun open time(5 secconds) exceeded during spot welding.	1) EQless gun is stuck with material. 2) Gun is interfered with peripherals. 3) EQless gun can't be controlled properly.	1) Check the stick status of moving tip. 2)Check the interference of moving tip. 3) Check the status of EQless gun
E30015	Stud welding process was closed abmormally.	Robot was stopped to brake hold for doing stud welding.	1)Slove the problem happened in stud welding. 2)Select the SPOT command step and start again.
E30016	Pressure is not matched in time(movement error)	The pressure is not matched in time during spot welding. 1)The servo gun does not work properly. 2)The brake is not released. 3)The pressure-current table is not set. 4)The panel thickness or teaching point is not proper.	1)If the servo gun can not move and the brake can be released by jog, check the servo gun and power system(motor, amp). 2)Check related parts such as brakes and brake boards. 3)Set the pressure-current table. 4)Correct the teaching point if the gun tip does not come into contact with the panel during pressing.

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Code	Message	Cause	Remedy
E30017	Pressure is not matched in time(movement error)	Pressure is not matched in time during gun search. 1)The servo gun does not work properly. 2)The brake is not released. 3)Tip consumption is larger than max tip consumption of servo gun parameter. 4)The pressure-current table is not set. 5)The teaching point is not proper.	1)If the servo gun can not move and the brake can be released by jog, check the servo gun and power system(motor, amp). 2)Check related parts such as brakes and brake boards. 3)Adjust the max tip consumption of servo gun parameter. 4)Set the pressure-current table. 5)Correct the teaching point if the gun tip does not come into contact with the panel during pressing.
E30018	%2d gun) max. tip consumption amount exceeded(movement error)	The total tip consumption amount detected by gun search exceeded the maximum tip consumption amount in the servo gun parameter. 1)The servo gun does not work properly. 2)The brake is not released.	1) Check the max. tip consumption amount of the servo gun parameter. 2) Replace the tip. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and power system(motor, amp). 4)Check related parts such as brakes and brake boards.
E30019	%2d gun) max. moving tip consumption amount exceeded(movement error)	The moving tip consumption amount detected by gun search exceeded the maximum moving tip consumption amount in the servo gun parameter. 1)The servo gun does not work properly. 2)The brake is not released.	1) Check the max. moving tip consumption amount of the servo gun parameter. 2) Replace the tip. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and power system(motor, amp). 4)Check related parts such as brakes and brake boards.
E30020	%2d gun) max. fixed tip consumption amount exceeded	The fixed tip consumption amount detected by gun search exceeded the maximum moving tip consumption amount in the servo gun parameter. 1)The servo gun does not work properly. 2)The brake is not released.	1) Check the max. fixed tip consumption amount of the servo gun parameter. 2) Replace the tip. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and power system(motor, amp). 4)Check related parts such as brakes and brake boards.

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Code	Message	Cause	Remedy
E30021	%2d gun) max. fixed tip consumption amount exceeded(ServoGun)	The fixed tip consumption amount detected by gun search exceeded the maximum moving tip consumption amount in the servo gun parameter. 1)Servogun might not move nomally. 2)Brake of the servo gun axis might not be released.	1) Check the max. fixed tip consumption amount of the servo gun parameter. 2) Replace the tip. 3)If the servo gun can not move and the brake can be released by jog, check the servo gun and powei system(motor, amp). 4)Check related parts such as brakes and brake boards.
E30022	%2d gun) max. fixed tip consumption amount exceeded(EqlessGun)	The fixed tip consumption amount detected by gun search exceeded the maximum moving tip consumption amount in the Eqless gun parameter.	1) Check the max. fixed tip consumption amount of the Eqless gun parameter. 2) Replace the fixed tip. 3)Check whether the position of gun search is proper or not.
E30023	No sensor operation during gun search (servo gun)	The sensor did not work even though the robot moved to the target position during moving electrode wear detection of servo gun with the sensor.	1) Check the sensor operation wher the electrode approaches the sensor. 2) Check the wiring diagram and connection of connectors. 3) Check the contact specifications of sensor.
E30024	No sensor operation during gun search (Eqless gun)	The sensor did not work even though the robot moved to the target position during fixed electrode wear detection of Eqlexx gun with the sensor.	1) Check the sensor operation wher the electrode approaches the sensor. 2) Check the wiring diagram and connection of connectors. 3) Check the contact specifications of sensor.
E30025	The standby time for the spot welding preparation signal has elapsed.	No welding preparation signal is entered within the limit time 5 s before the spot command is performed.	1) In the window for assigning spot input signals, check the address of the signal of the Welding Preparation Standby. 2) Check the signal input status of Welding Preparation Standby 1. 3) Check the signal input status of Welding Preparation Standby 2.
E30200	Multistage squeeze is out of range.	The setted multistage squeeze was been wrong.	Check the squeeze value(Min.,Max.) of servo gun squeeze table.

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Code	Message	Cause	Remedy
E30201	Signal-based multistep welding force setting error (change unassigned request port)	The change request port of the signal-based multistep welding force was not assigned.	Refer to the manual to assign the change request port or disable the multistep welding force function.
E30202	Signal-based multistep welding force setting error (welding force port unassigned)	The welding force port of the signal-based multistep welding force was not assigned.	Refer to the manual to assign the welding force port or disable the multistep welding force function.
E30203	Signal-based multistep welding force setting error (change request port count error)	The change request port count of signal-based multistep welding force was not assigned.	Refer to the manual to assign the change request port count or disable the multistep welding force function.
E30204	Signal-based multistep welding force setting error (same range)	The welding force input ranges of signal-based multistep welding force are set the same.	Refer to the manual to change the welding force range or disable the multistep welding force function.
E30205	Signal-based multistep welding force setting error (reversed range)	The minimum value of the input range of signal-based multistep welding force is bigger than the maximum value.	Refer to the manual to change the welding force range or disable the multistep welding force function.
E30206	Signal-based multistep welding force setting error (same value)	Output values of signal-based multistep welding force are similarly set.	Refer to the manual to change output value or disable the multistep welding force function.
E30207	Real-time welding force application control setting error (cutoff frequency not set)	The cutoff frequency of real-time welding force application control is not set.	Refer to the manual to set cutoff frequency or disable the additional use of controller filter.
E30208	Real-time welding force application control setting error (analog welding force port unassigned)	The welding force input port of real-time welding force application control is not allotted.	Refer to the manual to assign welding force input port or disable the real-time welding force application control function.
E30209	Real-time welding force application control setting error (analog scale not set)	The analog scale of real-time welding force application control is not set.	Refer to the manual to set the analog scale or disable the real-time welding force application control function.

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Code	Message	Cause	Remedy
E30210	Real-time welding force application control setting error (digital welding force port unassigned)	The digital welding force port of real-time welding force application control is not allotted.	Refer to the manual to assign the welding force port or disable the real-time welding force application control function.
E30211	Real-time welding force application control setting error (digital welding force port not set)	The digital welding force port of real-time welding force application control is not set.	Refer to the manual to set the welding force port or disable the real-time welding force application control function.
E30212	Real-time welding force application control setting error (same digital communication range)	Minimum and maximum values of real-time welding force application control communication range are set the same.	Refer to the manual to change communication range or disable the real-time welding force application control function.
E30213	Real-time welding force application control setting error (reversed digital communication range)	The minimum value of digital communication range of real-time welding force application control is bigger than the maximum value.	Refer to the manual to change communication range or disable the real-time welding force application control function.
E30214	Real-time welding force application control setting error (same digital value range)	The digital output values of real-time welding application control are set the same.	Refer to the manual to change the digital output values or disable the real-time welding force application control function.
E30215	The license of the real-time pressurization control function does not exist.	The real-time pressurization control function is a spot-welding optional function.	Obtain the license of the spot-welding optional function.
E30400	Servo gun conduction waiting time is exceeded.(Unassignment of WI, WO)	The WI and WO are not assigned.	Assign the WI and WO at the spot welding setting.
E30401	Servo gun conduction waiting time is exceeded.(Unassignment of WI)	The WI is not assigned.	Assign the WI in input signal setting of spot welding.

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Code	Message	Cause	Remedy
E30402	Servo gun conduction waiting time is exceeded.(Unassignment of WO)	The WO is not assigned.	Assign the WO in output signal setting of spot welding.
E30403	Servo gun conduction waiting time is exceeded.(gun check)	Servo gun can't be controlled properly.	Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip.
E30404	Welding gun conduction waiting time is exceeded.(Unassignment of WI, WO)	The WI and WO are not assigned.	Assign the WI and WO at the spot welding setting.
E30405	Welding gun conduction waiting time is exceeded.(Unassignment of WI)	The WI is not assigned.	Assign the WI in input signal setting of spot welding.
E30406	Welding gun conduction waiting time is exceeded.(Unassignment of WO)	The WO is not assigned.	Assign the WO in output signal setting of spot welding.
E30407	Welding gun conduction waiting time is exceeded.(gun check)	Welding gun can't be controlled properly.	Check the movement of servo gun using jog. If it doesn't move, check the parameter of add axis, power system(motor, amp, brake) and interference of moving tip.
E30408	Welding gun conduction waiting time is exceeded.(movement error)	Waiting time for input of weld completion signal has been exceeded. The servo gun working is susepected. 1)The servo gun does not work properly. 2)The brake is not released. 3)WI signal is not input.	1)If the servo gun can not move and the brake can be released by jog, check the servo gun and powei system(motor, amp). 2)Check related parts such as brakes and brake boards. 3)Check welder and robot controllei wiring, PLC, ladder and related peripheral equipment.
E30600	The calculated target position of servo gun pressing is out of work space.	The calculated target position of servo gun pressing is out of work space.	Change the robot pose and adjust the teaching point.

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Code	Message	Cause	Remedy
E30601	The calculated target position of EQless gun is out of work space.	The calculated target position of EQless gun is out of work space.	Change the robot pose and adjust the teaching point.
E30602	Error occurred while planning the servo gun squeeze motion.	1) Error with the speed and position of the teaching point. 2) Error with the servo gun parameter setting.	1) Check the speed and the position of the teaching point. 2) Check the welding gun parameter. 3) Check the clearance of the welding condition. 4) Check the additional axis parameter.
E30603	Error occurred while planning the servo gun squeeze motion.	1) Error with the speed and position of the teaching point. 2) Error with the servo gun parameter setting.	1) Check the speed and the position of the teaching point. 2) Check the welding gun parameter. 3) Check the clearance of the welding condition. 4) Check the additional axis parameter.
E30604	Error occurred while planning the servo gun release motion.	1) Error with the servo gun parameter setting. 2) Error with the speed and position of the teaching point.	1) Check the welding gun parameter. 2) Check the clearance of the welding condition. 3) Check the additional axis parameter. 4) Check the speed and the position of the teaching point.
E30605	Error generated while planning the EQless motion.(F)	Error occurred while planning the EQless gun squeeze motion. 1) Error occurred in the speed and position of the teaching point. 2) Error occurred in the EQless gun parameter setting.	1) Check the speed and the position of the teaching point. 2) Check the welding gun parameter. 3) Check the clearance of the welding condition. 4) Check the additional axis parameter.
E30606	Error generated while planning the EQless motion.(P)	Error occurred while planning the EQless gun squeeze motion. 1) Error occurred in the speed and position of the teaching point. 2) Error occurred in the EQless gun parameter setting.	1) Check the speed and the position of the teaching point. 2) Check the welding gun parameter. 3) Check the clearance of the welding condition. 4) Check the additional axis parameter.

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Code	Message	Cause	Remedy
E30607	Error generated while planning the EQless motion.	Error occurred while planning the EQless gun release motion. 1) Error occurred in the EQless gun parameter setting. 2) Error occurred in the speed and position of the teaching point.	1) Check the welding gun parameter. 2) Check the clearance of the welding condition. 3) Check the additional axis parameter. 4) Check the speed and the position of the teaching point.
E30608	Error occurred while planning servo gun pivot motion	Error occurred while planning servo gun pivot motion. 1) Error in pivot setting value. 2) Error in servo gun parameter setting. 3) Error in teaching point speed and position.	1) Check the pivot setting value. 2) Check the welding gun parameter. 3) Check the clearance of the welding condition. 4) Check additional axis parameter. 5) Check the teaching point and position.
E30800	Address error of the spot gun parameter.	ROBOT.WSD file is abnormal.	Record ROBOT.WSD or restore stored ROBOT.WSD file.
E30801	Gun number is out of range.	Gun number of the SPOT command is wrong.	Check gunc number of the executing SPOT command.
E30802	ROBOT.SWD file does not exist.	ROBOT.WSD file does not exist.	Record ROBOT.WSD or restore stored ROBOT.WSD file.
E30803	Axis setting error for servo gun change.	The assigned axis for servo gun change is wrong.	Check the additional axis number in System/Application parameter/Servo tool change/Servo tool parameter menu.
E30804	The specified servo gun welding force is out of range.	The welding force defined for the welding condition data of spot welding (M72) is out of the welding force range defined in the welding force table of servo gun parameter.	Change the specified welding force to the range specified in the welding force table.
E30805	The specified axis welding force for the servo gun change is out of range.	The welding force defined for the welding condition data of the axis for the servo gun change is out of the welding force range defined in the welding force table of servo gun parameter.	Change the specified welding force to the range specified in the welding force table.

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Code	Message	Cause	Remedy
E30806	Failed to perform _TIPWEAR, and with spot welding disabled	Spot welding is disabled in the use setting so it failed to perform _TIPWEAR.	In the use setting menu, enable the spot welding.
E30807	Spot maximum gun number exceeded	The maximum number (16) of guns to support spot was exceeded.	Set 16 or less gun numbers.
E30808	The gun type does not support _TIPWEAR.	_TIPWEAR is only available with servo and Eqless guns.	Check the gun type.
E30901	Jowell welding machine error (Error Code: 01)	SYSTEM FAILURE	Please refer to the welding machine manual.
E30902	Jowell welding machine error (Error Code: 02)	INT.POWER FAILURE	Please refer to the welding machine manual.
E30903	Jowell welding machine error (Error Code: 03)	INT.PARTS FAILURE	Internal state error
E30904	Jowell welding machine error (Error Code: 04)	NO PRES.CONTROLLER	Please refer to the welding machine manual.
E30905	Jowell welding machine error (Error Code: 05)	NO DEPOSITION DETCT	Please refer to the welding machine manual.
E30906	Jowell welding machine error (Error Code: 06)	UNDEFINED	Please refer to the welding machine manual.
E30907	Jowell welding machine error (Error Code: 07)	UNDEFINED	Please refer to the welding machine manual.
E30908	Jowell welding machine error (Error Code: 08)	UNDEFINED	Please refer to the welding machine manual.
E30909	Jowell welding machine error (Error Code: 09)	UNDEFINED	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30910	Jowell welding machine error (Error Code: 10)	LOW LINE VOLTAGE	Please refer to the welding machine manual.
E30911	Jowell welding machine error (Error Code: 11)	ILLEGAL POWER FREQ.	Please refer to the welding machine manual.
E30912	Jowell welding machine error (Error Code: 12)	LOW VOLTAGE IN WELD	Please refer to the welding machine manual.
E30913	Jowell welding machine error (Error Code: 13)	HIGH LINE VOLTAGE	Please refer to the welding machine manual.
E30914	Jowell welding machine error (Error Code: 14)	UNDEFINED	Please refer to the welding machine manual.
E30915	Jowell welding machine error (Error Code: 15)	DCBUS VOLTAGE FAULT	Please refer to the welding machine manual.
E30916	Jowell welding machine error (Error Code: 16)	UNDEFINED	Please refer to the welding machine manual.
E30917	Jowell welding machine error (Error Code: 17)	UNDEFINED	Please refer to the welding machine manual.
E30918	Jowell welding machine error (Error Code: 18)	UNDEFINED	Please refer to the welding machine manual.
E30919	Jowell welding machine error (Error Code: 19)	UNDEFINED	Please refer to the welding machine manual.
E30920	Jowell welding machine error (Error Code: 20)	MEMORY DATA ERROR	Please refer to the welding machine manual.
E30921	Jowell welding machine error (Error Code: 21)	CURRENT PROGRAM ERR.	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30922	Jowell welding machine error (Error Code: 22)	PRESS.PROGRAM ERROR	Please refer to the welding machine manual.
E30923	Jowell welding machine error (Error Code: 23)	TIME PROGRAM ERROR	Please refer to the welding machine manual.
E30924	Jowell welding machine error (Error Code: 24)	BATTERY DOWN	Please refer to the welding machine manual.
E30925	Jowell welding machine error (Error Code: 25)	LEARNED DATA ERROR	Please refer to the welding machine manual.
E30926	Jowell welding machine error (Error Code: 26)	MONITOR BUFFER ERROR	Please refer to the welding machine manual.
E30927	Jowell welding machine error (Error Code: 27)	PARAMETER DATA ERR.	Please refer to the welding machine manual.
E30928	Jowell welding machine error (Error Code: 28)	MONITOR DATA ERROR	Please refer to the welding machine manual.
E30929	Jowell welding machine error (Error Code: 29)	MEMORY NOT UPDATE	Please refer to the welding machine manual.
E30930	The input data detected at initial sensing is too low.	NO CURRENT FAULT	Please refer to the welding machine manual.
E30931	Jowell welding machine error (Error Code: 31)	EXCESSIVE CURRENT	Please refer to the welding machine manual.
E30932	Jowell welding machine error (Error Code: 32)	MAIN FUSE OPEN	Please refer to the welding machine manual.
E30933	Jowell welding machine error (Error Code: 33)	NO WELD FAULT	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30934	Jowell welding machine error (Error Code: 34)	UNDEFINED	Please refer to the welding machine manual.
E30935	Jowell welding machine error (Error Code: 35)	UNDEFINED	Please refer to the welding machine manual.
E30936	Jowell welding machine error (Error Code: 36)	UNDEFINED	Please refer to the welding machine manual.
E30937	Jowell welding machine error (Error Code: 37)	UNDEFINED	Please refer to the welding machine manual.
E30938	Jowell welding machine error (Error Code: 38)	UNDEFINED	Please refer to the welding machine manual.
E30939	Jowell welding machine error (Error Code: 39)	UNDEFINED	Please refer to the welding machine manual.
E30940	Jowell welding machine error (Error Code: 40)	2NDARY CABLE BREAK	Please refer to the welding machine manual.
E30941	Jowell welding machine error (Error Code: 41)	2NDARY CABLE SHORT	Please refer to the welding machine manual.
E30942	Jowell welding machine error (Error Code: 42)	EP VAL.CABLE BREAK	Please refer to the welding machine manual.
E30943	Jowell welding machine error (Error Code: 43)	EP VAL.CABLE SHORT	Please refer to the welding machine manual.
E30944	Jowell welding machine error (Error Code: 44)	2NDARY CT BREAK	Please refer to the welding machine manual.
E30945	Jowell welding machine error (Error Code: 45)	DEPOSITION DETECT	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30946	Jowell welding machine error (Error Code: 46)	NO WORK WELDING	Please refer to the welding machine manual.
E30947	Jowell welding machine error (Error Code: 47)	PRIMARY CABLE BREAK	Please refer to the welding machine manual.
E30948	Jowell welding machine error (Error Code: 48)	PRIMARY CABLE GROUND	Please refer to the welding machine manual.
E30949	Jowell welding machine error (Error Code: 49)	PRI.CABLE GROUNDING	Please refer to the welding machine manual.
E30950	Jowell welding machine error (Error Code: 50)	TRANSISTOR OVERHEAT	Please refer to the welding machine manual.
E30951	Jowell welding machine error (Error Code: 51)	NO WATER FLOW	Please refer to the welding machine manual.
E30952	Jowell welding machine error (Error Code: 52)	WELD TRANS.OVERHEAT	Please refer to the welding machine manual.
E30953	Jowell welding machine error (Error Code: 53)	UNDEFINED	Please refer to the welding machine manual.
E30954	Jowell welding machine error (Error Code: 54)	FAN FAILURE	Please refer to the welding machine manual.
E30955	Jowell welding machine error (Error Code: 55)	UNDEFINED	Please refer to the welding machine manual.
E30956	Jowell welding machine error (Error Code: 56)	UNDEFINED	Please refer to the welding machine manual.
E30957	Jowell welding machine error (Error Code: 57)	UNDEFINED	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30958	Jowell welding machine error (Error Code: 58)	INTERLOCK FAULT	Please refer to the welding machine manual.
E30959	Jowell welding machine error (Error Code: 59)	PARITY ERROR	Please refer to the welding machine manual.
E30960	Jowell welding machine error (Error Code: 60)	EXTREMELY LOW CURR.	Please refer to the welding machine manual.
E30961	Jowell welding machine error (Error Code: 61)	LOW CURRENT	Please refer to the welding machine manual.
E30962	Jowell welding machine error (Error Code: 62)	HIGH CURRENT	Please refer to the welding machine manual.
E30963	Jowell welding machine error (Error Code: 63)	AC CONTROL DISABLE	Please refer to the welding machine manual.
E30964	Jowell welding machine error (Error Code: 64)	UNDEFINED	Please refer to the welding machine manual.
E30965	Jowell welding machine error (Error Code: 65)	I-AVAILABLE LOW	Please refer to the welding machine manual.
E30966	Jowell welding machine error (Error Code: 66)	UNDEFINED	Please refer to the welding machine manual.
E30967	Jowell welding machine error (Error Code: 67)	LACK OF WELD TIME	Please refer to the welding machine manual.
E30968	Jowell welding machine error (Error Code: 68)	UNDEFINED	Please refer to the welding machine manual.
E30969	Jowell welding machine error (Error Code: 69)	LACK OF MARGIN	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30970	Jowell welding machine error (Error Code: 70)	UNDEFINED	Please refer to the welding machine manual.
E30971	Jowell welding machine error (Error Code: 71)	UNDEFINED	Please refer to the welding machine manual.
E30972	Jowell welding machine error (Error Code: 72)	UNDEFINED	Please refer to the welding machine manual.
E30973	Jowell welding machine error (Error Code: 73)	UNDEFINED	Please refer to the welding machine manual.
E30974	Jowell welding machine error (Error Code: 74)	UNDEFINED	Please refer to the welding machine manual.
E30975	Jowell welding machine error (Error Code: 75)	UNDEFINED	Please refer to the welding machine manual.
E30976	Jowell welding machine error (Error Code: 76)	NO WORK WELDING	Please refer to the welding machine manual.
E30977	Jowell welding machine error (Error Code: 77)	LOW HEAT	Please refer to the welding machine manual.
E30978	Jowell welding machine error (Error Code: 78)	RESISTANCE FAULT	Please refer to the welding machine manual.
E30979	Jowell welding machine error (Error Code: 79)	QUALITY FAULT	Please refer to the welding machine manual.
E30980	Jowell welding machine error (Error Code: 80)	UNDEFINED	Please refer to the welding machine manual.
E30981	Jowell welding machine error (Error Code: 81)	UNDEFINED	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30982	Jowell welding machine error (Error Code: 82)	DETECT. WIRE BREAK	Please refer to the welding machine manual.
E30983	Jowell welding machine error (Error Code: 83)	UNDEFINED	Please refer to the welding machine manual.
E30984	Jowell welding machine error (Error Code: 84)	PILOT INVALID	Please refer to the welding machine manual.
E30985	Jowell welding machine error (Error Code: 85)	UNDEFINED	Please refer to the welding machine manual.
E30986	Jowell welding machine error (Error Code: 86)	UNDEFINED	Please refer to the welding machine manual.
E30987	Jowell welding machine error (Error Code: 87)	NO PARTS WELDING	Please refer to the welding machine manual.
E30988	Jowell welding machine error (Error Code: 88)	UNDEFINED	Please refer to the welding machine manual.
E30989	Jowell welding machine error (Error Code: 89)	GUN FAULT	Please refer to the welding machine manual.
E30990	Jowell welding machine error (Error Code: 90)	SETTING PROG. ERROR	Please refer to the welding machine manual.
E30991	Jowell welding machine error (Error Code: 91)	OPTION FAULT	Please refer to the welding machine manual.
E30992	Jowell welding machine error (Error Code: 92)	AHC FAULT	Please refer to the welding machine manual.
E30993	Jowell welding machine error (Error Code: 93)	WQS FAULT	Please refer to the welding machine manual.

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Code	Message	Cause	Remedy
E30994	Jowell welding machine error (Error Code: 94)	UNDEFINED	Please refer to the welding machine manual.
E30995	Jowell welding machine error (Error Code: 95)	UNDEFINED	Please refer to the welding machine manual.
E30996	Jowell welding machine error (Error Code: 96)	UNDEFINED	Please refer to the welding machine manual.
E30997	Jowell welding machine error (Error Code: 97)	UNDEFINED	Please refer to the welding machine manual.
E30998	Jowell welding machine error (Error Code: 98)	UNDEFINED	Please refer to the welding machine manual.
E30999	Jowell welding machine error (Error Code: 99)	UNDEFINED	Please refer to the welding machine manual.
E32001	Unable to read the arc welding start condition file.	An error occurred during reading the arc welding condition for arc welding process.	1) Check whether the ROBOT.AAS file is existent in the controller. 2) If the relevant file is not existent, move the cursor to the ARCON command and press the [QuickOpen] key to generate a file.
E32002	Unable to read the arc welding crater condition file.	An error occurred during reading the crater condition for arc welding process.	1) Check whether the ROBOT.AAE file is existent in the controller. 2) If the relevant file is not existent, move the cursor to the ARCON command and press the [QuickOpen] key to generate a file.
E32003	Unable to read the arc welding auxiliary condition file.	An error occurred during reading the arc welding auxiliary condition for arc welding process.	1) Check whether the ROBOT.AAU file is existent in the controller. 2) If the relevant file is not existent, move the cursor to the ARCON command and press the [QuickOpen] key to generate a file.

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Code	Message	Cause	Remedy
E32004	Unable to read the analog arc welding machine charateristic file.	An error occurred during reading the welding machine condition from the analog arc welding machine charateristic file.	1) Check whether the ROBOT.AAP file is existent in the controller. 2) If the relevant file is not existent, enter the dialog box of "System -> Initialize -> Usage setting" and the press the "Complete' button to generate a file.
E32005	Unable to read the digital arc welding condition file.	An error occurred during reading the arc welding condition for arc welding process.	1) Check whether the ROBOT.ADC file is existent in the controller. 2) If the relevant file is not existent, move the cursor to the ARCON command and press the [QuickOpen] key to generate a file.
E32006	Unable to read the digital arc welding machine charateristic file.	An error occurred during reading the welding machine condition from the digital arc welding machine charateristic file.	1) Check whether the ROBOT.ADP file is existent in the controller. 2) If the relevant file is not existent, enter the dialog box of "System -> Initialize -> Usage setting" and the press the "Complete" button to generate a file.
E32007	'ARCOF C=~' command cannot be used.	'ARCOF C=~' command was used in digital arc welding. It is the dedicated instruction for analog arc welding.	Use the "ARCOF ASF#" or "ARCOF" command type.
E32008	'ARCOF AEF=~' command cannot be used.	'ARCOF AEF=~' command was used in digital arc welding. It is the dedicated instruction for analog arc welding.	Use the "ARCOF ASF#" or "ARCOF" command type.
E32009	'VP' cannot be used as a voltage unit.	While the power control mode is set as "Individual" the voltage rate unit "VP" is used.	Use "V" for the unit of voltage that complies with the power control mode.
E32010	Impossible to use "V" as the unit for voltage.	While the power control mode is set as "Unity" the voltage unit "V" is used.	Use "VP" for the unit of voltage that complies with the power control mode.
E32011	It can be used only for plasma welding machine.	ARCRSV1 command can be used only for plasma welding.	1) Check whether the welder is set as plasma welder. 2) If not set as plasma welder, correct the program to make it impossible to use this command.

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Code	Message	Cause	Remedy
E32012	The target step of retry was not 'CMOV' command.	The target step of retry moving has to be 'CMOV' command for cooperative control.	Record the target step to which the robot will move through the retry operation as CMOV.
E32013	The retry operation previous step is not the CMOV command statement.	Previous step for executing the retrying movement during cooperative control is not CMOV.	Record the previous step to the section where the robot will execute the retry operation as CMOV.
E32014	The current step of retry was not 'CMOV' command.	The generated step of retry moving was not for cooperative control.	1) Check whether the immediate previous step to the start of welding and the welding start step are both CMOV. 2) Check whether the problem is solved when starting the welding again after moving to the previous step. If the problem is not solved, transfer the backup file to the A/S department of our company.
E32015	The reference step of retry was not 'CMOV' command.	Circular reference step, which is to be used for retrying on the circular path, must be CMOV instruction.	Record the step to which to refer for circular interpolation as CMOV.
E32016	The stop POSE of overlap was not 'CMOV' command.	The POSE where robot stopped welding process was not cooperative control.	1) Check whether the welding start step, the via step and the end step are all CMOV. 2) Check whether the problem is solved when starting the welding again after moving to the previous step. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
E32017	The target step of overlap was not 'CMOV' command.	The target step for calculating overlap POSE has to be 'CMOV' command for cooperative control.	1) Check whether the welding progress step and the via step are both CMOV. 2) Change the step that is not recorded as CMOV to CMOV.
E32018	The previous step of overlap was not 'CMOV' command.	The previous step for calculating overlap POSE has to be 'CMOV' command for cooperative control.	1) Check whether the welding start step and the via step are both CMOV. 2) Change the step that is not recorded as CMOV to CMOV.

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Code	Message	Cause	Remedy
E32019	The reference step of overlap was not 'CMOV' command.	Circular reference step for the robot to calculate the overlap position on the circular path, must be CMOV instrucion.	1) Check whether the circular interpolation welding section and the steps before and after it are all CMOV. 2) Change the step that is not recorded as CMOV to CMOV.
E32020	Interpolation moving to the stop POSE cannot be executed.	The robot cannot move to the POSE that the robot stopped.	1) Check whether the welding section is in the robot dead zone. 2) Change the robot posture to a position outside the dead zone.
E32021	Interpolation moving to the welding start POSE cannot be executed.	The robot cannot move to the POSE that the welding will start.	1) Check whether the welding section is in the robot dead zone. 2) Change the robot posture to a position outside the dead zone.
E32022	Interpolation moving to the retry reentrant POSE cannot be executed.	The robot cannot move to the POSE that the robot will start reentry function of retry method.	1) Check whether the path between the welding start step and its previous step are included in the dead zone. 2) Change the work program to make the robot movement path outside the dead zone.
E32023	Interpolation moving to the retry shift POSE cannot be executed.	The robot cannot move to the POSE that the robot will start shift function of retry method.	1) Check whether the path for moving as much as the shift value from the welding start position is included in the dead zone. 2) Change the work program to make the robot shift movement path outside the dead zone.
E32024	Interpolation moving to the retry weld path POSE cannot be executed.	The robot cannot move to the POSE that the robot will start weld path function of retry method.	1) Check whether the robot posture is included in the dead zone along the path for moving in the welding section. 2) Change the work program to be outside the dead zone along the path for moving in the welding section.

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Code	Message	Cause	Remedy
E32025	Interpolation moving to the overlap POSE cannot be executed.	The robot cannot move to the POSE that the robot will start overlap welding function.	1) Check whether the robot posture is included in the dead zone along the path for moving in the welding section. 2) Change the work program to be outside the dead zone along the path for moving in the welding section.
E32026	The voltage waw above the upper limit during arc welding.	The voltage upper limit level that was set in condition file was exceeded during arc welding.	1) Check the welding tip or the feed system. 2) Adjust the limit value of the welding condition file. 3) Check the distance between the base material and the torch.
E32027	The voltage was below the lower limit during arc welding.	The voltage lower limit level that was set in condition file was exceeded during arc welding.	1) Check the welding tip or the feed system. 2) Adjust the limit value of the welding condition file. 3) Check the distance between the base material and the torch.
E32028	The current was above the upper limit during arc welding.	The current upper limit level that was set in condition file was exceeded during arc welding.	1) Check the welding tip or the feed system. 2) Adjust the limit value of the welding condition file. 3) Check the distance between the base material and the torch.
E32029	The current was below the lower limit during arc welding.	The current lower limit level that was set in condition file was exceeded during arc welding.	1) Check the welding tip or the feed system. 2) Adjust the limit value of the welding condition file. 3) Check the distance between the base material and the torch.
E32030	The FMC was above the upper limit during arc welding.	The feeder motor current upper limit level that was set in condition file was exceeded during arc welding.	1) Check the welding tip or the feed system. 2) Adjust the limit value of the welding condition file. 3) Check the distance between the base material and the torch.

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Code	Message	Cause	Remedy
E32031	The FMC was below the lower limit during arc welding.	The feeder motor current lower limit level that was set in condition file was exceeded during arc welding.	1) Check the welding tip or the feed system. 2) Adjust the limit value of the welding condition file. 3) Check the distance between the base material and the torch.
E32032	You can move to the crater movement target position through interpolation.	Crater movement target position is abnormal.	1) Perform crater movement after executing the Weaving command. 2) Set the crater backward distance as 0.
E32041	Welder abnormality signal input	This error occurred when welding error signal has inputted.	1) Refer the details of simultaneous welder error. 2) To ignore the error signal, Set the item in 'Application Parameter->Arc Welding' dialog to 'diable'.
E32042	Shield gas for welding short signal input	This error occurred when welding shield gas is shortage.	1) Charge the welding shield gas. 2) To ignore the error signal, Set the item in 'Application Parameter->Arc Welding' dialog to 'diable'.
E32043	Welding wire error signal input	This error occurred when welding wire is shortage.	1) Refill the welding wire. 2) To ignore the error signal, Set the item in 'Application Parameter->Arc Welding' dialog to 'diable'.
E32044	Welder cooling system error signal input	Coolant status error signal has been input.	1) Check the coolant system. 2) If there is no error, check the input port in 'Application Parameter->Arc Welding' dialog.
E32045	Welder numbering error	Arc welder numbering is invalid.	1) After turning off the controller and welder, check the connection status of the communication line and the connection of the power supply. Then, execute again. 2) If the problem is not resolved, please send the backup files to the A/S team of the company. "

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Code	Message	Cause	Remedy
E32046	This command can not be used in the welding condition continuous change mode.	A prohibited command is used in the welding condition continuous change mode.	1) Delete the relevant command from the robot program. 2) To execute the command, delete the content of the welding condition continuous change mode
E32047	The welding condition database file cannot be read.	There is a problem reading the welding condition database file.	1) Check whether the ROBOT.WDB file is in the controller. 2) If the relevant file does not exist, move the cursor using the ARC_COND command and press [QuickOpen] key to create the file.
E32048	The welding condition database number is inputted as 0.	The welding condition database file exceeded the range.	1) Check whether the inputted WDB number is between 1 and 1000. 2) In the ARC_COND command of the next section, check whether the WDB number is between 1 and 1000.
E32050	The dwell time is too long for the weaving time.	The dwell time is too long compared to the weaving 1-cycle time.	Set the dwell time shorter under the weaving condition.
E32052	This axis does not support additional axis weaving.	The assigned additional axis is of a type to which the weaving function cannot be applied.	An additional axis weaving can be applied only to a positioner or jig axis.
E32201	WM) The welding machine power undervoltage occurred.	The power was supplied voltage that is less than 80% for 3 seconds.	Check the welder power supply.
E32202	WM) The power supplied to the welding machine is too high.	The power was supplied voltage that is more than 120% for 3 seconds.	Check the welder power supply.
E32203	WM) Memory data error occurred.	Welding condition data exceeded the normal range.	1) Check whether the welding condition data are within the normal range. 2) If the problem is generated again, replace the welder.

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Code	Message	Cause	Remedy
E32204	WM) Internal memory battery error occurred.	Internal memory battery was less than 2.6V.	After replacing the welder, contact the welder company.
E32205	WM) Coolant error occurred.	Coolant flow was not detected in water-cooling mode.	Check the state of the water cooling–type cooling system.
E32206	WM) Intermal temperature is abnormal.	Welding machine temperature switch was open.	1) Check the air ventilation state of the welder. 2) If overheating is generated internally continuously, replace the welder.
E32207	WM) Over-current occurred.	Current that is more than 400[A] was detected for 0.25 seconds.	Adjust to ensure that the distance between the welding torch and the base material is not too close.
E32208	WM) Overload of feeding motor occurred.	Motor speed that is less than 80% of command value was detected for 0.5 seconds.	1) Check the state of the welder feeder and wire feeding. 2) If an error is generated continuously, replace the wire feeder.
E32209	WM) Current was cut and wiring error occurred.	Feeder motor drive error occurred and output voltage Feedback was not detected.	Check the connection state of the welder and feeder.
E32210	WM) Feedback wiring error detected.	Current was detected but feedback signal wasn't detected.	Check the connection state of the voltage feedback connection line between the welder and the base material.
E32211	Error with inverter of the welding machine.	Error with the drive module of welding machine.	1) Check the IGBT module of the welding machine. 2) If the problem persists, replace the welding machine.
E32221	WM) The comm. buffer error occurred in welding start.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Welding start)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.

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Code	Message	Cause	Remedy
E32222	WM) The comm. buffer error occurred in retry process.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Retry)	1) Turn off the controller and welding machine, and check the communication and power line connection and retry it. 2) If the problem recurs, replace the welding machine. 3) If the problem persists, send the backup file to our A/S.
E32223	WM) The comm. buffer error occurred in process changing retry condition to main one.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Retry->main)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
E32224	WM) The comm. buffer error occurred in restart process.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Restart)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
E32225	WM) The comm. buffer error occurred in process changing restart condition to main one.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Restart->main)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.

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Code	Message	Cause	Remedy
E32226	WM) The comm. buffer error occurred in ASR process.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Auto stick recovery)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
E32241	Welder Synergic program number not available.	The valid synergic program number did not selected in welding start condition of robot.	Input the number of the Synergic program to work with in the welding start condition dialog box. For the Synergic program list, refer to the welder Synergic table.
E32242	WM) Over-temperature in secondary circuit of the machine	Fronius welding machine has detected over-temperature in secondary circuit.	Stop operation and wait until the temperature of the welding machine goes down.
E32243	WM) Over-temperature in primary circuit of the machine	Overheating was detected with the first circuit of the Fronius welding machine.	Stop the work, and put the welder in wait mode to lower the temperature.
E32244	WM) Temperature sensor fault occurred.	Fronius welding machine has detected temperature sensor fault. (short circuit or open circuit)	Contact the After-Sales Service of Fronius welding machine.
E32245	WM) DSP error occurred.	Fronius welding machine has detected DSP error.	Contact the After-sales Service for the Fronius welder.
E32246	WM) HOST error occurred.	Fronius welding machine has detected HOST error.	Contact the After-sales Service for the Fronius welder.
E32247	WM) Fault in wirefeeding system (XX and Y -> error list SR40)	Fronius welding machine has detected wire feeding system error.	Check the wire feeder system, cable, buffer, and the servo torch of the Fronius welder.
E32248	WM) Over-temperature in the control circuit	Fronius welding machine has detected over temperature in the control unit.	Stop the work, and put the welder in wait mode to lower the temperature.

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Code	Message	Cause	Remedy
E32249	WM) Robot not ready	The robot controller didn't send the 'Robot ready' singal.	1) Check whether the "Robot Ready " signal of the welder setting in the robot controller is set correctly according to the communication map. 2) Check whether the signal set in the controller monitoring setting is outputted. 3) Check whether there is a problem with the welder communication module.
E32250	WM) Flow watchdog has detected.	Coolant flow of the welding machine watchdog occurred.	Check the cooling unit.
E32251	WM) The licence key is faulty.	The licence key is faulty for the welding machine licence function	Check whether the license key inputted in the welder is enabled.
E32252	WM) Phase failure occurred.	Phase state of power supplied to the welding machine was not normal.	1) Check the welder main power fuse. 2) Check the lead and the plug of the main power line.
E32253	WM) Intermediate circuit-balance error	Welding machine has detected intermediate circuit-balance error.	Contact the After-sales Service for the Fronius welder.
E32254	WM) Mains undervoltage has detected.	Mains voltage that supplied to the welding machine has fallen below lower limit of tolerance range (+/- 15%)	Check the voltage of the main power supplied to the welder.
E32255	WM) Mains overvoltage has detected.	Mains voltage that supplied to the welding machine has exceeded upper limit of tolerance range (+/- 15%)	Check the voltage of the main power supplied to the welder.
E32256	WM) Ground (earth) fault occurred.	Ground (earth) of welding machine fault has detected.	Check the ground connection of the welder, and remove any abnormal section.
E32257	WM) Wire stick control has detected.	Welding wire was shorted or stick was occurred.	1) Remove a short-circuited section of the wire. 2) If the wire is stuck, take out the stuck section.

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Code	Message	Cause	Remedy
E32258	WM) "Ignition time-out" fault occurred.	No ignition occurred within set wire length feeding	1) Inspect the feeding state of the wire feeder. 2) Check the connection lines for executing welding.
E32259	WM) "Wire end" fault occurred.	No more wire available (only if wire sensor available).	Supply a new wire spool.
E32260	WM) "Gas flow" fault occurred.	No gas flowed out within one second after gas pre-flow time began.	Check the state of gas supply.
E32261	WM) "Arc-break monitor" fault occurred.	After the arc breaks, no new arc appears within the timespan set for the "Arc" parameter (Setup menu 2nd)	Start the welding again.
E32262	WM) Secondary overvoltage: safety cut-out has tripped.	Secondary overvoltage occurred in welding machine: safety cut-out has tripped.	1) Check the welder's secondary circuit including TPCEL40 PCB. 2) Contact the After-sales Service for the Fronius welder.
E32263	WM) DPS500 only: SITRE1A has activated the safety cut-out.	SITRE1A in welding machine activated the safety cut-out.	1) Close the plasma reactor door. 2) Cut off the start signal for short to clear the welder error 60.
E32264	WM) DPS500 only: Digital signal processor (DSP) detected several unwanted arcs in quick succession.	Digital signal processor (DSP) in welding machine detected several unwanted arcs in quick succession.	Cut off the start signal for short to clear the welder error 61.
E32265	WM) TP08 overtemperature Wait until the end of the cooling phase	TP08 in welding machine overtemperature Wait until the end of the cooling phase.	Wait until the cooling execution is finished.
E32266	WM) Interface fault occurred.	Interbus interface error occurred in welding machine.	For more details, check the user manual for Interbus 2MB user manual.
E32267	WM) Overtemperature in cooling system	Overtemperature in cooling system occurred in welding machine.	Wait until the cooling execution is finished.
E32268	Welding machine cooling system overheated.	Welding machine cooling system overheated.	Wait until the cooling execution is finished.

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Code	Message	Cause	Remedy
E32269	WM) JobMaster overtemperature	JobMaster of welding machine overtemperature occurred.	Wait until the welder is cooled down.
E32270	WM) Jobmaster temperature sensor faulty	Jobmaster temperature sensor faulty occurred in welding machine.	Contact the After-sales Service for the Fronius welder.
E32271	WM) Secondary safety cut-out	Secondary safety cut-out was executed in welding machine.	Contact the After-sales Service for the Fronius welder.
E32272	Unauthorized mode change was found with the welding machine during welding.	Unauthorized mode change was found with the welding machine during welding.	Start the welding again.
E32273	WM) Gas error occurred.	Welding machine detected gas error.	1) Check the gas sensor. 2) Check whether gas remains. 3) Check the gas sensor calibration. 4) Check whether there is a problem with the solenoid valve. 5) Check whether there is abnormality with gas supply.
E32274	WM) Limit error occurred.	Welding machine detected limit error.	1) Check whether the welder current limit has been exceeded. 2) Check whether the welder current limit has not been exceeded. 3) Check whether the welder voltage limit has been exceeded. 4) Check whether the welder voltage limit has not been exceeded.
E32275	WM) Configuration change (total current or Twin)	Configuration was changed in welding machine. (total current or Twin)	Check the LHSB connection of the welder.
E32276	WM) Host computer not found.	Host computer not found in welding machine.	1) Check the connection with the welding machine. 2) Check the welder software version.
E32277	WM) MMArc error (BIAS200 only)	MMArc error occurred in BIA200 welding machine.	Contact the After-sales Service for the Fronius welder.

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Code	Message	Cause	Remedy
E32278	WM) Motor overcurrent	Over current of wire feeding motor was detected in welding machine.	1) Check whether the welder current limit has been exceeded. 2) Check whether the welder current limit has not been exceeded. 3) Check whether the welder voltage limit has been exceeded. 4) Check whether the welder voltage limit has not been exceeded. 5) Check whether the welder vD limit has been exceeded. 6) Check whether the welder vD limit has not been exceeded.
E32279	WM) emergency-stop	Emergency stope was executed by welding machine.	Contact the After-Sales Service of Fronius welding machine.
E32280	WM) Power source switched off or no mains voltage.	The main power that is supplied to power source switched off or no mains voltage is too low.	1) Turn on the welder power. 2) Check the voltage of the main power supplied to the welder.
E32281	WM) Welder error %s number transmitted to controller	Undefined weld error occurred in welding machine.	1) Check the actually inputted welder error number through the welding monitoring screen. 2) Check the relevant error number in the welder manual or with the welder company.
E32701	Communication failure of LVS.(SR)	1) Disconnection of communication line. 2) Improper communication setting. 3) Failure of LVS.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial communication. 3)Check the sensor by using LVS installation program.
E32702	Communication failure of LVS.(MVS)	1) Disconnection of communication line. 2) Improper communication setting. 3) Failure of LVS.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial communication. 3)Check the sensor by using remote controller or LVS installation program.

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Code	Message	Cause	Remedy
E32703	Communication failure of LVS.(SLS)	1) Disconnection of communication line. 2) Improper communication setting. 3) Failure of LVS.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial communication. 3) Check the LVS activation signal. 4) Check the sensor by using remote controller or LVS installatior program.
E32704	Error is recieved from LVS.(MVS)	LVS has sent error message to robot.(MVS)	Take measures by referring to the sensor error number displayed on the history screen, and also to the sensor manual. 1: Error with communication set with PC -Failed to carry out communication with PC 2: Abnormality with the sensor camera -No sensor head video existent 3: Abnormality with the sensor link -No sensor head communication existent. Abnormality with the camera cable? 4: No sensor connected -No video or communication existent. Is a sensor installed? 5: Abnormality with the sensor operation temperature-Too hot or too cold 6: Abnormality with the sensor power-Sensor head power exceeded the power supply range of 24 V. Abnormality with the camera cable? 7: Check the laser disable-laser enable key switch and the laser warning lamp. 8: No sensor calibration executed-Abnormality with sensor calibration. Try another sensor head. 9: Exceeding the shape range-No strip existent in the video. 10: No shape visible for analysis. Data existent but failed to analyze in search mode. 11: Not usable for this connection. 12: No shape set. Is the shape number correct? 13: No shape in the image for

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Code	Message	Cause	Remedy
			tracking. 14: While the robot is communicating with the sensor, the [Esc] key in the tool program is pressed. 15: Abnormality with the memory of the sensor control system. Carry out reformatting and load the backup file. 16: Failed to read the system data 17: Error with reading the shape from the flash memory-Damaged? 18: Error with reading the shape from the flash memory-Damaged? 19: Abnormality with the analog circuit (POST) 20: Error with the video collection hardware 21: Error with the timer hardware 22: Damage to the flash memory-Required to replace. 23: Insufficient data flash memory 24: Damaged sector existent in the flash memory-Just warning 25: Error with the error log 26: No power for I/O of SAPEII board 27: ESTOP operation-Check the ESTOP link or connection. 28: Existent within the 5 degrees of temperature limit.
E32705	Error is recieved from LVS.(SLS)	LVS has sent error message to robot.(SLS)	Take measures by referring to the sensor error number displayed on the history screen, and also to the sensor manual. 1: Error with communication set with PC -Failed to carry out communication with PC 2: Abnormality with the sensor camera -No sensor head video existent 3: Abnormality with the sensor link -No sensor head communication existent. Abnormality with the camera cable? 4: No sensor connected -No video or communication existent. Is a sensor installed? 5: Abnormality with the sensor operation temperature-Too hot or

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Code	Message	Cause	Remedy
			too cold 6: Abnormality with the sensor power-Sensor head power exceeded the power supply range of 24 V. Abnormality with the camera cable? 7: Check the laser disable-laser enable key switch and the laser warning lamp. 8: No sensor calibration executed-Abnormality with sensor calibration. Try another sensor head. 9: Exceeding the shape range-No strip existent in the video. 10: No shape visible for analysis. Data existent but failed to analyze in search mode. 11: Not usable for this connection. 12: No shape set. Is the shape number correct? 13: No shape in the image for tracking. 14: While the robot is communicating with the sensor, the [Esc] key in the tool program is pressed. 15: Abnormality with the memory of the sensor control system. Carry out reformatting and load the backup file. 16: Failed to read the system data 17: Error with reading the shape from the flash memory-Damaged? 18: Error with reading the shape from the flash memory-Damaged? 19: Abnormality with the analog circuit (POST) 20: Error with the video collection hardware 21: Error with the timer hardware 22: Damage to the flash memory-Required to replace. 23: Insufficient data flash memory 24: Damaged sector existent in the flash memory-Just warning 25: Error with the error log 26: No power for I/O of SAPEII board 27: ESTOP operation-Check the ESTOP link or connection. 28: Existent within the 5 degrees of

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Code	Message	Cause	Remedy
			temperature limit.
E32706	Failure to detect start point during stop searching.	1) The laser scan line does not move on the welding seam line. 2) Improper welding seam type is defined.	1) Adjust the position of start point searching. 2) Check the welding seam type.
E32707	Failure to detect start point during moving searching.	1) The laser scan line does not move on the welding seam line. 2) Improper welding seam type is defined. 3) Detected welding seam line is not enough to infer the start point.	1) Adjust the position of start point searching. 2) Check the welding seam type. 3) Decrease the minimum distance of position sampling.
E32708	Detected seam point is not enough.(during start point searching)	1) The laser scan line does not move on the welding seam line. 2) Improper welding seam type is defined. 3) Detected welding seam line is not enough to infer the start point.	1) Adjust the position of start point searching. 2) Check the welding seam type. 3) Decrease the minimum distance of position sampling.
E32709	Detected seam point is not enough.(during retrying)	1) The laser scan line does not move on the welding seam line. 2) Improper welding seam type is defined. 3) Detected welding seam line is not enough to infer the start point. 4) Fail to detect the seam line at the position after moving by retrying condition.	1) Adjust the position of start point searching. 2) Check the welding seam type. 3) Decrease the minimum distance of position sampling.4) Adjust the condition of retrying.
E32710	Detected seam point is not enough.(during restart)	1) The laser scan line does not move on the welding seam line. 2) Improper welding seam type is defined. 3) Detected welding seam line is not enough to infer the start point.	1) Adjust the position of start point searching. 2) Check the welding seam type. 3) Decrease the minimum distance of position sampling.
E32711	Detected seam point is not enough.(tracking start)	Detected seam point is not enough.(tracking start and disabled start point searching) 1) The laser scan line does not move on the welding seam line. 2) Improper welding seam type is defined.	1) Adjust the position of start point searching or enable the start point searching. 2) Check the welding seam type.

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Code	Message	Cause	Remedy
E32712	Disconnection of LVS.(during start check)	1) Disconnection of communication line. 2)Change of communication setting.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial or ethernet communication
E32713	Disconnection of LVS.(during retrying)	1) Disconnection of communication line. 2)Change of communication setting.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial or ethernet communication
E32714	Disconnection of LVS.(during restart)	1) Disconnection of communication line. 2)Change of communication setting.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial or ethernet communication
E32715	Disconnection of LVS.(during start point searching)	1) Disconnection of communication line. 2)Change of communication setting.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial or ethernet communication
E32716	Disconnection of LVS.(during tracking, disabled start searching)	1) Disconnection of communication line. 2)Change of communication setting.	1)Check the connectivity of communication line and access status. 2)Check the setting of serial or ethernet communication
E32717	Out of max. distance for trajectory deviation during LVS tracking: X	The X-directional distance between the original teaching trace and the one changed by LVS tracking exceeded the max. distance of trace deviation.	Change the teaching position or max. distance for trajectory deviation.
E32718	Out of max. distance for trajectory deviation during LVS tracking: Y	The Y-directional distance between the original teaching trace and the one changed by LVS tracking exceeded the max. distance of trace deviation.	Correct the teaching position, or adjust the maximum permissible deviation of the trajectory.
E32719	Out of max. distance for trajectory deviation during LVS tracking: Z	The Z-directional distance between the original teaching trace and the one changed by LVS tracking exceeded the max. distance of trace deviation.	Change the teaching position or max. distance for trajectory deviation.

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Code	Message	Cause	Remedy
E32720	Out of max. angle for trajectory deviation during LVS tracking: RX	The RX-directional angle between the original teaching trace and the one changed by LVS tracking exceeded the max. distance of trace deviation.	Change the teaching position or max. angle for trajectory deviation.
E32721	Out of max. angle for trajectory deviation during LVS tracking: RY	The RY-directional angle between the original teaching trace and the one changed by LVS tracking exceeded the max. distance of trace deviation.	Change the teaching position or max. angle for trajectory deviation.
E32722	Out of max. angle for trajectory deviation during LVS tracking: RZ	The RZ-directional angle between the original teaching trace and the one changed by LVS tracking exceeded the max. distance of trace deviation.	Change the teaching position or max. angle for trajectory deviation.
E32723	Saving will be made invalid because the LVS multipass trajectory is too long.	Welding for too long a length was performed.	Modify teaching.
E32723	Returning to the starting point is not completed after the LVS OPT=5 SP search.	Increase the DEALY value under the LVS command.	Increase the DEALY value under the LVS command.
E32752	"Use data input signal for sensing" is disabled.	1) The "Data input setting for sensing" of the arc application setting is disabled.	1) Among the arc welding entries o application parameter, enable the " Data input setting for sensing."
E32753	The "Sensing data type " is "Analog input" and the analog voltage input port is 0.	1) In the "Arc welding sensing input data setting," sensing data type is set to analog input but the port is set to 0.	1) Set the current sensor input port of the analog input to one where the sensor signal is input.
E32754	The "Sensing data type " is "Digital input," and the current sensor digital signal input port is 0.	1) In the "Arc welding sensing input data setting" of the arc application setting, the sensing data type is set to digital input but the port no. 0 is set.	1) Among the arc welding entries o the application parameter, set the digital input entry of the "Data input setting for sensing" according to the system.

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Code	Message	Cause	Remedy
E32755	The detected initial sensing value is too low.	1) Arc sensing input data is too low to perform normal sensing.	1) Check the state of the sensor and sensor signal line connection. 2) Check if the voltage detected with the sensor is within a good range using another equipment. 3) Check if the sensor port and range settings are correct.
E32756	Arc sensing current exceeded the normal range above the abnormality determination time.	1) Arc sensing input data is unstable so it exceeded the normal range above the abnormality determination time.	1) Check if the sensing data has been correctly inputted during welding. 2)If the sensing data is correct, set a large abnormality determination margin and time.
E32757	Arc sensing error (exceeded left/right sensing range)	The distance corrected in the transverse direction exceeded the distance limit of the transverse path deviation.	1) Check if the location of the working object is normal. 2) If the location of the working object is normal, check if the arc sensing path deviated from the welding line. 3) If the path deviated from the welding line, check if the arc sensing parameters (data lag time, maximum correction distance per second, etc.) are normal. 4) If the arc sensing parameters are normal, check if the data input for sensing are normal. 5) If no anomaly is found during the above checkups, increase the limit distance of the transverse path deviation.

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Code	Message	Cause	Remedy
E32758	Arc sensing error (up and down sensing ranges exceeded)	The corrected distance in the vertical direction exceeded the distance limit of the vertical path deviation.	1) Check if the location of the working object is normal. 2) If the location of the working object is normal, check if the arc sensing path deviated from the welding line. 3) If the path deviated from the welding line, check if the arc sensing parameters (data lag time, maximum correction distance per second, etc.) are normal. 4) If the arc sensing parameters are normal, check if the data input for sensing are normal. 5) If no anomaly is found during the above checkups, increase the distance limit of the vertical path deviation.
E32759	Abnormal cutoff frequency input during filtering	Abnormal cutoff frequency value was inputted for filtering.	Please back up all files of controller and then send them to us.
E32760	Abnormal sampling time input during filtering	Abnormal sampling time value was inputted for filtering.	Execute the backup of all files of the controller, and send them to our company.
E32770	The distance to track with the multipass function exceeded the reference distance.	Following distance which was saved with arc sensing + shift distance exceeded the reference distance.	Change the teaching point in order to match the saved program with the actual workpiece before sensing.
E32771	Multipass command was executed in duplicate.	Multipass command may not be executed in duplicate before exiting.	Change the job program to perform multipass save and exit settings only once.
E32772	Arc sensing was executed in the multipass load mode.	Arc sensing may not be executed in the multipass load mode.	Set the arc sensing to invalid for the weaving condition to be executed during multipass load.
E32773	The multipass data being loaded is not valid.	No saved multipass data exists.	Execute multipass saving first, then multipass loading.
E32775	The address of the continuous section start step can not be found.	There is abnormality with the robot language after the ARC_COND command.	1) Check the ARC_COND section work program. 2) If an error keeps occurring, perform backup of all controller files and send them to us. "

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Code	Message	Cause	Remedy
E32776	The address of the next step in the continuous section cannot be found.	There is abnormality with the robot language after the ARC_COND command.	1) Check the ARC_COND section work program. 2) If an error keeps occurring, perform backup of all controller files and send them to us. "
E32777	The step count limit in the continuous change section is exceeded.	There are too many steps in the welding condition continuous change section.	Execute again after reducing the step count in the welding condition continuous change section.
E32778	There is no ARCOF command after the ARC_COND command.	There is no Welding End command after the ARC_COND command.	Insert the Welding End command after the ARC_COND command.
E32780	The height sensing function is performed at the subtask.	The height sensing function can be performed only at the main subtask.	Back up all files of the controller, and send them to us.
E32801	The workpiece is not detected through touch sensing.	The workpiece is not detected through touch sensing.	Restart after checking the workpiece or wire condition.
E32802	In TOUCHSEN TSC # = 1, O, O, X, O, O, the X (ascending distance) must be at least 2 mm.	The butt ascending distance [mm] is too small.	Input 2 or a higher value.
E32803	Touch sensing can not start with the wire contacting the workpiece.	At the start of sensing, the wire contacts the workpiece.	Teach after modifying the reference position.
E32804	Tool projection is impossible because the torch is in vertical position.	It is impossible to divide by zero mathematically in normalization.	Perform sensing by tilting the torch in a way that tool projection can be performed.
E32805	Shift distance (%d mm) calculated using two poses has exceeded the range.	The distance between the poses used in calculation is too long.	1) Check whether the pose position used in calculation is normal. 2) If the pose position is normal, increase the shift range.

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Code	Message	Cause	Remedy
E32806	The servo loop gain Fc value of previous axis is different.	The servo loop gain Fc value of one of axes is different.	Set the same Fc value to all axes.
E34000	System (software) error: An error occurred in Step 3 while the UnloadWithAlignment command was executed.	A system (main software) error has occurred.	Back up all the files of the controller and send them to us.
E34001	System (software) error: An error occurred in Step 2 while the UnloadWithAlignment command was executed.	A system (main software) error has occurred.	Back up all the files of the controller and send them to us.
E34002	Invalid Hand (UnloadWithAlignment Function).	There is an error in the set hand the value of a variable(Hand variable).	Check the variable value of the hand. Zero or one is the valid value
E34003	The length of center point between Arm and TH axis is invalid (UnloadWithAlignment Function).	The length between the arm axis and the TH-axis will be smaller than zero.	Please check the value of the variable(between the arm axis and the TH-axis). It is not possible to be smaller than zero.
E34004	The length of ForkBracket is invalid (UnloadWithAlignment Function).	The length of ForkBracket will be smaller than zero.	Please check the value of the variable(ForkBracket). It is not possible to be smaller than zero.
E34005	The length between ForkBracket and Glass edge is invalid (UnloadWithAlignment Function).	The length between ForkBracket and Glass edge will be smaller than zero.	Please check the value of the variable(between ForkBracket and Glass edge). It is not possible to be smaller than zero.
E34006	The length of half-size glass is invalid (UnloadWithAlignment Function).	The length of half-size glass will be smaller than zero.	Please check the value of the variable(half-size glass). It is not possible to be smaller than zero.

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Code	Message	Cause	Remedy
E34007	Range of glass alignment is exceed (UnloadWithAlignment Function).	It is beyond the scope that can be glass alignment. (-PI/2 ~ PI/2)	Please check the value of the variable(The delta TH).
E34008	The length of center point between Arm and TH axis is invalid (LoadWithAlignment Function).	The length between the arm axis and the TH-axis will be smaller than zero.	Please check the value of the variable(between the arm axis and the TH-axis). It is not possible to be smaller than zero.
E34009	Invalid Hand (LoadWithAlignment Function).	There is an error in the set hand the value of a variable(Hand variable).	Please check the value (Hand variable) of the variable. 0 or 1 are valid values.
E34010	The pose value is invalid (LoadWithAlignment Function).	The reference pose value for LoadWithAlignment function is invalid.	Please check the value of the reference pose of variable.
E34011	Range of glass alignment is exceed (LoadWithAlignment Function).	It is beyond the scope that can be glass alignment.(-24.0 ~ 24.0)	Please check the value of the variable(The delta X).
E34012	ReceiveCMD_Abnormal System Booting status	1) The currently set robot is a robot type that does not support the ReceiveCMD command. 2) Initialization does not complete normally.	1) Set the robot type to the LCD handling robot. 2) Turn the controller power back on. 3) Please use after system initialization in case of trouble.
E34013	ReceiveCMD_Command No. Out of Range	Input command exceeds setting range	1)Check that the entered command number is normal. 2) Check whether communication is normal during PLC, ECS and robot controller.
E34014	ReceiveCMD_Unavailable stage for DOUBLE GET, PUT	The entered stage number is set to DOUBLE GET, PUT disabled.	DOUBLE GET, PUT If the stage is available, change the settings in the settings file.
E34015	ReceiveCMD_Unavailable stage for SYNC.EXCHANGE	The entered stage number is set to SYNC.EXCHANGE disabled.	If SYNC.EXCHANGE is an available stage, change the settings in the settings file.

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Code	Message	Cause	Remedy
E34016	ReceiveCMD_Error specifying GLASS thickness information.	The entered GLASS thickness information is disabled.	1) Check whether the thickness of the input GLASS is normal. 2) For available GLASS thicknesses, change in the settings file.
E34017	ReceiveCMD_Error Specifying GLASS SIZE Information	The entered GLASS SIZE information is disabled.	1) Check whether the input GLASS SIZE is normal. 2) If GLASS SIZE is available, change it in the settings file.
E34018	ReceiveCMD_Teaching error	The deviation of the teaching position from the teaching position before entering the hand and the teaching position after the entry is out of the specified value.	Check the teaching position before and after entering the hand.
E34019	ReceiveCMD_This is an error setting the stage number.	There is an error in the entered stage / stage stage number.	1) Make sure that the entered stage / stage number is normal. 2) If you have available single / multi-stage numbers, change them in the configuration file.
E34020	ReceiveCMD_This is an error setting the Stage / Port number.	There is an error in the entered Stage / Port number.	1) Check that the entered Stage / Port number is correct. 2) If available Stage / Port number, change it in the settings file.
E34021	ReceiveCMD_This is an error setting the Slot Address number.	There is an error in the Slot Address number entered.	1) Check that the slot address number entered is correct. 2) If the Slot Address number is available, change it in the settings file.
E34022	ReceiveCMD_This is an error setting the Cassette number.	There is an error in the entered cassette number.	1) Make sure that the entered cassette number is correct. 2) If a cassette number is available, change it in the settings file.
E36000	EP:Complete sensor error for air purging.	The complete sensor was not activated.(EP:Expolsion Prevention)	Check the air pressure and sensor.
E36001	EP:Air pressure sensor(Low) was activated.	Air pressure was too low and occurred sensor error.(EP:Expolsion Prevention)	Check the air pressure and sensor(Low).
E36002	EP:Air pressure sensor(High) was activated.	Air pressure was too high or occurred sensor error.(EP:Expolsion Prevention)	Check the air pressure and sensor(High).

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Code	Message	Cause	Remedy
E36003	EP:Air pressure sensors(Low,High) were activated.	Air pressure was wrong or sensors(Low,High) occurred error.(EP:Expolsion Prevention)	Check the air pressure and sensors(Low,High).
E36004	EP:Flow rate sensor was activated.	The flow of air was too low or occurred sensor error.(EP:Expolsion Prevention)	Check the air flow and sensor.
E36005	EP:Sensors(Low,Flow rate) were activated.	Air pressure was wrong or occurred sensors(Low,Flow rate) error.(EP:Expolsion Prevention)	Check the air pressure and sensors.
E36006	EP:Sensors(High,Flow rate) were activated.	Air pressure was wrong or occurred sensors(High,Flow rate) error.(EP:Expolsion Prevention)	Check the air pressure and sensors.
E36007	EP:Sensors(Low,High,Flow rate) were activated.	Air pressure was wrong or occured sensors(Low,High,Flow rate) error.(EP:Expolsion Prevention)	Check the air pressure condition and each sensors.
E36020	Deviated from the PAINT command "G1= ".	Deviated from the PAINT command ON/OFF(1/0) range.	Input ON=1 and OFF=0.
E36021	Deviated from the PAINT command " ANT=".	Deviated from the PAINT command ANT value range (-60.0 to 60.0).	Input a value ranging -60.0 to 60.0
E36022	PAINT command is not available.	It is not for painting application.	Set painting application in system/initialization/use settings.
E36030	Output signal of SELBRUSH is not set.	Output signal assignment setting value of SELBRUSH is 0.	Set the brush number in System / Application Parameter / Painting / Output Signal Assignment.
E36031	Output signal setting of SELBRUSH is not in byte.	Enter the first index (8N+1) of byte group signal only. (e.g., 1, 9, FB5.17, ...)	Change the brush number in System / Application Parameter / Painting / Output Signal Assignment.
E38000	No license is available for the sensor-based force control function.	The sensor-based force control function is optional.	Obtain the license for the sensor-based force control function

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Code	Message	Cause	Remedy
E38001	Error in the communications setting of the sensor-based force control (No analog port is assigned.)	No analog port is assigned to the communications setting of the sensor-based force control.	Set analog input ports in the system / application parameters / force control / service environment configuration.
E38002	Error in the communications setting of the sensor-based force control (No analog-multiplying factor is set.)	No analog-multiplying factor is set for the communications setting of the sensor-based force control.	Set analog-multiplying factors in the system / application parameters / force control / service environment configuration.
E38003	Error in the communications setting of the sensor-based force control (No digital input port is assigned.)	No digital input port assignment is set for the communications setting of the sensor-based force control.	Set digital port assigments in the system / application parameters / force control / service environment configuration.
E38004	Error in the communications setting of the sensor-based force control (No digital input port is assigned.)	No digital input port is assigned to the communications setting of the sensor-based force control.	Set digital input ports in the system / application parameters / force control / service environment configuration.
E38005	Error in the measuring range of the sensor-based force control (A sensor-measuring range is identical to another.)	An identical measuring range is set for the communications setting of the sensor-based force control.	Set the correct sensor-measuring ranges in the system / application parameters / force control / service environment configuration.
E38006	Error in the sensor measuring range of the sensor-based force control (A sensor-measuring range is set inversely.)	A sensor-measuring range of the communications setting of the sensor-based force control is set inversely.	Set the correct sensor-measuring ranges in the system / application parameters / force control / service environment configuration (left: minimum value, right: maximum value).

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Code	Message	Cause	Remedy
E38007	Error in the communications setting of the sensor-based force control (A digital data range is identical to another.)	An identical digital data range is set for the communications setting of the sensor-based force control.	Set the correct digital data ranges in the system / application parameters / force control / service environment configuration.
E38008	Error in the communications setting of the sensor-based force control (A digital data range is set inversely.)	A digital data range of the communications setting of the sensor-based force control is set inversely.	Set the correct digital data ranges in the system / application parameters / force control / service environment configuration (left: minimum value, right: maximum value).

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1.3. Warning

Code	Message	Cause	Remedy
W0001	Backup memory damaged	It occurs when damage is found in all kinds of files.	Initialize the internal memory, and load all kinds of files backed up in USB memory. If the problem persists, replace the main board.
W0002	Temperature increases inside the panel. Take precautions.	It occurs when the controller temperature is above 65 degrees Celsius.	Refer to Troubleshooting Manual.
W0003	Delete as the program is damaged.	Program to execute is damaged.	Delete the program, and load the backup program again.
W0004	Emergency stop being inputted.	It occurs when [Motor ON] is done in an emergency stop state.	Execute after deactivating emergency stop.
W0005	Backup battery voltage lowered.	Backup battery voltage connected to Main board BATCN connector is below the reference value.	Replace the backup battery.
W0009	Brake slipped (exceeding the set value)	It happens when brake slip by compression during stud welding exceeds the reference value.	Check the axis with the largest slip in the brake slip count. Replace the motor of the axis with the largest slip.
W0010	Fieldbus power supply defective	Fieldbus power is not supplied.	In case of DeviceNet, check whether the +24 V power supply line of the DeviceNet cable is properly connected, and measure the voltage with a multimeter. Take measures to ensure that the +24 V power of the DeviceNet cable is supplied properly.
W0011	Fieldbus network connection defective	Fieldbus network connection is not normal.	Check whether the fieldbus connector is disconnected. Check whether each fieldbus network cable connection complies with the fieldbus regulation.
W0012	CC-Link communication in idle state (PLC STOP)	Master stops I/O operating.	If PLC is in the program mode, change it to the run mode.

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Code	Message	Cause	Remedy
W0013	CC-Link communication module not detected.	Fieldbus module is not sensed.	If CC-Link communication is not to be used, set the use of CC-Link communication as disabled.
W0014	CC-Link setting error	Parameter setting for fieldbus master is not identical with that of slave.	Check whether the CC-Link master and slave parameters are set properly, and, if something is wrong, make a correction.
W0015	Fieldbus general error	BD420 board fieldbus has an error.	Check whether there is a problem with the setting of the fieldbus and master as well as with the cabling.
W0016	Improper numbers used for GE or DE signal	The specified values for GE or DE variable are incorrect. The values are out of range.	1) Different from the value that is based on the cooperative robot number. 2)GE: Min.=(Robot#-1)*4+1, Max.=(Robot#-1)*4+4 3)DE: Min.=(Robot#-1)*32+1, Max.=(Robot#-1)*32+32
W0017	External emergency stop being inputted.	It happens when [motor ON] is done at the status that external emergency halt is inserted.	In the exclusive input signal monitoring menu, check the state and take measures.
W0018	Communication disconnected with the DeviceNet node #%d.	It occurs if the response is lost after a normal communication operation.	Check the state of the cable.
W0019	DeviceNet node #%d input size not matched.	It occurs if the input size of corresponding node has been changed.	Check the input module of the relevant node, or execute the [Rescan] function.
W0020	DeviceNet node #%d output size not matched.	It occurs if the output size of corresponding node has been changed.	Check the output module of the relevant node, or execute the [Rescan] function.
W0021	DeviceNet node #%d I/O size too large.	It occurs if the I/O size of each node exceeds 16 bytes.	Distribute the input and output by adding a fieldbus adapter.
W0022	DeviceNet node #%d not responding.	It occurs if there is no response after the power on.	Check the state of the cable of the relevant node.
W0023	Embedded DeviceNet master address (0) colliding.	It occurs if one of the node has Mac ID as same as Master Mac ID (0)	Turn the power off, and change the address (MAC ID) of the #0 slave node.

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Code	Message	Cause	Remedy
W0024	Optional function temporary license key free trial period exceeded.	The trial period of optional functions using temporal license has been expired.	Make a request to our company for the purchase of an official license to use the relevant function.
W0025	Only (%d) days left for the optional function temporary license key free trial period.	The trial period of optional functions using temporal license is going to be expired soon.	Make a request to our company for the purchase of an official license to use the relevant function.
W0026	Required to inject grease! Check the system characteristic data/movement distance.	Warning is generated depending on the distance set for filling the grease and the date for it.	After supplementing grease, initialize all values in the menu for setting the grease injection schedule of the robot parameter of T/P. *For information: W0018 at the range of V30.09-84–V30.09-88.
W0027	CC-Link master set as CC-Link v1.0	There is a mismatch in the CC-Link version between the master and the robot controller. The CC-Link version of the robot controller is V2.0. But the CC-Link version of the master is V1.0	Please match the CC-Link version of the CC-Link master and the robot controller.
W0028	Robot fan (R-FAN) fault.	A failure occurs to the robot fan (R-FAN).	Check the operation state of the robot fan (R-FAN).
W0029	Controller fan (C-FAN) fault	A failure occurs to the controller fan (C-FAN).	Check the operation state of the controller fan (C-FAN).
W0030	PRM PN over-voltage generated	PRM PN voltage has exceeded the over-voltage warning reference value.	1) Check the PRM input 3-phase voltage. 2) Check the PRM input PN voltage
W0031	PRM PN under-voltage generated	PRM PN voltage is below the under-voltage warning reference value.	1) Check the PRM input 3-phase voltage. 2) Check the PRM input PN voltage 3) Check the state of the NFBRST and NFBPN of PRM.
W0032	PRM 3-phase over-voltage generated	PRM 3-phase voltage has exceeded the over-voltage warning reference value.	Check the PRM input 3-phase voltage.

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Code	Message	Cause	Remedy
W0033	PRM 3-phase under-voltage generated	PRM 3-phase voltage is below the under-voltage warning reference value..	1) Check the PRM input 3-phase voltage. 2) Check the state of the NFBRST and NFBPN of PRM.
W0034	PRM 3-phase voltage frequency abnormal	PRM 3-phase voltage frequency has exceeded the warning reference value.	1) Check the PRM input 3-phase voltage. 2) Check the state of the NFBRST and NFBPN of PRM.
W0035	PRM ADC offset value abnormal	PRM ADC Offset value has exceeded the warning reference value.	Check after reinputting the controller power.
W0036	PRM 3-phase voltage offset value abnormal	The offset value of PRM input 3-phase voltage has exceeded the warning reference value.	Check the PRM input 3-phase voltage.
W0037	PRM heat protection panel or reactor temperature increased	The temperature rise of the PRM heat sink or reactor has exceeded the warning reference value.	Check the PRM fan.
W0038	PRM regenerative current abnormal	PRM regenerative current error is detected.	Check after reinputting the controller power.
W0039	PRM control power (+15 V/−15 V) abnormal	PRM control power (+15V/-15V) is in error.	1) Check the POW LED of the PRM BD591 board. 2) Check CNP24 (24 V) of the PRM BD591 board.
W0040	PRM load capacity abnormal	PRM load capacity error has exceeded the warning reference value.	Check the warning by lowering the robot playback speed.
W0041	PRM NFB Trip	PRM NFB Trip is occurred	Check the state of the NFBRST and NFBPN of PRM.
W0042	PRM PN current exceeded the warning reference value.	PRM PN current has exceeded the warning reference value caused by over PRM regenerative capacity.	Check the warning by lowering the robot playback speed.
W0043	PRM 3-phase current exceed the warning reference value.	PRM 3-phase current has exceeded the warning reference value caused by over PRM regenerative capacity.	Check the warning by lowering the robot playback speed.

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Code	Message	Cause	Remedy
W0051	As the high load mode is "disabled," earlier fault with the robot is expected.	High load mode is disabled.	Set the high load mode as " disabled" only when the user takes the risk of an earlier fault with the robot.
W0052	Relevant tool load data not set (operating in the high load mode)	The robot was operated without setting the load data of the relevenat tool. The robot operates in the high load mode.	Execute load estimation for the relevant tool, or execute directly using the CAD data before use.
W0053	Relevant tool load data not set	The robot was operated without setting the load data of the relevenat tool.	Execute load estimation for the relevant tool, or execute directly using the CAD data before use.
W0054	Dupilicated CAN port usage	Other application is using this CAN port.	Set the port so that 1 CAN port will not be used for more than 2 applications.
W0055	Impossible to use #n node of the embedded fieldbus.	The size of the previous node exceeds 16 bytes (128 points), so it is already occupied #n node's I/O.	Use another node number.
W0056	Object FB3 is already being used by another communication channel.	Other communication channel is already using the FB3.	Check whether another communication system that uses FB3 is used.
W0057	Object FB5 is already being used by another communication channel.	Other communication channel is already using the FB5.	Check whether another communication system that uses FB5 is used.
W0104	(%s axis) encoder battery voltage lowered	Battery voltage is too low in the relevant axis encoder.	Check the relevant encoder battery voltage according to the controller operation manual. Check the connection of the relevant axis encoder battery.
W0105	%d gun) total tips exceeded the wear amount for replacement	It occurs when total tip wear detected with gun search is in excess of tip exchange wear amount set in servo gun parameter.	Inspect the wear amount of the moving and fixed tips, and replace them.

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Code	Message	Cause	Remedy
W0106	%d gun) moving tip exceeded the wear amount for replacement	It occurs when moving tip wear detected with gun search is in excess of moving tip exchange wear amount set in servo gun parameter.	Inspect the wear amount of the moving tip, and replace the tip.
W0107	%d gun) fixed tip exceeded the wear amount for replacement	It occurs when fixed tip wear detected with gun search is in excess of moving tip exchange wear amount set in servo gun parameter.	Inspect the wear amount of the fixed tip, and replace the tip.
W0108	Actual pressurization force exceeded the set value during the jog operation	It occurs when actual pressurization force is in excess of set value in manual pressurizing. In this case, operate the servo gun axis in the opposite direction.	Check whether sufficient pressurization force is set for the axis that needs to be manipulated. As a mechanical problem is expected with the servo gun, contact the servo gun manufacturer for inquiry.
W0109	Impossible to manually operate a servo gun that is not selected	The servo gun you intend to operate is different from the selected servo gun number.	After selecting the servo gun, manipulate the jog manually. Using the R210 code, select and operate the servo gun that needs to be manipulated.
W0110	Pressurization force detection disabled.	This occurs when the pressurization force level of the servo gun parameter menu or the pressurization force error detection delay time is not set.	Check the pressurization force level or the pressurization force error detection delay time in the servo gun parameter menu.
W0111	Prior position recovery error detection distance exceeded	It occurs when the recovery distance simultaneously with motor ON input is larger than the set value of error detecting distance in case the prior recovery function is enabled in [Motor ON].	Expand the prior position recovery error detection distance. Set the prior position recovery function as disabled. Contact the A/S department of our company.
W0112	Prior position recovery distance exceeded	It occurs when the recovery distance simultaneously with operation ready ON input is larger than the set value in case prior the position recovery function is enabled in [Operation Ready ON].	Set the recovery distance at a large value than the currently set value.

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Code	Message	Cause	Remedy
W0116	Impossible to maintain the previously used weaving operation.	It happens weaving movement, which is made when WEAVON command is performed, cannot be maintained.	1) Restart from the step where the WEAVON command exists. 2) If welding is progressing, change to the welding off mode, and then start from the command where the WEAVON command exists to the position where the welding was cut off. Afterward, change to the welding on mode, and progress the work.
W0117	(%s axis) manual operation in which the high speed command is generated.	Robot is in a posture with high speed while manually operated in Cartesian coordinate system or tool coordinate system.	Change the robot posture by manipulating in the joint coordinate system, and then manipulate manually as desired.
W0118	#1 servo CPU version is an old one	The robot may be used, but it has problems in the use of some functions due to the old CPU version of 1st servo in the 1st servo board.	It is possible to continuously use the functions that have been used. However, to use the new functions, contact the A/S department of our company for version-up.
W0119	#2 servo CPU version is an old one	The robot may be used, but it has problems in the use of some functions due to the old CPU version of 2nd servo in the 1st servo board.	It is possible to continuously use the functions that have been used. However, to use the new functions, contact the A/S department of our company for version-up.
W0120	#3 servo CPU version is an old one	The robot may be used, but it has problems in the use of some functions due to the old CPU version of 1st servo in the 2nd servo board.	It is possible to continuously use the functions that have been used. However, to use new functions, contact the A/S department of our company for version-up.
W0121	#4 servo CPU version is an old one	The robot may be used, but it has problems in the use of some functions due to the old CPU version of 2nd servo in the 2nd servo board.	It is possible to continuously use the functions that have been used. However, to use new functions, contact the A/S department of our company for version-up.
W0123	Stop signal received from partner robot	Stop instruction is received from the partner robot during cowork control operation. In this case, the above message is output, and the robot stops.	Operate the slave side robot, and then start the master to resume the program again.

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Code	Message	Cause	Remedy
W0124	Slave robot jog operation impossible	It is set as salve in the condition of manual cowork control. The robot set as slave is impossible to operate separately.	To operate individual robots manually, change the manual cooperative state. To change the manual cooperative state, the user needs to use the F key or R351 code.
W0125	Abnormality with the position of the attached servo gun	The position of servo gun attached by GUNCHNG ON instruction or instruction for manual gun connection is different from the one remained in its memory when separating.	It is normal if it is generated when accessing the servo gun initially. If it is generated in other cases than the initial access, inspect the following items. It can be generatec when a wrong servo gun number is selected; thus, please check carefully. Check whether the servo gun encoder battery level remains.
W0131	Cooperative jog operation impossible—Master robot duplicated	Among robots connected to HiNet are more than two robots set as Master in their manual cowork.	Set only one unit as the manual cooperative master. Change the setting.
W0132	Cooperative jog operation impossible—Slave robot not selected	Jog operation is attempted for Master robot without setting the Slave robot to be available to cowork.	Check whether a slave robot is selected, and then prepare the slave robot for cooperation (Jog off/Enabling switch on). Manipulate afterward.
W0133	Slave robot jog setting changed—Stopped	A robot chaged its manual cowork is detected among the coworking Slave robots Master during cowork jog operation with robot.	Manipulate after rechecking the cooperative state of the slave.
W0134	Master tool coordinate system not selected	It occurs when attempting to operate jog for Slave robot in a CMOV recording mode(R351,3).Master robot is not specified. Or it may occur when using Step Forward of CMOV.The currently set number of Master is different from the recorded Master	Set a proper master robot into the manual cooperation master state.
W0137	Manual operation in which the tool end high speed command is generated.	During the manual operation of a cross coordinate and a tool coordinate, the speed of the tool end of the robot exceeded safety speed limits.	Check whether the B-axis is near 0 deg. It is required to manipulate the axis coordinate manually when the B-axis is near 0 deg.

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Code	Message	Cause	Remedy
W0138	(%saxis) Reducer remaining rated service life less than 10 %%	The reducer of the warned axis has less than 10% of the initial rated life-time.	By referring to the expected lifetime of the reducer of the relevant axis under the current operation condition, prepare for its replacement.
W0139	Tool mass error exceeded the allowable tolerance	The mass of the current tool is much lower than the real mass. Over-demanding motions are expected.	Check the value of the mass / center of mass, gravity direction, or reference posture of the relevant tool.
W0140	(Caution) (%saxis) Reducer expected service life less than 10,000 hours	The reducer of the warned axis has less than 10,000 hours under the current robot motions. Thus, an early demage of the reducer is expected.	Check whether the physical property value of the relevant tool is inputted properly. If the relevant tool's physical property value is judged to be normal, contact the engineer for inquiry.
W0141	Tool (0) allowable inertia exceeded. Used in high load mode	As the tool's inertia exceeds the value allowed for the wrist axis, the performance and life-span of the robot is lowered.	In principle, it is required to make adjustments in a way in which the tool inertia can be reduced. However, when such is impossible, set the high load mode as enabled for use.
W0142	(%s axis) average load rate abnormal during operation	The average load factor set for the detection of warning is exceeded.	If the robot axis, for which a warning is generated, is operating excessively, reduce the tool load or lower the speed. While operating normally in the same condition, if the robot has an error, it is requirec to check the mechanism.
W0143	(%s axis) encoder data abnormal. Required to check.	By a problem of Serial Encoder, jump phenomenon of position data occurs	A servo board handles the compensation for the jump phenomenon of position data, but you refer to our A/S department foı prevention of sustained problem occurrence, and please be replaced with a motor.
W0144	Safety restartup mode operating	If it is restarted, the position of the step will be changed, allowing it to run in a safe velocity.	When needed to move at the recorded speed, and not the safe speed, execute motor off and then start up again.

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Code	Message	Cause	Remedy
W0145	(%s axis) encoder communication abnormal. Required to check.	The encoder communication failures have occurred more than 6 times consecutively.	Required to check the encoder line and the DSP board of the relevant axis.
W0146	(%s axis) encoder temperature abnormal. Required to check.	The temperature of the encoder at the axis where the warning occurs is above 85℃	Required to check the load factor of the relevant axis. In case of an axis with a fan mounted, check the fan as well. Contact the A/S department of our company for inquiries.
W0147	Stopped for expected interference between the robot %d and ARM.	As the interference with the arm is expected if the robot runs continuously, the stopping occurs due to the arm interference detection function.	Change the step condition in a way to prevent arm interference.
W0149	Arc welding tip use time limit left 10% or below.	The welding tip has been used for more than 90% of set time limit.	Replace the welding tip, and then initialize the tip use time.
W0150	Arc welding tip use time limit exceeded.	The welding tip has been used for more than the time limit.	Replace the welding tip, and then initialize the tip use time.
W0151	When the embedded PLC is on and SP11 is off, then FN output will be impossible	The FN signal can't be out when embedded PLC is enabled and the SP11 is turned off.	Turn off the embedded PLC. Add SP11 On when using an embedded PLC.
W0152	Measured panel thickness exceeded the normal range	The measured panel thickness after pressure completion exceeds the tolerance of reference thickness.	Check whether the panel is missed. Record the gun search position, and carry out gun search again.
W0153	(%s axis)Reducer motor current that exceeds the allowable level is detected.	The load of tool and additional weight is not correct, or the current of a motor is increased due to increase of motor temperature.	Check the tool load and the additional weight. If normal, contact the A/S department of our company for inquiries.
W0154	Roller hemming force error exceeded the allowable tolerance for warning.	The speed for roller hemming is too fast to control the desired force in real time.	Lower the roller hemming speed or increase the TOL_W value.

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Code	Message	Cause	Remedy
W0155	Output torque exceeded the normal range.	The saturation of torque occurs during warning detection time.	Check the 3-phase input voltage. (based on 220 V, tolerance range 10%) Initialize the servo parameter of the robot parameter.
W0156	Sensing-induced tracking distance exceeded the limit value	The tracking distance during height sensing exceeds the limit.	Check whether the sensing function operates normally. If the limit value is too small, set it again by increasing it.
W0157	Welder internal Synergic being changed.	Welder cannot receive commands because the welder is in changing synergic setting.	Wait for up to 6 seconds additionally until the communication with the welder becomes normal. If the Synergic setting in the welding condition is not changed, the wait time will be minimized.
W0158	Synergic or welding mode abnormal in the welding condition	Welder won't support current synergic code or welding mode.	Set the Synergic setting and the welding mode that are supported by the welder. In case of some welders, the supportable Synergic setting varies depending on the welding mode.
W0159	No port assigned for welder arc on.	The port which outputs the 'Arc On' command is not assigned.	Check the assignment state of the signal that outputs welding start to the welder.
W0160	Speed lowered in the section that the robot speed needs to be maintained. Required to correct teaching.	Current job program cannot move the taught speed because of limit of axis speed and so on.	Change the position and speed of step to move along the taught speed.(Avoid rapid pose change.)
W0161	Impossible to use the gravity compensation function.	A stiffness value is invalid.	Check the stiffness value in the CLB file.

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Code	Message	Cause	Remedy
W0162	(%s axis) abnormality detected during the brake hold test.	The change amount of motor angle exceeded reference value during the brake hold test.	1) Check if the hold test criterion for the axis is too low. 2) Check if the current tool information, the test implementation position, and the gain value are the same as the setting of the reference values. 3) With the manual output of the brake signal of the system board, check if the brake is released. 4) If there is no anomaly in the system board, check the wiring of the brake signal cable. 5) If there is no anomaly in the wiring, measure the voltage of the power cable to the motor to check if it is normal. 6) Check if impurities, such as lubricant, have infiltrated the motor 7) If an anomaly is found in the wiring and the power supply, replace the motor.
W0163	(%s axis) abnormality detected during the brake release test.	The change amount of motor angle was less than reference value during the brake release test.	1) Check whether the release test reference value for the relevant axis is set too high. 2) Check whether the brake control signal for the relevant axis is outputted normally. 3) Check the brake release sound tc see whether the relevant axis brake is operational. 4) When a position deviation error is generated and the relevant axis cannot be moved, use another axis jog to move to a safe position. 5) Check the state of the relevant axis motor brake. (Regarding whether the brake operates and state of the motor power) 6) In case of an axis the problem of which is identified, replace the relevant motor.

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Code	Message	Cause	Remedy
W0164	Gun search reference position changed. Execute gun search again.	Gun search reference position has been changed, because external ROBOT.SWD file was copied.	1) Record the gun search reference position again by executing the processes 2 and 3 in order. 2) Set the "gun search reference position record" as "enabled," and then execute gun search. 3) Set the "gun search reference position record" as "disabled," and then execute gun search.
W0165	%d gun) Squeeze—Current table changed because of SWD file change	Previous pressure-current table is changed because external 'ROBOT.SWD' is copied to the controller.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
W0166	%d gun)Gun search information changed because of SWD file change.	The information of gun search is changed because external 'ROBOT.SWD' is copied to the controller.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
W0167	%d gun)Gun deflection amount setting changed because of SWD file change.	The setting for gun bent is changed because external 'ROBOT.SWD' is copied to the controller.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
W0168	%d gun)Panel thickness calibration setting changed because of SWD file change.	The setting for thickness measurement compensation is changed because external 'ROBOT.SWD' is copied to the controller.	Enter the servo gun auto setting menu, and then recover the existing setting or reflect the current setting.
W0169	(%s axis) servo IP higher than the controller specification.	The setting of servo Ip value exceeded permitted value.	Initialize the servo parameter
W0170	(%s axis) motion Itp higher than IP.	The setting of motion Itp value exceeded permitted value.	Initialize the Itp value
W0171	Impossible for the robot to follow the sync speed at the %d step.	In motion planning, the robot could not move with sync speed.	Correct the teaching at the sync position, or lower the sensor input speed.
W0172	Main board CPU overheating detected	Main board CPU temperature exceeded permitted range.	Check the controller according to the fault repair methods.

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Code	Message	Cause	Remedy
W0173	Controller internal overheating detected	Controller's internal temperature exceeded permitted range.	Check the controller according to the fault repair methods.
W0174	Step set warning outputted.	Current robot's cursor of program, step, function number has been changed out of playback flow.	Be careful whether there is any collision on the robot path.
W0175	The COC master command duplicated(cnt:%d)	The master command sequence duplicated	Check HiNet network connection status.
W0176	The COC master command sequence missed(cnt:%d)	The master command missed.	Check HiNet network connection status.
W5461	Sensorless mastering test should execute within %d hours.	Pre-alarm for mastering test.	Ready for mastering test.
W5462	Sensor-based mastering test should execute within %d hours.	Pre-alarm for mastering test.	Ready for mastering test.
W0177	As the high load mode is "Exception," earlier fault with the robot is expected.	High load exception mode is activated.	Set the high load mode as " Exception" only when the user takes the risk of an earlier fault with the robot.
W0178	HiNet master command check sum error(Rob:%d)	The received master command check sum mismatch.	Check HiNet network connection status.
W0179	HiNet status data checksum error(Rob:%d)	The received status data check sum mismatch.	Check HiNet network connection status.
W0180	HiNet master command seq. error	The order of transfer command is inappropriate.	Contact our company for inquiries.
W0181	Overcurrent detected with reduced axis %d (load estimate not executed)	Excessive current was detected.	Check the tool load and the additional weight. If normal, contact the A/S department of our company for inquiries.

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Code	Message	Cause	Remedy
W0182	Overcurrent detected with reduced axis %d (random change of tool load)	Excessive current was detected. Tool load was randomly changed.	Enter accurate tool load and additional weight or execute load estimation.
W0183	The endless device of (%s-axis) rotary axis sealer has not been set.	The endless device of the rotary axis sealer has not been set.	Carry out the setting of the endless device of the sealer comprising rotary axis.
W0184	(Danger) (%saxis) Reducer expected service life less than 6,000 hours	Under the current operating conditions, the expected service life of the reducer of the relevant axis is calculated to be less than 6,000 hours, showing the possibility that the reducer could be damaged earlier than expected.	Check whether that the physical properties of the tool are inputted correctly. If they are judged to be normal values, please contact the engineer for inquiry.
W0185	Abnormal servo loop gain	In Vibration Isolation mode, the PPI mode servo loop gain is set.	Enter the Servo Loop Gain menu, and then proceed with initialization.
W2000	Power failure is operating	The power failure is operating in motor on. When the power failure is operating, it can generate the following errors. E02506 AMP PN undervoltage occurred E02507 AMP diode module abnormal or insufficient AC input voltage E02631 (%s axis) position deviation exceeded for each speed W00153 Reducer motor current that exceeds the allowable level is detected.	Check main power of the controller and signal block diagram of the power failure.
W2101	SYSTEM_WARNING-HardwareInterrupt	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2102	SYSTEM_WARNING-SerialPortReceive1	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.

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Code	Message	Cause	Remedy
W2103	SYSTEM_WARNING-SerialPortReceive2	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2104	SYSTEM_WARNING-PollingHighPrioCan	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2105	SYSTEM_WARNING-MotReqReceiveStartOn	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2106	SYSTEM_WARNING-DataGatheringExecute	system error.	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2107	SYSTEM_WARNING-ServoCommandOutput	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2108	SYSTEM_WARNING-DbgWatchdogCond	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2201	SYSTEM_WARNING-CmdManagerISR_Start	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2202	SYSTEM_WARNING-hinet_TrRec_SRT	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2203	SYSTEM_WARNING-command_gen	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.

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Code	Message	Cause	Remedy
W2204	SYSTEM_WARNING-svbuff	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2205	SYSTEM_WARNING-DSPWatchdogProcess	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2206	SYSTEM_WARNING-Dynamics_CmdInt	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2207	SYSTEM_WARNING-DynTermToServo	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2208	SYSTEM_WARNING-FK_Update	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2209	SYSTEM_WARNING-ServoSim	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2210	SYSTEM_WARNING-copy_KD_Cal	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2501	SYSTEM_WARNING-MainISR_Start	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2502	SYSTEM_WARNING-CpuStdioInt	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.

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Code	Message	Cause	Remedy
W2503	SYSTEM_WARNING-sv_timer	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2504	SYSTEM_WARNING-SwTimer	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2505	SYSTEM_WARNING-PowerDownDetectCheck	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2506	SYSTEM_WARNING-MaintenanceDataGen	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2507	SYSTEM_WARNING-InOutput	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2508	SYSTEM_WARNING-hinet_TransRec_HRT	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2509	SYSTEM_WARNING-SystemStatusChk	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2510	SYSTEM_WARNING-SignalProcess	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2511	SYSTEM_WARNING-GunProcessing	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.

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Code	Message	Cause	Remedy
W2512	SYSTEM_WARNING-PlyReqSwTimeTick	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2513	SYSTEM_WARNING-JogSpeedInJoystick	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2514	SYSTEM_WARNING-KeyCodeByInSig	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2515	SYSTEM_WARNING-ConveyorDataUpdate	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2516	SYSTEM_WARNING-VoltageOutput	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2517	SYSTEM_WARNING-MacroInsRobMove	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2518	SYSTEM_WARNING-GetMovingDist	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2519	SYSTEM_WARNING-SSMDoServ	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2520	SYSTEM_WARNING-CntDnSetDate	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.

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Code	Message	Cause	Remedy
W2521	SYSTEM_WARNING-motion_interrupt	System warning	Back up all files of controller and contact our A/S to deliver it. In addition, delivery and changes are made before the warning.
W2580	Manual brake release enable switch abnormal	Error occurred in manual brake release enable switch.	Check the manual brake release function and, if abnormality is found, replace the system board.
W14150	There are syntax error in WEAVON condition number.	The conditon number of WEAVON was entered incorrectly.	Enter a integer between 1 to 32 in WEAVON condition number.
W14271	Only the ".Shift" attribute of the "AXIS" object of the additional axis will apply.	The ".Shift" attribute of the "AXIS" object of the robot axis will not apply.	For the shift of the robot axis, use the shift register.
W21001	%d axis)Test result are not suitable for test.	The hold test angle variation of warning axis exceeds the release test angle variation.	1) Increase the torque applied ratio to the maximum. And run the reference value auto settig. 2) Check the wiring of brake part. 3) Check whether the brake open/close output is normal in system IO board. 4) Check the motor of warning axis. 5) If there is no error, exclude the axis and run the brake test.
W21002	%d axis)Angle variation is too large in Brake hold test.	The angle variation exceeds 0.01 rad in brake hold test.	1) Decrease the torque applied ratio to the minimum. And run the reference value auto settig. 2) Check the wiring of brake part. 3) Check whether the brake open/close output is normal in system IO board. 4) Check the motor of warning axis. 5) If there is no error, exclude the axis and run the brake test.
W21003	%d axis)motor is a type without brake.	Brake hold test has been executed on the motor without brake.	After remove the check in 'brake hold test' of warning axis, run the test again.

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Code	Message	Cause	Remedy
W21004	%d axis) While the brake is released, the angle variation is smaller than the reference.	While the brake is released, the motor angle variation amount is smaller than the set reference.	1) Check the load ratio while moving the axis, for which a warning is generated, with the jog. 2) Inspect whether there is any error with the brake wiring connection. 3) Check whether the brake open/close status of the system board is normal. 4) Inspect the motor of the axis to which abnormality occurs. 5) Set again the reference for brake release if there is no abnormality.
W21011	The gas pressure(command) of the spring is lower than the minimum warning criteria.(%d bar)	The estimated pressure by the gas spring pressure inspection function is lower than the minimum warning reference.	1) Check the tool load validity of the robot. 2)Check if the load estimation for the robot has been done correctly. 3) After checking the load information, re-run the gas pressure estimation function. 4) If the error is detected again, check the actual pressure of the gas spring.
W21012	The gas pressure(command) of the spring is higher than the maximum warning criteria.(%d bar)	The estimated pressure by the gas spring pressure inspection function is higher than the maximum warning reference.	1) Check the tool load validity of the robot. 2)Check if the load estimation for the robot has been done correctly. 3) After checking the load information, re-run the gas pressure estimation function. 4) If the error is detected again, check the actual pressure of the gas spring.
W21013	This robot does not support the gas spring pressure inspection function.	This robot model does not support the gas spring pressure inspection function.	Delete the gas spring pressure inspection command.
W21014	The gas spring pressure(command) error.(Load not estimated)	The gas spring pressure error was occured without load estimation.	1) Please run the gas spring presuure test after load estimation. 2) If the load estimatno is unavailable, change the option of 'the gas spring pressure estimation at standstill' to estimation.

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Code	Message	Cause	Remedy
W21015	The gas pressure(stop) of the spring is lower than the reference warning criteria.(%d bar)	The estimated pressure by the gas spring pressure inspection function is lower than the minimum warning reference.	1) Check the tool load validity of the robot. 2)Check if the load estimation for the robot has been done correctly. 3) After checking the load information, re-run the gas pressure estimation function. 4) If the error is detected again, check the actual pressure of the gas spring.
W21016	The gas pressure(stop) of the spring is higher than the reference warning criteria.(%d bar)	The estimated pressure by the gas spring pressure inspection function is higher than the maximum warning reference.	1) Check the tool load validity of the robot. 2)Check if the load estimation for the robot has been done correctly. 3) After checking the load information, re-run the gas pressure estimation function. 4) If the error is detected again, check the actual pressure of the gas spring.
W21017	The gas spring pressure(stop) error.(Load not estimated)	The gas spring pressure error was occured without load estimation.	1) After conducting load estimation, conduct the gas spring pressure test. 2) Check the tool load validity of the robot. 3) If the load estimation cannot be conducted, modify the gas spring inspection option so that only the estimation may be conducted.
W21018	Gas spring pressure error (halt). (Load validity not verified)	A gas spring pressure error occurred while the load validity was not verified.	1) Conduct the tool load validity setting. 2) If the tool load validity cannot be identified, enter the correct weights applied to the axes, and conduct load estimation. 3) If the tool load validity cannot be identified, change the "gas pressure estimation during halt" to invalid.

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Code	Message	Cause	Remedy
W21021	A driving part error was detected. (%d:10-axis, 1-type)	The some results of driving part examination exceed the standard criteria.	1) In case of incorrect tool parameters, unusual warning can be occurred. Check the tool parameters and tool parameter estimation function. 2) Check the tool, tool parameter, and examination pose are same with those for standard criteria. 3) If the results of 1) and 2) have no problem, then check the reducer and motor of the axis. 4) If the results of 1) and 2) have some problem or the reducer and motor in 3) has no problem, then reset the standard criteria of the axis.
W22200	Error with the auto mode setting in the robot ready output condition.	The auto mode was duplicated in robot ready condition.	In the condition screen of System-Control parameter-Robot ready, select the auto mode between 1 cycle and repetition.
W22201	The output signal was not assigned in home position.	The output signal was not assigned in home position.	In the screen of System-Control parameter-Origin registration, set the use of items that will not be used as off.
W26000	CIE:All task is executing. Wait minute.	There is using all task.(CIE:Command Independent Execution)	Execute as soon as the task currently being executed is ended.
W26001	CIE:In use axis in other task. Wait minute.	There is using the current axis in other task.(CIE:Command Independent Execution)	Execute as soon as the axis currently being used by another task is ended.
W26002	CIE:Wait minute for execution.	There is executing motion process now.(CIE:Command Independent Execution)	Execute as soon as the motion command generator currently being executed is ended.
W26003	CIE:Duplicated execution of task program.	Task program of the CIE is already operating.(CIE:Command Independent Execution)	Check the operating state of sub-tasks.
W26004	CIE:Duplicated execution of the same task number.	The task number of TaskStart command is already operating.(CIE:Command Independent Execution)	Check the operating state of sub-tasks.

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Code	Message	Cause	Remedy
W26005	CIE:Stop signal is operating.	The TaskStart command in CIE is executed when stop signal is operating(CIE:Command Independent Execution)	Check the stop signal.
W26100	The subtask programs that be running are terminated.	The program of main task has changed.	Check the operating state of sub-tasks.
W26101	Duplicated execution of the same task number.	The task number of TaskStart command is already operating.	Check the operating state of sub-tasks.
W26102	Remote startup unavailable: Program in operation	The program is already in operation.	Retry after exiting the program in operation.
W26103	Remote startup unavailable: Spot command in operation	Spot command is in operation as a subtask.	Retry after the subtask operation is finished.
W26104	Remote startup unavailable: Task registration error	No task is registered to be executed.	If the error persists, contact us.
W28000	HRMS server operation failed	Impossible to create a network channel for operating HRMS server.	Check the connection of the main board Ethernet connector.
W28001	HRMS service channel generation impossible	Failed to configure a channel for transmitting and receiving robot data for HRMS.	Check the HRMS network.
W28002	HRMS service response wait time exceeded	No response received from the HRMS client for a certain period.	Check the HRMS network.
W28003	HRMS service request item not enabled.	Mismatching between the requested item and the HRMS internal data table.	Contact our company for inquiries.
W28004	Failed to collect data for the HRMS service	Error generated while collecting data as requested by the HRMS client.	Contact our company for inquiries.
W28300	Mismatch of the selected program.	The selected external program number differ from running it.	Please check the main process program.

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Code	Message	Cause	Remedy
W28301	Mismatch of S/W version between teach pendant - main b/d	The software version is mismatched between teach pendant and main b/d. There is chance of mis-operation.	Please match the version by software update.
W28302	Start playback with low speed	Start playback with low speed because of encoder temperature and robot stopped time.	Check the value in the menu of [Control setting]-[Playback speed auto control].
W28303	Playback speed is restored to origianl speed	Playback speed increases linearly from low speed to original speed.	Check the value in the menu of [Control setting]-[Playback speed auto control].
W28304	Finish low speed playback	Finish low speed playback because of satisfying the time of low speed playback.	If you want to change the low speed playback time, modify the value in the menu for Playback speed auto control.
W28305	Program reservation is possible on remote mode	The operatiing mode for program reservation is not remote mode.	Check the opertioning mode.
W28306	SONL command can't execute	SONL command can't execute in robot search record "ON" mode.	The robot search record has to "OFF".(Refer to "Robot search ref. pose record")
W28307	Center of gravity estimated with load estimation is out of error tolerance.	Estimated center of gravity is out of tolerance.	Check the attached tool.
W28308	In Loadestimation process, estimation error of mass exceeds permissible range.	Estimated mass is larger than permissible mass range.	Check the attached tool.
W28309	The hand height relationship is incorrectly set for Wobble Compensation Gain base on left and right.	TH parameters is not set as [highest>medium>lowest].	Set TH parameter as [highest>medium>lowest].
W28310	Hand height configuration for TH meandering reduction function is set improperly.	Hand height is not set as [lowest<medium<highest].	Set hand height as [lowest<medium<highest].

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Code	Message	Cause	Remedy
W28311	Hand height for Wobble Compensation Gain base on left and right is set improperly.	Hand height for TH meandering reduction function is set as negative number.	Set Hand height for TH meandering reduction function as positive number.
W28312	Failed to record robot search reference	Failed to record the robot search reference position because of failed robot stop	Reexecute the robot search (SEA command) first.
W28313	Failed to record robot search SHIFT	Failed to record the robot search SHIFT because of failed robot stop	Reexecute the robot search (SEA command) first.
W28314	TRIGGOUT(X/Y/Z): Position triggering failed (Step=%d)	Specified TRIGGOUT(X/Y/Z) position was not detected.	Check the specified position and reset it. Refer to the detection information of the step subject to warning in the History.txt file. Check the coordinate system of the recorded step.
W28315	TRIGGOUT(X/Y/Z): Failed to execute position triggering (Step=%d)	Many TRIGGOUT(X/Y/Z) functions have been executed (up to 5).	Check the TRIGGOUT(X/Y/Z) functions of the step subject to warning.
W28500	IL Program number(#%d) mismatch between IL option and current program number	Current program does not match with the program number in IL option of MOVE command.	1) If you copy and paste current job program, assign a nuw IL option number. 2)If the previous program number is changed, reset and learn the IL data again.
W28501	IL Step number(#%d) mismatch between IL option and current step number	Current step does not match with the step number in IL option of MOVE command.	1) If you use the program after deletion or insertion a step, reset and learn the IL data again. 2) If you use the program after copy a step, assign a new IL option number.
W28502	ROBOT.INL does not exist.	MOVE command including IL option is executed without ROBOT.INL.	1)If you do not enable the learning control function after initialization, enable the function. 2)If you delete the ROBOT.INL file, enable after disable the function to make the file.

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Code	Message	Cause	Remedy
W28503	The learning control function is disabled(teaching)	The MOVE command including IL option is taught while the learning control is disabled.	Enable the learning control function to use the IL option in MOVE command.
W28504	The learning control function is disabled(playback)	The MOVE command including IL option is executed while the learning control is disabled.	Enable the learning control function to use the IL option in MOVE command.
W28505	Unteachable step (continuous)	Unteachable continuous step was executed with IL option.	Continuous step does not include teaching. Remove IL option from the continuous step.
W28790	Detected U/I stop of teach pendant software - General(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28791	Detected U/I stop of teach pendant software - Appl.Key(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while handling application keys.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28792	Detected U/I stop of teach pendant software - Main Key(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while handling main dialog keys.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28793	Detected U/I stop of teach pendant software - LEdit Key(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while handling JOB edit window keys.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28794	Detected U/I stop of teach pendant software - Setup Key(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while handling setting screen keys.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28795	Detected U/I stop of teach pendant software - Cs.Key(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while handling dialog keys.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.

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Code	Message	Cause	Remedy
W28796	Detected U/I stop of teach pendant software - TBar Draw(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while drawing TitleBar.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28797	Detected U/I stop of teach pendant software - SBar Draw(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while drawing StatusBar.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28798	Detected U/I stop of teach pendant software - Lang.Draw(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while drawing JOB edit window.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28801	Detected U/I stop of teach pendant software - Timer(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while handling timers.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28802	Detected U/I stop of teach pendant software - FileMng(%d)	Only teach pendant was automatically rebooted because the U/I stop was detected for the teach pendant software while running file manager.	Misoperation of software or misdetection by long task. Contact the A/S department of our company.
W28810	Detected exception of teach pendant software - General(%d)	Abnormal operation of teach pendant software was detected.	Software malfunction occurred. Please back up the controller file, and then contact us.
W28811	Detected exception of teach pendant software - Key(%d)	Abnormal operation of teach pendant software was detected while handling keys.	Software misoperation occurred. After backup the controller files, and contact the A/S department of our company.
W28812	Detected exception of teach pendant software - Timer(%d)	Abnormal operation of teach pendant software was detected while handling timers.	Software malfunction occurred. Please back up the controller file, and then contact us.
W28813	Detected exception of teach pendant software - BgComm(%d)	Abnormal operation of teach pendant software was detected during background communications.	Software malfunction occurred. Please back up the controller file, and then contact us.

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Code	Message	Cause	Remedy
W28814	Detected exception of teach pendant software - SBarUpdate(%d)	Abnormal operation of teach pendant software was detected while updating StatusBar.	Software malfunction occurred. Please back up the controller file, and then contact us.
W28815	Detected exception of teach pendant software - ProcSync(%d)	Abnormal operation of teach pendant software was detected during ProcSync service.	Software malfunction occurred. Please back up the controller file, and then contact us.
W28816	Detected exception of teach pendant software - JogComm(%d)	Abnormal operation of teach pendant software was detected during Jog communications.	Software malfunction occurred. Please back up the controller file, and then contact us.
W28829	Teach pendant has %d WER records. (Clear: R19)	This warning occurs at a certain interval because teach pendant error record is stored in the teach pendant flash memory.	Install a USB memory, and select destination folder in the file manager. WER records can be backed up and then cleared with . Alternatively, it can be just cleared with R19.
W30001	%d gun) moving tip exceeded the wear amount for replacement(ServoGun)	It occurs when moving tip wear detected with gun search is in excess of moving tip exchange wear amount set in servo gun parameter.	Inspect the wear amount of the moving tip, and replace the tip.
W30002	%d gun) fixed tip exceeded the wear amount for replacement(ServoGun)	It occurs when fixed tip wear detected with gun search is in excess of moving tip exchange wear amount set in servo gun parameter.	Inspect the wear amount of the fixed tip, and replace the tip.
W30003	%d gun) fixed tip exceeded the wear amount for replacement(Eqless Gun)	It occurs when fixed tip wear detected with gun search is in excess of moving tip exchange wear amount set in Eq'less gun parameter.	Inspect the wear amount of the fixed tip of the Eqless gun, and replace the tip.

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Code	Message	Cause	Remedy
W30004	%d cases) Total electrode exceeded replacement wear (movement error).	It occurs if the total electrode wear detected by gun search exceeds the electrode replacement wear defined in the servo gun parameter. 1) The servo gun is not working properly. 2) The brake is not released.	1) Check the electrode replacement wear of servo gun parameter. 2) Replace the electrode. 3) If the jog movement of servo gun is unavailable, but the brake can be released, check the servo gun and power system (motor and amp). 4) Check related parts including brake and brake board.
W30005	%d cases) The moving electrode exceeded the replacement wear (movement error).	It occurs if the moving electrode wear detected by gun search exceeds the moving electrode replacement wear defined in the servo gun parameter. 1) The servo gun is not working properly. 2) The brake is not released.	1) Check the moving electrode replacement wear of servo gun parameter. 2) Replace the electrode. 3) If the jog movement of servo gun is unavailable, but the brake can be released, check the servo gun and power system (motor and amp). 4) Check related parts including brake and brake board.
W30006	%d cases) The fixed electrode exceeded the replacement wear (movement error).	It occurs if the fixed electrode wear detected by gun search exceeds the moving electrode replacement wear defined in the servo gun parameter. 1) The servo gun is not working properly. 2) The brake is not released.	1) Check the fixed electrode replacement wear of servo gun parameter. 2) Replace the electrode. 3) If the jog movement of servo gun is unavailable, but the brake can be released, check the servo gun and power system (motor and amp). 4) Check related parts including brake and brake board.
W30007	Set without detecting welding force (SPOT)	Welding force level or error detection delay is not defined in the servo gun parameter menu.	Check the welding force level or error detection delay in the servo gun parametSet without detecting welding force (SPOT)er menu.
W30008	Set without detecting welding force (manual welding force)	Welding force level or error detection delay is not defined in the servo gun parameter menu.	Check the welding force level or error detection delay in the servo gun parametSet without detecting welding force (SPOT)er menu.
W30009	Set without detecting welding force (welding force tuning)	Welding force level or error detection delay is not defined in the servo gun parameter menu.	Check the welding force level or error detection delay in the servo gun parametSet without detecting welding force (SPOT)er menu.

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Code	Message	Cause	Remedy
W30200	Error for the multistep welding force setting range of gun in welding.	It occurs if the multistep welding force value of the welding condition exceeds the working range.	Check and reset the minimum and maximum values of the servo gun welding force table.
W30201	Undefined pivot state.	Internal system error when executing pivot.	Back up all files of the controller and send them to us.
W30202	Failed to perform pivot in the subtask	Pivot can be performed in the main task because it requires robotic movement.	Move the SPOT command statement that requires pivot to the main task.
W30203	Failed to perform pivot with slave gun	Pivot is not supported for the slave gun.	Release pivot for the servo gun welding condition.
W30204	Failed to perform pivot with stud gun	Stud gun is not supported because the pivot requires robotic movement.	Release pivot for the servo gun welding condition.
W30205	Undefined signal-based multistep welding force application control state.	Internal system error when executing the signal-based multistep welding force application control.	Back up all files of the controller and send them to us.
W30206	Undefined profile-based multistep welding force application control state.	Internal system error when executing the profile-based multistep welding force application control.	Back up all files of the controller and send them to us.
W30207	The license of the multistep pressurization control function does not exist.	The multistep pressurization control function is a spot-welding optional function.	Obtain the license of the spot-welding optional function.
W30208	The license of the in-pressurization gun movement function does not exist.	The in-pressurization gun movement function is a spot-welding optional function.	Obtain the license of the spot-welding optional function.
W30600	Real-time welding force application control range exceeded	Real-time welding force application control exceeded the control range.	Check if the servo gun welding force table is tuned.

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Code	Message	Cause	Remedy
W32001	Do not use Job mode condition when there is 'ARCON C = ~' command.	Current and voltage are designated while the welding mode is Job mode.	Change the welding mode of the welding condition.
W32002	Undefined arc welding warning is generated!	It is a problem of abnormal arc welding occurring inside the system.	Perform backup of all controller files and send them to us.
W32030	During an arc welding process, the upper limit of feeder motor current was exceeded.	During an arc welding process, the upper limit of feeding motor current set in the condition file was exceeded.	1) Check the welding tip or delivery system. 2) Adjust the limit value in the welding condition file. 3) Check the distance between the base metal and torch.
W32031	During an arc welding process, the lower limit of feeder motor current was not reached.	During an arc welding process, the lower limit of feeding motor current set in the condition file was not reached.	1) Check the welding tip or delivery system. 2) Adjust the limit value in the welding condition file. 3) Check the distance between the base metal and torch.
W32032	Impossible to move backward due to abnormality with the backward position.	Crater movement is impossible because there is no stored trajectory.	If a problem occurs again even after welding is performed normally, perform backup of all controller files and send them to us.
W32033	The robot movement speed in the welding section is abnormal. It must be checked.	The speed in the welding section is set to 20% or higher.	Adjust the robot movement speed in the welding section to 20% or lower. 2) Check if the ARCOF command is omitted at the welding end position.
W32041	Welder abnormality signal input	This error occured when welding error signal has inputted.	1) Refer the details of simultaneous welder error. 2) To ignore the error signal, Set the item in 'Application Parameter->Arc Welding' dialog to 'diable'.
W32042	Shield gas for welding short signal input	This error occurred when welding shield gas is shortage.	1) Charge the welding shield gas. 2) To ignore the error signal, Set the item in 'Application Parameter->Arc Welding' dialog to 'diable'.

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Code	Message	Cause	Remedy
W32043	Welding wire error signal input	This error occured when welding wire is shortage.	1) Refill the welding wire. 2) To ignore the error signal, Set the item in 'Application Parameter->Arc Welding' dialog to 'diable'.
W32044	Welder cooling system error signal input	Coolant status error signal has been input.	1) Check the coolant system. 2) If there is no error, check the input port in 'Application Parameter->Arc Welding' dialog.
W32200	Welder communication setting not matching with the controller setting	Current controller's fieldbus setting is in status that cannot support the communication for Fronius welder.	1) Enter the dialog box of " System-Initialize-Usage setting-F1: Welder," and then check whether the welder communication method is proper. 2) If the welder communication method is proper, check whether the relevant DeviceNet master or Ethernet/IP is set.
W32201	WM) The welding machine power undervoltage occurred.	The power was supplied voltage that is less than 80% for 3 seconds.	Check the welder power supply.
W32202	WM) The power supplied to the welding machine is too hight.	The power was supplied voltage that is more than 120% for 3 seconds.	Check the welder power supply.
W32203	WM) Memory data error occurred.	Welding condition data exeeeded the normal range.	1) Check whether the welding condition data are within the normal range. 2) If the problem is generated again, replace the welder.
W32204	WM) Internal memory battery error occurred.	internal memory battery was less than 2.6V.	After replacing the welder, contact the welder company.
W32205	WM) Coolant error occurred.	Coolant flow was not detected in water-cooling mode.	Check the state of the water cooling-type cooling system.
W32206	WM) Intermal temperature is abnormal.	Welding machine temperature switch was open.	1) Check the air ventilation state of the welder. 2) If overheating is generated internally continuously, replace the welder.

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Code	Message	Cause	Remedy
W32207	WM) Over-current occurred.	Current that is more than 400[A] was detected for 0.25 seconds.	Adjust to ensure that the distance between the welding torch and the base material is not too close.
W32208	WM) Overload of feeding motor occurred.	Motor speed that is less than 80% of command value was detected for 0.5 seconds.	1) Check the state of the welder feeder and wire feeding. 2) If an error is generated continuously, replace the wire feeder.
W32209	WM) Current was cut and wiring error occurred.	Feeder motor drive error occurred and output voltage Feedback was not detected.	Check the connection state of the welder and feeder.
W32210	WM) Feedback wiring error detected.	Current was detected but feedback signal wasn't detected.	Check the connection state of the voltage feedback connection line between the welder and the base material.
W32211	WM) Inverter error detected.	Drive module error was detected at the welder.	1) Check the IGBT module of the welder. 2) If an error is generated continuously, replace the welder.
W32221	WM) The comm. buffer error occurred in welding start.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Welding start)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
W32222	WM) The comm. buffer error occurred in retry process.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Retry)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.

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Code	Message	Cause	Remedy
W32223	WM) The comm. buffer error occurred in process changing retry condition to main one.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Retry->main)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
W32224	WM) The comm. buffer error occurred in restart process.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Restart)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
W32225	WM) The comm. buffer error occurred in process changing restart condition to main one.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Restart->main)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.
W32226	WM) The comm. buffer error occurred in ASR process.	The transmit buffer wasn't empty within the specified time due to communication error to welding machine. (Auto stick recovery)	1) Turn off the controller and the welder, and then check the communication line connection state and the power connection. After that, reexecute. 2) If the problem is generated again, replace the welder. 3) If the problem is not solved, transfer the backup file to the A/S department of our company.

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Code	Message	Cause	Remedy
W32227	Panasonic welder error (BO2) tip short-circuit abnormality detected.	Short-circuit detected between the wire and the workpiece in the Panasonic welder.	1) Check the distance between the welding torch and the base material. 2) Check the connector and wiring at the wire feeder side. 3) When the problem repeats itself, replace the torch, feeder, and welder.
W32228	Panasonic welder error (BO3) emergency stop 2 detected.	Welder emergency stop input signal 2 detected.	1) Check whether the emergency stop input signal #2 in the welder terminal is connected properly. 2) When the problem repeats itself, replace the welder.
W32229	Panasonic welder error (BO4) communication abnormality detected.	Problem detected with the communication between the welder and the feeder unit.	1) Investigate the connection between the welder and the feeder unit. 2) Check the fuses in the welding power section. 3) Replace the relay part between the feeder unit and the controller.
W32230	Panasonic welder error (BO5) governor abnormality detected.	Errors that occur only to welders that have special specifications are generated.	1) Replace the welder. 3) When the problem repeats itself, contact our company.
W32231	Panasonic error (B06) encoder abnormality detected.	Wire feed motor not rotating normally, or encoder signal disconnection expected. Required to try to rotate the motor. If it rotates even slightly, the problem may be damage to the encoder or disconnection of the wiring.	Replace the feeder unit.
W32232	Panasonic error (B07) motor abnormality detected.	Detected that the wire feed motor rotates without a command for rotation. If the motor rotates actually, there may be a fault with PCB in the wire feed system.	Replace the feeder unit.
W32233	Panasonic error (B08) secondary overvoltage detected.	Error generated with the secondary circuit causes voltage exceeding the maximum rate to be supplied.	Turn off the power switch, and clear causes of the error and overvoltage

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Code	Message	Cause	Remedy
W32234	Panasonic error (B09) secondary overcurrent detected.	Short-circuit generated with the secondary circuit causes current exceeding the maximum rate to be supplied.	Turn off the power switch, and clear causes of short-circuiting and overcurrent.
W32235	Panasonic error (B010) temperature increase abnormality detected.	Welder internal temperature increased higher than the allowable value.	1) Turn off the power switch until the internal temperature decreases. 2) Clear the causes of the increase of internal temperature (exceeding the usage rate, or impurities in the air vent system at the side and front sections).
W32236	Panasonic error (B011) primary overvoltage detected.	Input voltage higher than the allowable range.	Turn off the power switch, and make sure that the input voltage stays within +10% of the rated voltage.
W32237	Panasonic error (B012) primary undervoltage detected.	Input voltage lower than the allowable range.	Turn off the power switch, and make sure that the input voltage stays within -10% of the rated voltage.
W32238	Panasonic error (B013) torch switch abnormality detected.	Welding started within 3 seconds after the power switch input. For safety, welding can be carried out after 3 seconds.	Turn off the power switch, and retry.
W32239	Panasonic error (B014) CT offset abnormality detected.	When the power switch input occurs, output current or output voltage is detected. Possibly the case in which there is a fault with the product, or external current or voltage is supplied to the secondary side of the welder.	1) Check whether power is supplied to the secondary side of the welder 1) Replace the welder.
W32240	Panasonic error (B015) VT offset abnormality detected.	When the power switch input occurs, output current or output voltage is detected. Possibly the case in which there is a fault with the product, or external current or voltage is supplied to the secondary side of the welder.	1) Check whether power is supplied to the secondary side of the welder 2) Replace the welder.
W32241	Panasonic error (B016) cooling circuit abnormality detected.	Abnormality detected with the welder cooling circuit.	Replace the welder.

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Code	Message	Cause	Remedy
W32242	Panasonic error (B017) gas decompression abnormality detected.	Gas decompression abnormality detected with the welder.	1) Check the state of connection of the welding gas and the amount of the rest. 2) Replace the welder.
W32243	Panasonic error (B018) emergency stop abnormality detected.	Signal, connected to the emergency stop section of the jig terminal, being inputted.	Turn off the power switch, and check the causes of the emergency stop signal at the jig terminal.
W32244	Panasonic error (B019) external input 1 abnormality detected.	Signal, connected to EXT1 inside the welder, being inputted. (negative logic)	Check the connection of the collision sensor or the terminal at the STOP01 terminal inside the welder.
W32245	Panasonic error (B020) external input 2 abnormality detected.	Signal, connected to EXT2 inside the welder, being inputted. (negative logic)	Check the connection of the terminal at the STOP02 terminal inside the welder.
W32246	Panasonic error (B021) memory abnormality detected.	Abnormality detected with the memory inside the welder.	1) Turn off the welder, and turn it on again. 2) Replace the welder.
W32247	Panasonic error (B022) CPU abnormality detected.	Abnormality detected with the CPU inside the welder.	1) Turn off the welder, and turn it on again. 2) Replace the welder.
W32248	Panasonic error (B023) arc start abnormality detected.	After the welding startup signal is inputted, arc does not start within 4 seconds.	Check whether the voltage detection line is disconnected or defective in connection.
W32251	Welder Synergic program number not available.	The valid synergic program number did not selected in welding start condition of robot.	Input the number of the Synergic program to work with in the welding start condition dialog box. For the Synergic program list, refer to the welder Synergic table.
W32252	WM) Over-temperature in secondary circuit of the machine	Fronius welding machine has detected over-temperature in secondary circuit.	Stop the work, and put the welder in wait mode to lower the temperature.
W32253	WM) Over-temperature in primary circuit of the machine	Fronius welding machine has detected over-temperature in primary circuit.	Stop the work and put the welder in wait mode to lower the temperature.

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Code	Message	Cause	Remedy
W32254	WM) Temperature sensor fault occurred.	Fronius welding machine has detected temperature sensor fault. (short circuit or open circuit)	Contact the After-sales Service for the Fronius welder.
W32255	WM) DSP error occurred.	Fronius welding machine has detected DSP error.	Contact the After-sales Service for the Fronius welder.
W32256	WM) HOST error occurred.	Fronius welding machine has detected HOST error.	Contact the After-sales Service for the Fronius welder.
W32257	WM) Fault in wirefeeding system (XX and Y -> error list SR40)	Fronius welding machine has detected wire feeding system error.	Check the wire feeder system, cable, buffer, and the servo torch of the Fronius welder.
W32258	WM) Over-temperature in the control circuit	Fronius welding machine has detected over temperature in the control unit.	Stop the work, and put the welder in wait mode to lower the temperature.
W32259	WM) Robot not ready	The robot controller didn't send the 'Robot ready' singal.	1) Check whether the "Robot Ready " signal of the welder setting in the robot controller is set correctly according to the communication map. 2) Check whether the signal set in the controller monitoring setting is outputted. 3) Check whether there is a problem with the welder communication module.
W32260	WM) Flow watchdog has detected.	Coolant flow of the welding machine watchdog occurred.	Check the cooling unit.
W32261	WM) The licence key is faulty.	The licence key is faulty for the welding machine licence function	Check whether the license key inputted in the welder is enabled.
W32262	WM) Phase failure occurred.	Phase state of power supplied to the welding machine was not normal.	1) Check the welder main power fuse. 2) Check the lead and the plug of the main power line.
W32263	WM) Intermediate circuit-balance error	Welding machine has detected intermediate circuit-balance error.	Contact the After-sales Service for the Fronius welder.

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Code	Message	Cause	Remedy
W32264	WM) Mains undervoltage has detected.	Mains voltage that supplied to the welding machine has fallen below lower limit of tolerance range (+/- 15%)	Check the voltage of the main power supplied to the welder.
W32265	WM) Mains overvoltage has detected.	Mains voltage that supplied to the welding machine has exceeded upper limit of tolerance range (+/- 15%)	Check the voltage of the main power supplied to the welder.
W32266	WM) Ground (earth) fault occurred.	Ground (earth) of welding machine fault has detected.	Check the ground connection of the welder, and remove any abnormal section.
W32267	WM) Wire stick control has detected.	Welding wire was shorted or stick was occurred.	1) Remove a short-circuited section of the wire. 2) If the wire is stuck, take out the stuck section.
W32268	WM) "Ignition time-out" fault occurred.	No ignition occurred within set wire length feeding	1) Inspect the feeding state of the wire feeder. 2) Check the connection lines for executing welding.
W32269	WM) "Wire end" fault occurred.	No more wire available (only if wire sensor available).	Supply a new wire spool.
W32270	WM) "Gas flow" fault occurred.	No gas flowed out within one second after gas pre-flow time began.	Check the state of gas supply.
W32271	WM) "Arc-break monitor" fault occurred.	After the arc breaks, no new arc appears within the timespan set for the "Arc" parameter (Setup menu 2nd)	Start the welding again.
W32272	WM) Secondary overvoltage: safety cut-out has tripped.	Secondary overvoltage occurred in welding machine: safety cut-out has tripped.	1) Check the welder's secondary circuit including TPCEL40 PCB. 2) Contact the After-sales Service for the Fronius welder.
W32273	WM) DPS500 only: SITRE1A has activated the safety cut-out.	SITRE1A in welding machine activated the safety cut-out.	1) Close the plasma reactor door. 2) Cut off the start signal for short to clear the welder error 60.

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Code	Message	Cause	Remedy
W32274	WM) DPS500 only: Digital signal processor (DSP) detected several unwanted arcs in quick succession.	Digital signal processor (DSP) in welding machine detected several unwanted arcs in quick succession.	Cut off the start signal for short to clear the welder error 61.
W32275	WM) TP08 overtemperature Wait until the end of the cooling phase	TP08 in welding machine overtemperature Wait until the end of the cooling phase.	Wait until the cooling execution is finished.
W32276	WM) Interface fault occurred.	Interbus interface error occurred in welding machine.	For more details, check the user manual for Interbus 2MB user manual.
W32277	WM) Faulty cooling unit temperature sensor	Faulty cooling unit temperature sensor occurred in welding machine.	Contact the After-sales Service for the Fronius welder.
W32278	WM) Overtemperature in cooling system	Overtemperature in cooling system occurred in welding machine.	Wait until the cooling execution is finished.
W32279	WM) JobMaster overtemperature	JobMaster of welding machine overtemperature occurred.	Wait until the welder is cooled down.
W32280	WM) Jobmaster temperature sensor faulty	Jobmaster temperature sensor faulty occurred in welding machine.	Contact the After-sales Service for the Fronius welder.
W32281	WM) Secondary safety cut-out	Secondary safety cut-out was executed in welding machine.	Contact the After-sales Service for the Fronius welder.
W32282	WM) Illegal mode change during welding	Illegal mode change occurred during welding.	Start the welding again.
W32283	WM) Gas error occurred.	Welding machine detected gas error.	1) Check the gas sensor. 2) Check whether gas remains. 3) Check the gas sensor calibration. 4) Check whether there is a problem with the solenoid valve. 5) Check whether there is abnormality with gas supply.

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Code	Message	Cause	Remedy
W32284	WM) Limit error occurred.	Welding machine detected limit error.	1) Check whether the welder current limit has been exceeded. 2) Check whether the welder current limit has not been exceeded. 3) Check whether the welder voltage limit has been exceeded. 4) Check whether the welder voltage limit has not been exceeded.
W32285	WM) Configuration change (total current or Twin)	Configuration was changed in welding machine. (total current or Twin)	Check the LHSB connection of the welder.
W32286	WM) Host computer not found.	Host computer not found in welding machine.	1) Check the state of the connection with the welder. 2) Check the welder software version.
W32287	WM) MMArc error (BIAS200 only)	MMArc error occurred in BIA200 welding machine.	Contact the After-sales Service for the Fronius welder.
W32288	WM) Motor overcurrent	Over current of wire feeding motor was detected in welding machine.	1) Check whether the welder current limit has been exceeded. 2) Check whether the welder current limit has not been exceeded. 3) Check whether the welder voltage limit has been exceeded. 4) Check whether the welder voltage limit has not been exceeded. 5) Check whether the welder vD limit has been exceeded. 6) Check whether the welder vD limit has not been exceeded.
W32289	WM) emergency-stop	Emergency stope was executed by welding machine.	Contact the After-sales Service for the Fronius welder.
W32290	WM) Power source switched off or no mains voltage.	The main power that is supplied to power source switched off or no mains voltage is too low.	1) Turn on the welder power. 2) Check the voltage of the main power supplied to the welder.

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Code	Message	Cause	Remedy
W32291	WM) Welder error %s number transmitted to controller	Undefined weld error occurred in welding machine.	1) Check the actually inputted welder error number through the welding monitoring screen. 2) Check the relevant error number in the welder manual or with the welder company.
W32301	Welding machine wire feed error occurred.	An error occurred from the wire feed system of welding machine.	Check the feeder, cable, buffer, and servo torch for the wire feed system of welding machine.
W32302	Welding machine inverter emergency stop. Circuit temperature error	Overheating was detected with first circuit of welding machine.	Stop operation, and leave the welding machine on standby until the temperature goes down.
W32303	Welding machine main power voltage exceeded	Overvoltage occurred with power supply for welding machine.	Check the voltage of power supply for welding machine.
W32304	Welding machine main power voltage not enough	Low voltage occurred with power supply for welding machine.	Check the voltage of power supply for welding machine.
W32305	Welding machine coolant level not enough	Insufficient coolant level is detected from the welding machine.	Check the cooling unit.
W32306	Welding machine gas error	Gas error was detected from the welding machine.	Check the gas supply.
W32307	Welding machine second circuit voltage exceeded	Overvoltage was detected with second circuit of welding machine.	1) Check the circuit of welding machine. 2) Please contact After-Sales Service for welding machine.
W32308	Welding machine protective conductor error	Welding machine protective conductor error was detected.	1) Check the circuit of welding machine. 2) Please contact After-Sales Service for welding machine.
W32309	Welding machine system high-speed stop	System high-speed stop occurred from the welding machine.	Resupply the power to the controller, and then check it.
W32310	Internal error of welding machine. Contact EWM.	Error occurred with internal processing of welding machine.	Contact After-Sales Service for welding machine.

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Code	Message	Cause	Remedy
W32311	Welding machine ignition process error	Error occurred during welding ignition process.	1) Check the feed of wire feeder. 2) Check cabling for welding.
W32312	Welding machine arc interruption error	Arc interruption was detected from the welding machine during welding.	1) Reperform welding. 2) If the error occurs again, replace the welding machine.
W32313	Emergency stop because of excessive temperature of welding machine	Overheating is detected from the welding machine.	1) Check the ventilation of welding machine. 2) If the overheating persists inside, replace the welding machine.
W32314	Welding machine wire feeder construction error	There is an error with construction of wire feeder of welding machine.	Check the connection of wire feeder.
W32315	Switch to a wire feeder that is not connected to the welding machine	An error occurred while switching the wire feeder for the welding machine.	Switch to a correct wire feeder.
W32316	Open-circuit voltage of welding machine is not reduced to the defined value.	The open-circuit voltage of welding machine is not reduced correctly.	1) Check the circuit of welding machine. 2) Please contact After-Sales Service for welding machine.
W32317	Welding machine power supply connection error	There is an error with the power supply connection of welding machine.	Check the connection of welding machine.
W32318	Undefined welding machine error	Unknown error occurred from the welding machine.	Contact After-Sales Service for welding machine.
W32401	Abnomal current port setting for GIFAW.	The current cannot be output because of wrong port number in general interface for arc welding machine(GIFAW). 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32402	Abnomal current port setting for GIFAW.	Abnomal current port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32403	Abnomal current port setting for GIFAW.	Abnomal current port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32404	Abnomal current port setting for GIFAW.	Abnomal current port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32405	Abnomal current port setting for GIFAW.	Abnomal current port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32406	Abnomal current port setting for GIFAW.	Abnomal current port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32407	Abnomal current port setting for GIFAW.	Abnomal current port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32408	Abnomal current port setting for GIFAW.	Abnomal current port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32409	Abnomal current port setting for GIFAW.	The output of current is less than the assigned minimum value.(Minimum value output) 1) The output of current is less than the assigned minimum value. 2) Abnomal current is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output current(power, feeding speed) in arc welding condition.
W32410	Abnomal current port setting for GIFAW.	The output of current is larger than the assigned maximum value.(Maximum value output) 1) The output of current is larger than the assigned maximum value. 2) Abnomal current is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) Check the output current(power, feeding speed) in arc welding condition.
W32411	Abnomal voltage port setting for GIFAW.	The voltage cannot be output because of wrong port number in general interface for arc welding machine(GIFAW) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32412	Abnomal voltage port setting for GIFAW.	Abnomal voltage port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32413	Abnomal voltage port setting for GIFAW.	Abnomal voltage port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32414	Abnomal voltage port setting for GIFAW.	Abnomal voltage port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32415	Abnomal voltage port setting for GIFAW.	Abnomal voltage port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32416	Abnomal voltage port setting for GIFAW.	Abnomal voltage port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32417	Abnomal voltage port setting for GIFAW.	Abnomal voltage port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32418	Abnomal voltage port setting for GIFAW.	Abnomal voltage port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32419	Abnomal voltage port setting for GIFAW.	The output of voltage is less than the assigned minimum value.(Minimum value output) 1) The output value is less than the assigned minimum value. 2) Abnomal value is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output voltage(arc length correction, voltage correction) in arc welding condition

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Code	Message	Cause	Remedy
W32420	Abnomal voltage port setting for GIFAW.	The output of voltage is larger than the assigned maximum value.(Maximum value output) 1) The output value is larger than the assigned maximum value. 2) Abnomal value is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) Check the output voltage(arc length correction, voltage correction) in arc welding condition
W32421	Abnomal port setting for GIFAW.	The dynamic correction cannot be output because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32422	Abnomal port setting for GIFAW.	Abnomal dynamic correction port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32423	Abnomal port setting for GIFAW.	Abnomal dynamic correction port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32424	Abnomal port setting for GIFAW.	Abnomal dynamic correction port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32425	Abnomal port setting for GIFAW.	Abnomal dynamic correction port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32426	Abnomal port setting for GIFAW.	Abnomal dynamic correction port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32427	Abnomal port setting for GIFAW.	Abnomal dynamic correction port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32428	Abnomal port setting for GIFAW.	Abnomal dynamic correction port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32429	Abnomal port setting for GIFAW.	The output of dynamic correction is less than the assigned minimum value.(Minimum value output) 1) The output value is less than the assigned minimum value. 2) Abnomal value is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output of dynamic correction in arc welding condition.
W32430	Abnomal port setting for GIFAW.	The output of dynamic correction is larger than the assigned maximum value.(Maximum value output) 1) The output value is larger than the assigned maximum value. 2) Abnomal value is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) Check the output of dynamic correction in arc welding condition.

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Code	Message	Cause	Remedy
W32431	Abnomal port setting for GIFAW.	The burnback cannot be output because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32432	Abnomal port setting for GIFAW.	Abnomal burnback port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32433	Abnomal port setting for GIFAW.	Abnomal burnback port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32434	Abnomal port setting for GIFAW.	Abnomal burnback port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32435	Abnomal port setting for GIFAW.	Abnomal burnback port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32436	Abnomal port setting for GIFAW.	Abnomal burnback port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32437	Abnomal port setting for GIFAW.	Abnomal burnback port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32438	Abnomal port setting for GIFAW.	Abnomal burnback port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32439	Abnomal port setting for GIFAW.	The output value is less than the assigned minimum value.(Minimum value output) 1) The output value is less than the assigned minimum value. 2) Abnomal value is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output of burnback in arc welding condition.
W32440	Abnomal port setting for GIFAW.	The output of value is larger than the assigned maximum value.(Maximum value output) 1) The output value is larger than the assigned maximum value. 2) Abnomal value is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) Check the output of burnback in arc welding condition.
W32441	Abnomal port setting for GIFAW.	The inductor effect cannot be output because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32442	Abnomal port setting for GIFAW.	Abnomal inductor effect port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32443	Abnomal port setting for GIFAW.	Abnomal inductor effect port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32444	Abnomal port setting for GIFAW.	Abnomal inductor effect port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32445	Abnomal port setting for GIFAW.	Abnomal inductor effect port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32446	Abnomal port setting for GIFAW.	Abnomal inductor effect port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32447	Abnomal port setting for GIFAW.	Abnomal inductor effect port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32448	Abnomal port setting for GIFAW.	Abnomal inductor effect port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32449	Abnomal port setting for GIFAW.	The output of value is lower than the assigned minimum value. (Minimum value output) 1) The output value is less than the assigned minimum value. 2) Abnomal value is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output of inductor effect in arc welding condition.
W32450	Abnomal port setting for GIFAW.	The output of value is larger than the assigned maximum value.(Maximum value output) 1) The output value is larger than the assigned maximum value. 2) Abnomal value is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) ArcCheck the output of inductor effect in arc welding condition.
W32451	Abnomal port setting for GIFAW.	The user defined(1) cannot be output because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32452	Abnomal port setting for GIFAW.	Abnomal user defined(1) port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32453	Abnomal port setting for GIFAW.	Abnomal user defined(1) port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32454	Abnomal port setting for GIFAW.	Abnomal user defined(1) port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32455	Abnomal port setting for GIFAW.	Abnomal user defined(1) port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32456	Abnomal port setting for GIFAW.	Abnomal user defined(1) port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32457	Abnomal port setting for GIFAW.	Abnomal user defined(1) port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32458	Abnomal port setting for GIFAW.	Abnomal user defined(1) port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32459	Abnomal port setting for GIFAW.	The output value is less than the assigned minimum value.(Minimum value output) 1) The output value is less than the assigned minimum value. 2) Abnomal value is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output of user defined(1) effect in arc welding condition.

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Code	Message	Cause	Remedy
W32460	Abnomal port setting for GIFAW.	The output of value is larger than the assigned maximum value.(Maximum value output) 1) The output value is larger than the assigned maximum value. 2) Abnomal value is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) Check the output of user defined(1) effect in arc welding condition.
W32461	Abnomal port setting for GIFAW.	The user defined(2) cannot be output because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32462	Abnomal port setting for GIFAW.	Abnomal user defined(2) port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32463	Abnomal port setting for GIFAW.	Abnomal user defined(2) port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32464	Abnomal port setting for GIFAW.	Abnomal user defined(2) port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32465	Abnomal port setting for GIFAW.	Abnomal user defined(2) port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32466	Abnomal port setting for GIFAW.	Abnomal user defined(2) port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32467	Abnomal port setting for GIFAW.	Abnomal user defined(2) port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32468	Abnomal port setting for GIFAW.	Abnomal user defined(2) port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32469	Abnomal port setting for GIFAW.	The output value is less than the assigned minimum value.(Minimum value output) 1) The output value is less than the assigned minimum value. 2) Abnomal value is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output of user defined(2) effect in arc welding condition.
W32470	Abnomal port setting for GIFAW.	The output of value is larger than the assigned maximum value.(Maximum value output) 1) The output value is larger than the assigned maximum value. 2) Abnomal value is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) Check the output of user defined(2) effect in arc welding condition.

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Code	Message	Cause	Remedy
W32471	Abnomal port setting for GIFAW.	The user defined(3) cannot be output because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32472	Abnomal port setting for GIFAW.	Abnomal user defined(3) port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32473	Abnomal port setting for GIFAW.	Abnomal user defined(3) port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32474	Abnomal port setting for GIFAW.	Abnomal user defined(3) port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32475	Abnomal port setting for GIFAW.	Abnomal user defined(3) port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32476	Abnomal port setting for GIFAW.	Abnomal user defined(3) port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32477	Abnomal port setting for GIFAW.	Abnomal user defined(3) port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32478	Abnomal port setting for GIFAW.	Abnomal user defined(3) port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32479	Abnomal port setting for GIFAW.	The output value is less than the assigned minimum value.(Minimum value output) 1) The output value is less than the assigned minimum value. 2) Abnomal value is output.	1) Check the minimum value of the port referring the specification of welding machine. 2) Check the output of user defined(3) effect in arc welding condition.
W32480	Abnomal port setting for GIFAW.	The output of value is larger than the assigned maximum value.(Maximum value output) 1) The output value is larger than the assigned maximum value. 2) Abnomal value is output.	1) Check the maximum value of the port referring the specification of welding machine. 2) Check the output of user defined(3) effect in arc welding condition.
W32481	Abnomal current port setting for GIFAW.	The current cannot be input because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32482	Abnomal current port setting for GIFAW.	Abnomal current input port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32483	Abnomal current port setting for GIFAW.	Abnomal current input port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32484	Abnomal current port setting for GIFAW.	Abnomal current input port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32485	Abnomal current port setting for GIFAW.	Abnomal current input port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32486	Abnomal current port setting for GIFAW.	Abnomal current input port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32487	Abnomal current port setting for GIFAW.	Abnomal current input port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32488	Abnomal current port setting for GIFAW.	Abnomal current input port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32491	Abnomal voltage port setting for GIFAW.	The voltage cannot be input because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32492	Abnomal voltage port setting for GIFAW.	Abnomal voltage input port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32493	Abnomal voltage port setting for GIFAW.	Abnomal voltage input port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32494	Abnomal voltage port setting for GIFAW.	Abnomal voltage input port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32495	Abnomal voltage port setting for GIFAW.	Abnomal voltage input port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32496	Abnomal voltage port setting for GIFAW.	Abnomal voltage input port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32497	Abnomal voltage port setting for GIFAW.	Abnomal voltage input port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32498	Abnomal voltage port setting for GIFAW.	Abnomal voltage input port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32501	Abnomal port setting for GIFAW.	The feed motor current cannot be input because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32502	Abnomal port setting for GIFAW.	Abnomal current of feed motor input port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32503	Abnomal port setting for GIFAW.	Abnomal current of feed motor input port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32504	Abnomal port setting for GIFAW.	Abnomal current of feed motor input port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32505	Abnomal port setting for GIFAW.	Abnomal current of feed motor input port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32506	Abnomal port setting for GIFAW.	Abnomal current of feed motor input port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32507	Abnomal port setting for GIFAW.	Abnomal current of feed motor input port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32508	Abnomal port setting for GIFAW.	Abnomal current of feed motor input port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32511	Abnomal port setting for GIFAW.	The feeding speed cannot be input because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32512	Abnomal port setting for GIFAW.	Abnomal feeding speed input port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32513	Abnomal port setting for GIFAW.	Abnomal feeding speed input port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32514	Abnomal port setting for GIFAW.	Abnomal feeding speed input port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32515	Abnomal port setting for GIFAW.	Abnomal feeding speed input port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32516	Abnomal port setting for GIFAW.	Abnomal feeding speed input port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32517	Abnomal port setting for GIFAW.	Abnomal feeding speed input port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32518	Abnomal port setting for GIFAW.	Abnomal feeding speed input port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32521	Abnomal port setting for GIFAW.	The user defined(1) be input because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32522	Abnomal port setting for GIFAW.	Abnomal user defined input(1) port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.

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Code	Message	Cause	Remedy
W32523	Abnomal port setting for GIFAW.	Abnomal user defined input(1) port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32524	Abnomal port setting for GIFAW.	Abnomal user defined input(1) port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32525	Abnomal port setting for GIFAW.	Abnomal user defined input(1) port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32526	Abnomal port setting for GIFAW.	Abnomal user defined input(1) port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32527	Abnomal port setting for GIFAW.	Abnomal user defined input(1) port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32528	Abnomal port setting for GIFAW.	Abnomal user defined input(1) port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32531	Abnomal port setting for GIFAW.	The user defined(2) be input because of wrong port number in general interface for arc welding machine.(The number of port is abnormal) 1) The number of port is not assigned. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32532	Abnomal port setting for GIFAW.	Abnomal user defined input(2) port setting for general interface for arc welding machine.(Max range is minus) 1) The max range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32533	Abnomal port setting for GIFAW.	Abnomal user defined input(2) port setting for general interface for arc welding machine.(Min range is minus) 1) The min range of the port is minus. 2) If you've already assigned it, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32534	Abnomal port setting for GIFAW.	Abnomal user defined input(2) port setting for general interface for arc welding machine.(Min range is larger than max range.) 1) The minimum range of the port is larger than maximum range. 2) If you assigned it successfully, the 'ROBOT.AGP' may be corrupted.	1) Correct the setting of the port referring the specification of welding machine. 2) Reset the 'ROBOT.AGP' after inspecting the contents of the file.
W32535	Abnomal port setting for GIFAW.	Abnomal user defined input(2) port setting for general interface for arc welding machine.(The min and max range are zero.) The mininmu and maximum ranges are assigned to zero.	Correct the setting of the port referring the specification of welding machine.

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Code	Message	Cause	Remedy
W32536	Abnomal port setting for GIFAW.	Abnomal user defined input(2) port setting for general interface for arc welding machine.(The min and max range are equal.) The mininmu and maximum ranges are equal.	Correct the setting of the port referring the specification of welding machine.
W32537	Abnomal port setting for GIFAW.	Abnomal user defined input(2) port setting for general interface for arc welding machine.(The min and max value are zero.) The mininmu and maximum values are assigned to zero.	Correct the setting of the port referring the specification of welding machine.
W32538	Abnomal port setting for GIFAW.	Abnomal user defined input(2) port setting for general interface for arc welding machine.(The min and max value are equal.) The mininmu and maximum values are equal.	Correct the setting of the port referring the specification of welding machine.
W32751	There is no data delay mode for the current welding mode and number.	There is no data delay for the synergic mode or program number of welding condition.	1) Use a welding condition according to the synergic mode or program number defined with the data delay. 2) To use the current welding condition, reset the data delay mode accordingly.
W32752	The weaving frequency is lower than the minimum range of data delay table.	The used weaving frequency is lower than the minimum weaving frequency value set in the data delay and following coefficient table.	1) Set bigger weaving frequency than the minimum value.
W32753	Weaving frequency table error: One input value is 0.	Abnormal 0 is entered among the entries of the weaving frequency table.	1) Sort the weaving frequency entries of data delay and following the coefficient table in ascending order, except for those with 0. 2) Arrange 0 entries at the back.
W32754	Weaving frequency table error: Not in ascending order	Entries are not in the ascending order in the weaving frequency table.	1) Sort the entries in the weaving frequency table in ascending order.
W32755	Data delay is out of the normal range.	Data delay exceeds the allowed range for the weaving frequency.	1) Enter data delay, which is lower than 1.25 times of one cycle, for the weaving frequency.

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Code	Message	Cause	Remedy
W32756	Arc sensing current exceeded the normal range above the abnormality determination time.	1) Arc sensing input data are unstable so it exceeded the normal range above the abnormality determination time.	1) Check if correct sensing data is inputted for welding. 2) If the sensing data is normal, set large abnormality determination margin and time.
W32757	The filter of the robot applied to the weaving section is abnormal.	The filter applied to the weaving section does not match with the setting.	1) Check if the F1, F2, and Fc filter values of all axes are the same in the robot servo parameter. 2) Back up the controller file and contact us for inquiry if there is no problem.
W32758	The weaving width is less than the minimum width allowed in the arc sensing.	The weaving width is less than the minimum range allowed.	Set the weaving width, larger than the minimum range.
W32770	Correction data for the MultiPass function do not exist.	The "MULTPASS LOAD" command had been executed before the " MULTPASS SAVE" command was executed.	Execute the "MULTPASS SAVE" command first.
W32771	The number of correction data is too large.	The number of correction data to be used for MultiPass has exceeded the upper limit.	Decrease the length of the MultiPass section or increase the MultiPass sampling distance.
W32772	A value among the inputted weaving parameters exceeded the range.	A value among the parameters sent through the command exceeded the range.	1) Check the set weaving parameters. 2) Insert the used parameters into the Weaving command and then check the operation. If the same problem occurs, modify the parameters. n 3) If there is no problem when using the Weaving command, please contact us for inquiry after performing backup of the controller files. "
W32773	Multipass angle shift is not performed.	An angle shift can not be performed because of an error in the multipass data.	1) Set the arc sensing as disable first before executing the operation to check the trajectory. 2) When required to perform welding, create first the trajectory through actual welding with arc sensing enabled.

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Code	Message	Cause	Remedy
W32774	The difference between the multipass start position and the multipath section position exceeded the reference.	The difference between the multipass section start step and the stored position is too large.	"1) Set the same MOVE statement type both for the step to move to the multipass start point and for the multipass internal step. 2) Check whether the same work program path is used for the first pass section and next pass section. "
W32775	There is no multipass trajectory close to the current position.	It is impossible to calculate the multipass trajectory close to the current position.	1) Check whether the multipass trajectory appropriate for the current position is normally loaded. 2) Check whether the coordinate is identical to the current coordinate during the multipass save process.
W32776	Shift is not completed while moving to the multipass start position.	After the multipass command is executed, shift is not completed because movement to the start position occurs too fast.	Decrease the speed of the next step after the Multipass Load command.
W34100	(Injector Empty) Grease automatic injection is impossible!	A warning occurs when the grease pouch is empty.	1) Check the warning alarm messages. 2) Fill up the pouch with grease. 3) Press the Reset button.
W34101	(Injector Overload) Grease automatic injection is impossible!	A warning occurs when the nipple of auto grease gun is clogged.	1) Check the part of warning in the alarm message. 2) Unlock the grease gun by pressing the Lock button, and then press Purge button until P is displayed on the LCD.
W34102	Unable to decide lubrication state of auto grease gun!	A warning occurs when it is unable to decide lubrication state of auto grease gun.	1) Check if the same warning persists. 2) Please contact the laboratory.
W34103	(Injector Low Grease) Charging the grease automatic injector is needed.	When the grease pouch is empty, a warning will be generated.	1) In the alarm message, check the part that has a warning. 2) Refill the grease pouch with grease. 3) Execute reset by pressing the Reset button.
W36000	GUN LED is disabled (Input signal for [GUN] key)	It occurred when the GUN LED control input signal for painting is off.	Check the input signal for GUN LED control

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Code	Message	Cause	Remedy
W36001	The Atom/Spray signal for painting was not assigned.	The Atom/Spray output signal for painting was not assigned.	Check the assigned output signal number in System-Application parameter-Painting-Output signal assignment.
W36002	GUN LED is disabled (T/P [GUN] key)	GUN LED for painting is disabled.	Press [SHIFT][GUN] key at the same time in Auto Mode.

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