1309, ECFEN-008-001, 001

NACHI

CFD CONTROLLER INSTRUCTION MANUAL ERROR CODE LIST

1st edition

- Before attempting to operate the robot, please read through this operating manual carefully, and comply with all the safety-related items and instructions in the text.
- The installation, operation and maintenance of this robot should be undertaken only by those individuals who have attended one of our robot course.
- When using this robot, observe the low related with industrial robot and with safety issues in each country.
- This operating manual must be given without fail to the individual who will be actually operating the robot.
- Please direct any queries about parts of this operating manual which may not be completely clear or any inquiries concerning the after-sale service of this robot to any of the service centers listed on the back cover.

NACHI-FUJIKOSHI CORP.

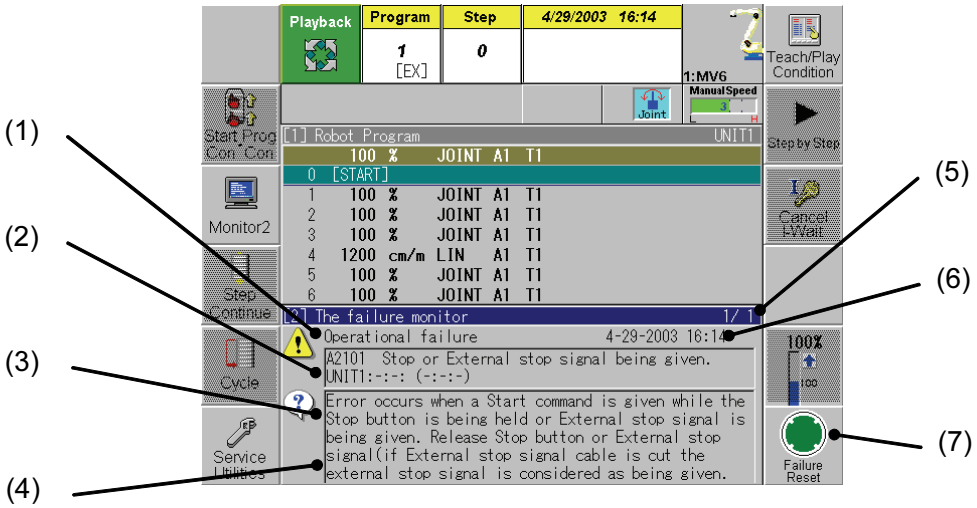
Chapter 1 Troubleshooting

This chapter describes the symptom and its measures on the failure code of robot controller.

1.1 When failure has occurred

In case of Smart TP

When a failure has occurred in the robot, the failure monitor starts, and the details of the failure (name of its category, date/time of its occurrence, description and remedial action) are displayed on the teach pendant.



(1)	Failure category	The name of the failure category appears here.
(2)	Failure code and cause	The failure code and cause appear here. The failure code is alphanumerically expressed. In the example of the screen shown above, “A2101” is the failure code.
(3)	Details and remedial action	The details of the failure and the remedial action to be taken appear here. Use the remedial action displayed here as a reference, and eliminate the cause of the failure.
(4)	Release method	The method used to release the failure display appears here. When all the contents of (3) and (4) do not appear in the display area, scroll the screen using [up or down].
(5)	Number of failure incidents	The figure on the right indicates the number of failure incidents which have occurred simultaneously. Only one failure incident is displayed on the screen at one time. To view other types of trouble, press [ENABLE] and [up or down].
(6)	Date/time of occurrence	The date and time of the failure occurrence appear here.
(7)	F11<Trouble Shooting>	When a failure that requires e.g. parts inspection or parts replacement occurs, this <Trouble Shooting> will show up here. (Not all of the errors support this) When this key is pressed, the inspection/part replacement procedure will be displayed.(Visual Maintenance Support Function)
(8)	f12 <Failure Reset>	Press this to release the failure display. The failure display can also be released by pressing [RESET/R] twice.

In case of Compact TP

The error code is displayed like this picture.

```
P 9 9 9 9     U 1 M 1 J           S 1 J T
S 0 0 0 2     1 0 0 0 J T   A 1     T 1
^ ^ ^ ^ ^       m m / s
> 1 2 1 0 3
```

1.2 Concerning the failure details

1.2.1 Failure category

The failure categories are established to enable where the failure has occurred to be pinpointed to some extent.

Table 1.2.1 Failure category

Failure category	Main failure
Emergency stop failure	Emergency stop triggered by input from overrun, shock sensor, etc.
Control sequence failure	Failure detected by monitoring of control systems such as magnet switches and circuit protectors, etc.
CPU board failure	Watchdog timer detection or other CPU board-related failure occurrence.
Servo failure	Failure detected by IPM drive unit software.
Amplifier unit failure	Failure detected by IPM drive unit hardware.
Encoder failure	Failure detected by internal of encoder.
Teach pendant failure	Failure detected by teach pendant.
PLC failure	Failure detected by PLC.
User failure	Failure defined by the operator
Operation failure	Failure caused by an operation error made by operator.
Spot welding failure	Failure inherent to “Spot welding function”
Arc welding failure	Failure inherent to “Arc welding function”
Sensor failure	Failure inherent to “Sensor function(for arc welding)”
FieldBus failure	Failure inherent to "FieldBus function" (but not included above)
Shift failure	Failure inherent to "Shift function" (but not included above)
Auto Calibration failure	Failure inherent to "Automatic Calibration function" (but not included above)
Sealing failure	Failure inherent to "Sealing function" (but not included above)
Vision sensor failure	Failure inherent to "Vision sensor function" (but not included above)
FLEXhand failure	Failure inherent to "FLEXhand function" (but not included above)
Preventive maintenance message	Failure inherent to "Preventive maintenance function" (but not included above)
Request maintenance	Message to require the inspection (but not included above)

1.2.2 Concerning criticality codes and failure codes

The failure codes displayed at (2) on the previous page are expressed using the following format.

[Example] Control sequence failure code E1103

E	1	1	0	3
(A)	(B)			

(A) Criticality codes
The failure detected by the robot is classified into three types by their level of criticality.

Table 1.2.2 Criticality codes

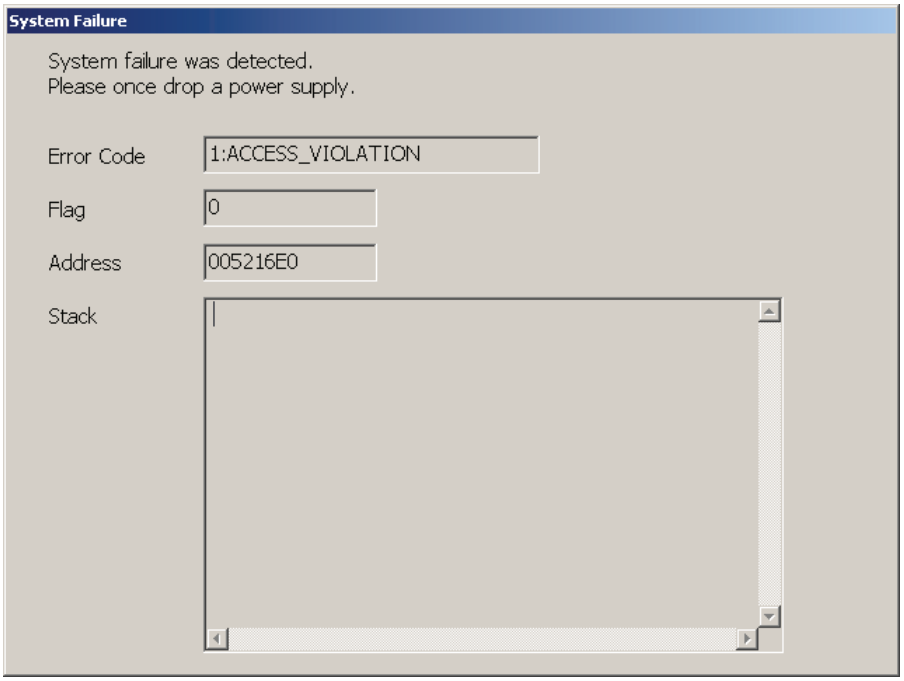
Type of failure	Details
E (errors)	Failure caused by parts failure or internal data failure which prohibits continued operation until the cause of the failure is eliminated, and failure which may potentially injure the operator or damage the robot system if operation is continued are classified as E (errors). If E (error) occurs during the auto operation, the robot system servo is turned off.
A (alarms)	Failure which may lead to an error at a future point in time, failure which must be remedied now or failure requiring simple operations, checks and/or remedial action before robot operation or movements are continued even though it may not potentially injure the operator or damage the robot system are classified as A (alarms). If A (alarm) occurs during the auto operation, the robot system servo remains on, stopping temporarily.
I (Information)	Failure requiring that the operator and ambient devices be informed of the occurrence of irregularities even though they will not interfere with continued robot operations or movements is classified as I (information). Information may sometimes be conveyed not when a failure has occurred but when the robot is operating normally. If I (information) occurs during the auto operation, robot system displays the message on the teach pendant, operating continuously.

(B) Failure codes
These are 4-digit numbers used to identify a failure. (See the following pages.)

1.3 Concerning “System Failure”

1.3.1 Outline of “System Failure”

The function “System Failure” is to stop the system safely when the software has detected unrecoverable errors. The errors may stem from the hardware failures such as CPU or memory defects and software failures.



Display example of teach pendant when “System Failure” occurred

(NOTE) This screen is displayed on the Smart TP or the FD on DESK Light.
In case of the Compact TP, this is not displayed and the key operation becomes disabled.

1.3.2 How to recover and response to the failures

When this error happens, the robot makes an emergency stop, which will disable all the following operation.
Therefore, the recovering measures needs to be taken as follows.

【How to recover the failures】
Shut off the robot controller, and turn on the power again.

【How to response to the failures】
Please make a contact to our service engineers with the details of errors such as;

- Operation you have done
- Operating situation
- Error Code *
- Flag *
- Address *
- Stack *

(* is only in case of Smart TP or FD on DESK Light)

1.4 Error code list

The error code list is shown from the next page.

(Meaning of E/A/I)
E: error / A: Alarm / I: Information

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
2	CPU board failure	Program check-sum fault.	Error occurs when abnormality is found in the work program.	Please copy the file by the file restore.	Error reset.	A	A	A	A	on	on
4	CPU board failure	The automatic saving function at the timing of the power failure detection (or controller power OFF operation) failed.	When the primary power is turned OFF or when the primary power voltage dropped abnormally, the current status of the controller (e.g. step number etc.) will be automatically saved to the internal memory. This error will be displayed if the automatic saving process failed.	Turn on the power again.	Error reset.	A	A	A	A	on	on
12	Servo failure	The robot cannot reach the recorded point.	This error occurs when the robot does not reach the position even if ten seconds have passed since the command position was output to the robot.	(1)Please confirm whether the robot manipulator interferes in something. (2)Please confirm that the Pay-load is within the nominal rating. (3)Check if the concerned axis is hard to move by using brake release function. (4)Replace the CFD controller.	Please do error reset or turn on the drive preparation.	E	E	E	E	on	on
20	Servo failure	Abnormal velocity command. Modify abnormal axis motion.	Abnormal velocity command data is calculated.	Modify abnormal axis motion to be minimized. Contact our service department in case axis motion is not so big.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
21	Servo failure	Abnormal servo tracking	This failure occurs when the robot does not follow to the command position.	(1)Check the primary power voltage. (2)Check whether the actual load exceeds the maximum payload value or not. (3)Check whether the ambient temperature is not below 0 degree. (4)Check if the concerned axis is hard to move by using brake release function. (5)Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
22	Servo failure	Position Deviation error	This failure occurs when the deviation between the command and encoder data position exceeds the set permissible deviation.	(1)Check the primary power voltage. (2)Check whether the actual load exceeds the maximum payload value or not. (3)Check whether the ambient temperature is not below 0 degree. (4)Check if the concerned axis is hard to move by using brake release function. (5)Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
24	Amplifier unit failure	Servo CPU stop	This failure occurs when the servo CPU on servo substrate stops.	(1)Power ON again. (2)Replace the CFD controller.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
25	Servo failure	Encoder Bit jump	This failure occurs when the amount of the encoder current position exceeds the borderline for the encoder bit jump detection.	Please confirm connector between the controller and the robot.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
26	Servo failure	Interference detected	This failure occurs when the robot manipulator collides with something.	(1)Please confirm whether the robot manipulator interferes with something. (2)Please confirm that the weight, center of gravity, moment of inertia of the tool match with the actual load. (3)Please lower the detection level or invalidate the problem part by using FN230. (4)Check if the concerned axis is hard to move by using brake release function. (5)Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
27	Servo failure	Encoder data change after stop	This failure occurs when the encoder data continues to change while the command position value is stopping.	Please confirm connector between the controller and the robot.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
28	Amplifier unit failure	Low voltage of motor power	This failure occurs when the Motor power supply voltage(P-N) are lower than regular setting level.	Please confirm connector between the controller and the robot.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
29	Encoder failure	Encoder incremental data error	Error occurs when fault is detected in the encoder.	(1)Check if the encoder power supply voltage is normal or not (Refer to "CONTROLLER MAINTENANCE MANUAL"). (2)Please reset the encoder. (3)Check encoder wiring. (4)Replace the motor or the encoder.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
30	Encoder failure	Encoder absolute data failure	This failure occurs when an absolote data fault is detected inside the encoder.	(1)Please turn OFF the controller power. (2)Please replace the motor or the encoder. (3)Please check the power supply voltage of the encoder refering to "CONTROLLER MAINTENANCE MANUAL". (4)Please check the wiring of the encoder.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
31	Encoder failure	Motor rotation too fast when turning the motors ON	This failure occurs if at the time of turning Motors ON, the encoder speed is too fast.	(1)Please check the power supply voltage of the encoder refering to "CONTROLLER MAINTENANCE MANUAL". (2)Please check the wiring of the encoder. (3)Please reset the encoder.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
32	Servo failure	Over current	This failure occurs when the current in the drive unit exceeds	(1)Please check whether the robot manipulator interferes with something. (2)Please check that the	After removal of failure, please	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			the rated value.	Pay-load is within the nominal rating. (3)Check if the concerned axis is hard to move by using brake release function. (4)Replace the CFD controller.	carry out "failure-reset".						
33	Servo failure	Synchronous failure of servo command.	Synchronous failure of servo command occurred in servo system.	If error persists, Contact our service department.	Error reset.	E	E	E	E	on	on
36	Encoder failure	Encoder Initialize error	Error occurs when fault is detected in the encoder.	(1)Please turn OFF the controller power. (2)Please replace the motor or the encoder. (3)Please check the power supply voltage of the encoder refering to "CONTROLLER MAINTENANCE MANUAL". (4)Please check the wiring of the encoder.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
37	Encoder failure	Over temperature of encoder	This failure occurs when the encoder temperature rises abnormally.	(1)Please confirm that the Pay-load is within the nominal rating. (2)Please stop the robot in order to lowering the motor temperature, and restart. (3)If failure persists, please lower the operation speed of the robot. (4) Please exchange motor and encoder.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
38	Servo failure	Over load	This failure occurs when the current in the motor or drive unit exceeds the rated value.	(1)Please check whether the robot manipulator interferes with something. (2)Please check that the Pay-load is within the nominal rating. (3)Check if the concerned axis is hard to move by using brake release function. (4)Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
39	Servo failure	Over rotation	This failure occurs when the number of rotations of motors exceeds a maximum rotation speed limit.	(1)Please check whether the robot manipulator interferes with something. (2)Please check whether the setting of the Pay-load and center of gravity are correct. (3)Check if the concerned axis is hard to move by using brake release function. (4)Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
40	TP failure	The abnormalities in CPU in a T/P	CPU built in the teach pendant stopped.	Please check whether there are any abnormalities in the T/P and the connection cable. Please turn OFF and ON the main power supply. Please replace the T/P, when an error still comes out.	Turn on the power again.	E	E	E	E	on	on
41	Encoder failure	Encoder Memory Access error	Error occurs when fault is detected in the encoder.	(1)Please turn OFF the controller power. (2)Please replace the motor or the encoder. (3)Please check the power supply voltage of the encoder refering to "CONTROLLER MAINTENANCE MANUAL". (4)Please check the wiring of the encoder.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
42	Amplifier unit failure	Over temperature of motor	This failure occurs when the motor temperature rises abnormally.	(1)Please check that the Pay-load is within the nominal rating. (2)Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
43	Amplifier unit failure	Over speed	This failure occurs when the rotation speed of motors is abnormal.	Please confirm connector between the controller and the robot.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
44	Amplifier unit failure	Over voltage of motor power	This failure occurs when the Motor power supply voltage(P-N) are higher than regular setting level.	Please confirm connector between the controller and the robot.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
46	Amplifier unit failure	Over temperature of regenerative discharge resister	This failure occurs when the temperature of the regenerative discharge resister rises abnormally.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
50	Encoder failure	Encoder counter overflow/underflow	This failure occurs when the counter overflow/underflow occured inside the encoder unit.	(1)Please turn ON the power supply of the controller again. (2)Please replace the motor or the encoder. (3)Please check the power supply voltage of the encoder refering to "CONTROLLER MAINTENANCE MANUAL". (4)Please check the wiring of the encoder.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
51	Servo failure	Encoder data transmission failure	This failure occurs when the communication data with the encoder is abnormal or the encoder has been disconnected.	Please confirm connector between the controller and the robot.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
52	Encoder failure	Encoder battery charge low	This failure occurs when the voltage of the battery in the encoder has decreased.	(1)Please reset the encoder and turn on power supply of the controller again.(2)Please confirm battery of abnormal axis. (3)Please confirm battery voltage(up to 3.6V).	After removal of failure, please turn ON power supply of the controller again. For details, refer to "SETUP MANUAL" and "MANIPULATOR MANUAL".	E	E	E	E	on	on
53	Servo	Invalid encoder type	This failure occurs when the	Please check [Mechine Constants] [Motor and	After removal of	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure		invalid encoder type is selected.	Encoder][Encoder type].	failure, please turn on power supply of the controller again.						
54	Servo failure	Encoder data abnormal	This failure occurs when the change of the encoder data is abnormal.	(1)Please check the supply voltage of the encoder refering to "CONTROLLER MAINTENANCE MANUAL". (2)Please check the wiring of the encoder.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
55	Encoder failure	Motor rotation too fast when power off	Because the motor had been rotated at high speed when the power off, it became impossible to detect the the absolute amount of the encoder rotation correctly. (This detection is done inside the encoder unit and the error status is sent to the controller.)	(1)Please reset the encoder and turn on power supply of the controller again.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
56	Servo failure	Encoder pre-load failure	This failure occurs if the pre-load operation of the encoder was not correctly done.	(1)Please confirm the supply voltage of the encoder refering to "AX controller maintenance manual".(2)Please confirm whether the robot manipulator interferes in something.(3)Please confirm the wiring of the encoder.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
57	Encoder failure	Encoder count status failure	This failure occurs when the Encoder data(absolute) is abnormal.	(1)Please reset the encoder and turn on power supply of the controller again.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
59	Control failure	Can't follow conveyer speed.	Error occurs when the robot system can not perform its task at the current conveyer speed.	Reduce the speed of the conveyer, or check the connection of conveyer pulse line.	Error reset.	E	E	E	E	on	on
62	Control failure	Emergency stop was shortly input or Magnetic SW was cut off.	This error occurs when it has a condition that communication cable, connection of Emergency stop, Mode select signals(Teach/Play) or Safety plug is open or poor connection.	Please check the wiring of the emergency-stop and the safety plug.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
63	CPU board failure	Controller temperature fault.	Error occurs when the temperature of the core of the controller becomes abnormality high.	Check the fans are operating, or clean up the heat exchanger.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
64	Amplifier unit failure	Drive unit power failure	This failure occurs when drive unit power VP15(+15V) was not supplied.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
65	Amplifier unit failure	Over travel limit switch activated	This failure occurs when an axis reaches the end of its travel and actuates an Over travel limit switch (LS).	(1) If there is no LS that is being pushed phisically, the wirings for the LS may be broken. (2) If the LS is physically being actuated, then move the manipulator towards the normal motion range by the teach pendant operation in the setting screen of "software-limit".	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
66	Amplifier unit failure	Low voltage of brake power	This failure occurs when brake power supply PB decreases.	Turn on the power again.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
72	Amplifier unit failure	Drive unit IPM failure	This failure occurs when current of power module (IPM) in the drive unit flows more than permitted range.	Please confirm the cable between the controller and the robot manipulator.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
74	Amplifier unit failure	Motor regeneration circuit fault	This failure occurs when the regenerative discharge circuit is disconnected (broken) by large current or heat.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
75	Amplifier unit failure	Error of brake control circuit	The breakdown was detected in brake control circuit (relay, diode),or break release switches was used just after the motor-off sequence. Please do not release the brake, so that there is danger to which the arm falls.	Turn on the power again.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
78	CPU board failure	CPU bord power fault.	This error occurs when the power supply for the CPU is out of the range of 3.3V +/- 10%.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
79	CPU board failure	CPU bord temperature fault.	This error occurs when the temperature of the CPU becomes	Clean up the cooling fans.	After removal of failure, please	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			65 degree or more.		carry out "failure-reset".						
80	CPU board failure	CPU bord power fault.	This error occurs when the power supply voltage for the CPU becomes +10% (higher) or -6%(lower) from the rated voltage.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
81	CPU board failure	CPU board battery failure	This error occurs when the voltage of battery on the CPU bord has decreased.	Please set up the date correctly.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
99	Operational failure	5th axis operating range exceeded.	Error occurs when 5th-axis moves out of its Operating range. Operating range can be exceeded when the 5th-axis(and 6th-axis) is moved via the rotation of the 4th-axis.	Select [Constants][Machine constants] and use the correct axis operation keys to move back into the 5th-axis Operating range. Warning! damage can occur if 5th-axis hits arm 1.	No reset operations neccesary.	A	E	A	E	on	on
105	Control failure	Ext. Motors-off' signal is being given or Motors-OFF button being held.	Error occurs when Motors-ON button is pressed while the Motors-OFF button is held or external motors-OFF signal is being given.	Ensure that Motors-OFF is not being given when pressing Motors-ON button.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
106	Operational failure	The motors are not ON.	The motors are not ON.	Turn motors ON by pressing the Motor-ON button.	No reset operations neccesary.	I	A	I	A	on	on
116	TP failure	TP connect failure	It becomes this failure when TP isn't connected and a cable is out.	Connect TP properly. Exchange TP when it is out.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
117	TP failure	TP connect failure	This error occurs when TP is connected after the control power supply is turned on.	Connect TP properly. Exchange TP when it is out.	Turn on the power again.	E	E	E	E	on	on
118	TP failure	The teach pendant reception is abnormal.	Abnormality was detected by the key notification reception from teach pendant.	Please confirm whether there is something that it is possible to become a noise source in the vicinity of teach pendant and the cable.	Error reset.	A	A	A	A	on	on
119	TP failure	The T/P connection is abnormal.	Abnormality was detected by the sending and receiving processing from the T/P.	Please confirm whether there is something that it is possible to become a noise source in the vicinity of the T/P and the cable.	Error reset.	A	A	A	A	on	on
121	Operational failure	The robot's joint angle exceeded the software stroke range.	It will become this error if a robot joint angle reaches the software stroke range.	Please move to software stroke within the limits by manual operation (each axis).	Error reset.	A	E	A	E	on	on
122	Servo failure	The robot's joint angle exceeded the software stroke range.(Current position)	It will become this error if a robot joint angle reaches the software stroke range.(Current position)	Please motor power on in machine constant/software limit at the EXPERT level and move to software stroke within the limit by manual operation. Please turn on the motor as it is, when error occurred only with the axis without brakes.	Error reset.	E	E	E	E	on	on
129	Operational failure	The angle which an arm makes is too large.	The 1st arm and the 2nd arm may cause interference with a position.	Please move in the direction where interference does not take place by manual operation.	Error reset.	A	E	A	E	on	on
130	Operational failure	The angle which an arm makes is too small.	The 1st arm and the 2nd arm may cause interference with a position.	Please move in the direction where interference does not take place by manual operation.	Error reset.	A	E	A	E	on	on
131	Control failure	Collision sensor actuated.	Error occurs when a signal is received from the collision sensor.	Remove obstruction, check condition of the tool, reset the collision sensor, and restart robot.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
132	Operational failure	The robot's joint angle exceeded the link software stroke range.	It will become this error if a robot joint angle reaches the link software stroke range.	Please move to link software stroke within the limits by manual operation (each axis).	Error reset.	A	E	A	E	on	on
177	Emergency stop failure	Primary power supply fault.	Error occurs when the Power supply unit detects that primary power is below nominal level.	Check the status of the Primary(mains) power supply.	Error reset.	E	E	E	E	on	on
243	Operational failure	Designated command position exceeds Robot operating area.	Error occurs when a shift function, etc. tries to send the robot out of the robot operating area.	Correct the program.	No reset operations neccesary.	A	E	A	E	on	on
244	Operational failure	Danger of Robot interference.	Robot wrist may interfere with under the part of manipulator body.	Correct the program.	No reset operations neccesary.	A	E	A	E	on	on
245	Operational failure	The bend direction of J3 axis is different, interpolation cannot be continued.	The bend direction of J3 axis is different at the starting point and the terminal point.	Please correct the angle of J3 axis to the same direction.	After removal of failure, please carry out "failure-reset".	A	E	A	E	on	on
246	Operational failure	Wrist posture calculation fault. Please insert the middle step.	When the posture is calculated, this error occurs when the wrist goes the inverse direction from teaching position.	Please insert the step in the middle so that the change amount of the wrist axis in one step may become small. Please reduce the accuracy in the step before and after the error's occurring.	No reset operations neccesary.	A	E	A	E	on	on
247	Operational	There is a tool which	Because tool center of gravity or	(1)Please execute automatic tool center of gravity	No reset	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure	exceeds rating.	tool weight has exceeded rating, it becomes medium speed playback.	setting.(2)Please verify whether the tool has not exceeded rating.(3)When the tool has exceeded rating, please make sure to be settled inside rating.	operations neccesary.						
248	Control failure	The gravity bend revision quantity is too big.	The flexion it tried to revise, but the revision quantity exceeded error inspection angle.	Please take a second look tool setting. Center of gravity of the tool or mass of the tool, occur when it is large. Please execute Automatic COG setting.	No reset operations neccesary.	A	E	A	E	on	on
250	Operational failure	Controller cannot make trajectory at the J1 singular area.	When the robot moves by the linear/circle interpolation, the robot's wrist center point cannot pass the J1 singular area.	At the teach mode, the robot's wrist center point moves from the J1 singular area by joint jog operation. At the playback mode, please modify the teach point and/or change for the joint interpolation.	No reset operations neccesary.	A	E	A	E	on	on
251	Operational failure	The bend direction of J4 axis is different, interpolation cannot be continued.	The direction of J5 arm is different more than 180 degrees at the starting point and the terminal point.	Please correct the angle of J4 axis so that the direction of J5 arm becomes less than 180 degrees.	After removal of failure, please carry out "failure-reset".	A	E	A	E	on	on
257	Operational failure	Pose calculation failed.	This error occurs when all axis angles can not be calculated in robot language file.	Check pose data.	No reset operations neccesary.	E	E	E	E	on	on
270	Control failure	Conveyer motion during test .	Error occurs when the conveyer running signal is detected during executing a program in Conveyer simulation or test mode.	Stop the conveyer, reset, and restart test.	Error reset.	E	E	E	E	on	on
271	Control failure	Conveyer pulses exceeded limit.	Error occurs when the number of conveyer pulses exceeds 10KHz.	Check that the pulse generator is functioning correctly.	Error reset.	E	E	E	E	on	on
367	PLC failure	The error was detected by Built-in PLC.	It becomes this error when Built-in PLC detects an error.	Check the environment of Built-in PLC of operation.	Unusual reset is carried out after changing Built-in PLC into a starting state.	E	E	E	E	on	on
379	Control failure	Safety plug is not inserted or the state of safety plug signal has changed in teach mode.	This error occurs when a Motors ON command(button) is given in Auto mode when the Safety plug is not inserted or the state of safety plug signal has changed in teach mode.	Insert the Safety plug in Auto mode.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
493	Operational failure	Compound motion limit over.	| J5 axis | + | J6 axis | exceeded limit value.	Please move to the limit by manual operation (each axis).When it cannot move, at the [Constants][Machine constants][Software limit] please try again.	No reset operations neccesary.	A	E	A	E	on	on
494	Operational failure	Over movable area of ATRAC4 flat type.	Compound motion J5 and J6 of ATRAC4 flat type over movable area.	Please move to the limit by manual operation (each axis).When it cannot move, at the [Constants][Machine constants][Software limit] please try again.	No reset operations neccesary.	A	E	A	E	on	on
550	PLC failure	It is scan time over of Built-in PLC.	It detects, when the scanning time of Built-in PLC is too long.	Correct Ladder program.	An error will be canceled if it is download after correcting ladder program so that Scan time may be set to less than 30 msecs.	E	E	E	E	on	on
582	Vision sensor failure	Vision sensor not connected.	It detects, when the vision sensor is not connected.	Correct vision sensor connection line.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
659	TP failure	Teach pendant touch panel error.	Error occurs if at the time of turning power ON, the touch panel of teach pendant is pushed.	Touch panel is not touched for turn power ON again. If error persists change the Teach pendant.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
674	Spot weld failure	Welder communication fault(No reply).	Error occurs when the welder board is not correctly connected, or backup files are incorrect.	(1)Check power supply of the welder and communication cables, and power ON again. (2)Initialize welder data.	Error reset.	A	A	A	A	on	on
675	Spot weld failure	Welder communication fault(Check sum).	Error occurs when received data from the welder board is abnormal.	Check power supply of the welder and communication cables, and power ON again.	Error reset.	A	A	A	A	on	on
676	Spot weld failure	Welder communication fault(Message wrong).	Error occurs when received data from the welder board is abnormal.	Check power supply of the welder and communication cables, and power ON again.	Error reset.	A	A	A	A	on	on
677	Spot weld failure	Major Welder fault.	Error occurs when the welder board generate the weld fault.	Remove the cause of weld fault.	Error reset.	E	E	E	E	on	on
694	Spot weld failure	Executive EPROM checksum error.	Error occurs when a system software checksum error of welder timer substrate is detected.	Install the system software once more.	Turn on the power again.	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
695	Spot weld failure	LCA EPROM checksum error.	Error occurs when a system software checksum error of welder timer substrate is detected.	Install the system software once more.	Turn on the power again.	E	E	E	E	on	on
696	Spot weld failure	Application EPROM checksum error.	Error occurs when an application EPROM checksum error of welder timer substrate is detected.	Install the system software once more.	Turn on the power again.	E	E	E	E	on	on
697	Spot weld failure	DPR error.	Error occurs when a DPR error of welder timer substrate is detected.	Install the system software once more.	Turn on the power again.	E	E	E	E	on	on
704	Control failure	Invalid Conveyer register value.	Error occurs when a conveyer register value exceeded value of <Err.detect.just after playback>.	Check a conveyer pulse input circuit.	Error reset.	E	E	E	E	on	on
705	Operational failure	The angle between 3rd axis and ground is over.	The 3rd axis tended to operate exceeding 3rd angle incline.	Please move in the direction where 3rd angle incline does not take place by manual operation.	Error reset.	A	E	A	E	on	on
706	Operational failure	The angle between flange and ground is over.	The flange tended to operate exceeding flange incline.	Please move the manipulator towards the normal motion range by the teach pendant operation in the setting screen of "software-limit".	Error reset.	A	E	A	E	on	on
727	Servo failure	Robot over temperature	This failure occurs when the temperature of the motor, the encoder, the harness, and the connector guessed from the motor current and the motor speed is abnormal.	(1)Please check that the Pay-load is within the nominal rating. (2)Please check the wiring of the motor brake refering to "MANIPULATOR MANUAL". (3)Please lower the temperature of the abnormal location, and lower the outside temperature. (4)If failure persists, please lower the operation speed of the robot.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
749	Spot weld failure	Spot Welder SCR1 thermal switch actuated.	Failure occurs when the Thermo. Temp. fault signal is received by the controller.	Check the Thermo. Temp. fault signal and the spot welding unit.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
750	Spot weld failure	Spot Welder SCR2 thermal switch actuated.	Failure occurs when the Thermo. Temp. fault signal is received by the controller.	Check the Thermo. Temp. fault signal and the spot welding unit.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
759	Spot weld failure	Isolation contact failed to pull in.	Failure occurs when the isolation contact of the welder fails to actuate correctly.	Refer to the Welder timing Manual.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
760	Spot weld failure	Isolation contact stuck close.	Failure occurs when the isolation contact of the welder fails to actuate correctly.	Refer to the Welder timing Manual.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
762	Spot weld failure	Welder board not installed.	Error occurs if the welding timer PCB does not exists in the controller when welding is attempted.	Install the welder board.	Error reset.	E	E	E	E	on	on
777	Control failure	Robot moved during Motors-ON sequence.	This error occurs when the robot moved during Motors-ON sequence.	Please check whether the robot manipulator interferes with something.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
783	CPU board failure	Motion stop.	This error occurs when the main CPU detects a motion stop. (This error is detected in the CPU board and the sequence board.)	Replace the CFD controller.	Turn on the power again.	E	E	E	E	on	on
785	CPU board failure	I/O timeout.	It becomes this error when main CPU detects a I/O system stop.	Turn on the power again. If the error is not released, reinstall the system.	Turn on the power again.	E	E	E	E	on	on
787	CPU board failure	Watchdog Timeout Error.	This error occurs when the Watchdog Circuit detects a motion stop.	Turn ON the power again. Please confirm the error is released.	Turn on the power again.	E	E	E	E	on	on
788	CPU board failure	Movement too large in Compliance control.	Error occurs when movement by an external force is too large while in Compliance control.	Check the condition of the Compliance control performance.	Check the constants of the Compliance control function.	E	E	E	E	on	on
789	CPU board failure	CPU error.	It becomes this error when an CPU error occurs in CPU board.	(1)Turn on the power again. Please confirm the error is released.	Turn on the power again.	E	E	E	E	on	on
895	Control failure	Conveyer not running.	Error occurs when conveyer pulse never changes more than 1 second, after start LS is given.	Check the conveyor is functioning. Or check the wiring between Pulse Generator and robot controller.	Error reset.	E	E	E	E	on	on
897	Control failure	Too little conveyer pulse counted.	Error occurs when a After conveyer start LS is input, though it was passed <Conv.pulse check start time>, when it is short of value of <Conv.pulse error check> value.	Separate input timing of a starting command from conveyer start LS signal.	Error reset.	E	E	E	E	on	on
898	Servo failure	Servo command stop	This failure occurs when the update of the command value transmitted to the servo stops	Please refer to the troubleshooting of the controller maintenance manual.	After removal of failure, please carry out	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			during a certain time.		"failure-reset".						
902	Amplifier unit failure	serveo clock halted	This failure occurs when the clock of servo board UM351(L21700X00) halted.	Turn on the power again.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
903	Amplifier unit failure	Servo communication stop	This failure occurs when the communication between CPU board and the servo board stops.	Turn on the power again.	After removal of failure, please carry out "failure-reset". Wait more than 5 seconds for next motor power on.	E	E	E	E	on	on
904	CPU board failure	Sequence board connect failure.	Sequence board(UM352(L21700F00)) is not recognized.	Please check whether the sequence board is correctly connected or not.	Turn on the power again.	E	E	E	E	on	on
905	CPU board failure	Abnormal setting of the I/O board.	I/O board is not recognized. DIP-SW on the I/O board is incorrect.	Check DIP-SW on the I/O board.	Turn on the power again.	E	E	E	E	on	on
910	Amplifier unit failure	Abnormal output of the servo gun pressure sensor.	Error occurs when 1) disconnect between pressure sensor and robot controller, 2) pressure sensor troubles, 3) troubles of the analog sensor board in robot controller.	Please check 1) connector on the analog sensor board, 2) the conection between pressure sensor and robot controller, 3) exchange new pressure sensor.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
911	Amplifier unit failure	Autozero failure of analog input.	Beause analog input signal has the offset value, autozero cannot be executed.	Please check 1) connection of analog input line 2) analog input signal by its manual.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
919	Operational failure	The allowed unbalanced torque is exceeded.	This failure is detected when moving to the position in which the allowed unbalanced torque is exceeded.	(1)Please move the robot to the position in a permissible torque in the constant setting mode. (2)Please correct the teaching so as not to exceed the position in a permissible torque. (3)Please confirm installed posture. (4)Please confirm the tool load.	Error reset.	A	E	A	E	on	on
920	Operational failure	Robot tended to operate exceeding Y asix motion limit.	Robot tended to operate exceeding the operating area determined by the mechanism.	Please move to the operating area within the Y axis motion limit by manual operation. Please correct the teaching so as not to exceed the position within the Y axis motion limit in the constant setting mode.	No reset operations neccesary.	A	E	A	E	on	on
921	Operational failure	Robot tended to operate exceeding rear motion limit.	Robot tended to operate exceeding the operating area determined by the mechanism.	Please move to the operating area within the rear motion limit by manual operation. Please correct the teaching so as not to exceed the position within the rear motion limit in the constant setting mode.	No reset operations neccesary.	A	E	A	E	on	on
956	FieldBus failure	The communication error occurred.	The details of a communication error should check a sub code.	An unusual cause is removed based on a sub code.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
957	FieldBus failure	The system error was detected.	The details of a communication error should check a sub code.	On the fieldbus hardware setting screen, check whether the settings are correct.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
958	FieldBus failure	The error was detected with the self check of a communication board.	They are the abnormalities of a communication board. Please check the details of abnormalities to system service.	The defect of a communication board is considered.	A communication board is exchanged.	E	E	E	E	on	on
959	FieldBus failure	A communication board is not found.	The communication board specified on the constant setting screen is not found.	Please check the slot ID of a field bus hardware setup.	The setting value of a field bus hardware setup is changed.	E	E	E	E	on	on
960	FieldBus failure	A part or all I/O links are stopping.	Since the between title has occurred in the I/O device, a robot cannot be started.	Please check the device which the problem has generated by the field bus monitor.	If a problem is solved, it will restore automatically. (In order to solve a problem, the re-injection of a power supply may be required)	E	E	E	E	on	on
967	Control failure	T/P selector switch is set to MANUAL.	Playback operation is impossible while the T/P selector switch is set to MANUAL.	(1)Set the T/P selector switch to AUTO. (2)Please replace the T/P.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
975	Control	Magnetic switch is not	This error occurs when a signal	Replace the CFD controller.	After removal of	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure	active.	from a magnetic switch is not received within the specified time after the Motors ON signal is given.		failure, please carry out "failure-reset".						
976	Control failure	Confirm magnet-ON (Fixed input IN28) is OFF.	This error occurs when the Confirm magnet-ON (Fixed input IN28) is unexpectedly cut OFF during motor power ON condition.	Replace the CFD controller.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
977	Control failure	Both teach and playback mode signal is not fixed.	Neither teach mode nor playback mode signal is turned ON.	Please confirm the operation mode signals connection.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1001	Control failure	PWM was cut off.	Error occurs when software can't be selected the cause which a PWM signal was cut off.	Replace the CFD controller.	Error reset.	E	E	E	E	on	on
1003	Control failure	Analog input board is not installed. Or analog output board is not installed.	Although analog input (output) board is not installed, analog input (output) function is executed.	Turn off the power and connect analog Input (output) board correctly.	Error reset.	E	E	E	E	on	on
1012	Control failure	PWM of the disconnected mechanism has been turned on.	This error occurs when PWM is not turned off even if a certain time passes after the mechanism diconnection.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1016	Encoder failure	Manipulator battery warning	This warning occurs when the voltage of the battery in the robot manipulator decreases.	(1)Please exchange the battery referring to Instruction Manual "Manipulator". (2) Please perform the Encoder Reset and Encoder Correction.	After the battery is exchanged, please carry out "failure-reset" and then turn on the power supply of the controller again.	I	I	I	I	on	on
1024	Servo failure	Robot over temperature	This failure occurs when the temperature of the motor, the encoder, the harness, and the connector guessed from the motor current and the motor speed is abnormal.	(1)Please confirm that the Pay-load is within the nominal rating. (2)Please confirm the wiring of the motor brake refering to "Manipulator Maintenance Manual". (3)Please lowering the temperature of an abnormal location, and lowering the outside temperature. (4)If failure persists, please lower the operation speed of the robot.	After removal of failure, please carry out "failure-reset".	I	I	I	I	on	on
1046	Control failure	Master-ON circuit is inconsistent.	(1)This error occurs when the magnet on confirming input signal (fixed input IN28) is not turned ON within the designated time after consist of conditions.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1048	Control failure	The magnetic switch contacts were welded and stick each other.	This error occurs when the contacts of the magnetic switch were welded and stick each other.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1049	Spot weld failure	This IWB does not support MFDC	Error occurs when the IWB version is old.	Replace new version.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1051	Control failure	The inconsistency was detected with the sequence circuit.(T/P selector switch)	This failure occurs when the inconsistency or abnormal was detected in duplicated signal at the T/P enable switch.	Replace the T/P	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1052	Control failure	An inconsistency was detected in the sequence circuit.(Ext.emergency stop)	This failure occurs when the inconsistency or abnormality was detected in the duplicated signal circuit for the externel emergency stop.	(1)Please check whether only one of the signals is input or only one contact is weld at the external emergency stop.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1053	Control failure	An inconsistency was detected with the sequence circuit.(safety plug)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the safety plug.	(1)Please check whether only one of the signals is input or only one contact is weld at the safety plug.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1054	Control failure	An inconsistency was detected in the sequence circuit.(G-STOP)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the G-STOP input.	(1)Please check whether only one of the signals is input or only one contact is weld at the G-STOP input.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1055	Spot weld failure	The welder board failed in initialization.	Error occurs when the initialization of the welder board is not complete.	Power ON again. If error persists replace the I/F printed circuit board.	Error reset.	A	A	A	A	on	on
1056	Spot weld failure	Memory error is detected by the welder	Error occurs when an internal memory of the welder board is	Power ON again after executing R930, and confirm each parameter of the timer.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		board.	destroyed.								
1058	Spot weld failure	Timer controller CPU is not ready.	Nothing acknowledge from timer controller CPU.	Replace the timer PCB (PMU).	Error reset.	A	A	A	A	on	on
1059	Control failure	An inconsistency was detected in the sequence circuit.(Teach/Playback select)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the Teach/Playback select input.	(1)Please check whether only one of the signals is input or only one contact is welded at the Teach/Playback select input.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1060	Control failure	An inconsistency was detected in the sequence circuit.(Mat switch)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the Mat switch input.	(1)Please check whether only one of the signals is input or only one contact is welded at the Mat switch input.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1061	Control failure	An inconsistency was detected in the sequence circuit.(High-speed teach)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the High-speed teach input.	(1)Please check whether only one of the signals is input or only one contact is welded at the High-speed teach input.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1062	Control failure	An inconsistency was detected in the sequence circuit.(emergency stop)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the emergency stop.	(1)Please check whether only one of the signals is input or only one contact is welded at the emergency stop.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1063	Control failure	An inconsistency was detected in the sequence circuit.(T/P emergency stop)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the T/P emergency stop.	(1)Please check whether only one of the signals is input or only one contact is welded at the T/P emergency stop.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1064	Control failure	An inconsistency was detected in the sequence circuit.(CRON)	This failure occurs when an inconsistency or abnormality was detected in the duplicated signal circuit for the CRON input.	(1)Please check whether only one of the signals is input or only one contact is welded at the CRON input.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1065	Spot weld failure	The welder is not initialized.	Error occurs when the initialization of the welder is not complete.	(1) Check power supply of the welder and communication cables, and power ON again. (2)Initialize welder data. (3) If error persists replace the welder.	Error reset.	A	A	A	A	on	on
1100		Robot monitoring unit Encoder failure.	This failure occurs when the Encoder data(absolute) is abnormal.	(1)Please re-correct connections of wire harness.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
1101		The robot's joint angle exceeded the software stroke range.	It will become this error if a robot joint angle reaches the software stroke range.	After pressing LS release button, press master ON button in machine constant/software limit at the EXPERT level. And move robot within software stroke on manual operation during pressing LS release button.	Failure reset.	E	E	E	E	on	on
1102		Position exceeded the limit area.	The position of a limit object exceeded the limit area.	After pressing LS release button, press master ON button in machine constant/virtual safety fence/range setting at the EXPERT level. And move robot within limit area on manual operation during pressing LS release button.	Failure reset.	E	E	E	E	on	on
1103		Robot monitoring unit Speed failure.	This failure occurs when the Encoder data(absolute) is abnormal.	Replace the CFD controller.	Failure reset.	E	E	E	E	on	on
1104		Robot monitoring unit over current.	Over current detected.	Removal failure.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
1105		Robot monitoring unit disparity failure.	This failure occurs when the safety input signal is abnormal.	Removal failure.	Failure reset.	E	E	E	E	on	on
1106		Robot monitoring unit internal failure.	This failure occurs when the Robot monitoring unit is abnormal.	Please exchange Robot monitoring unit.	Pplease turn on power supply of the controller again.	E	E	E	E	on	on
1107		Robot monitoring unit does not be approved.	This failure occurs when the parameter of the robot monitoring unit does not be approved.	Please approve the parameter of the robot monitoring unit.	Failure reset.	E	E	E	E	on	on
1108		Robot monitoring unit communication stop.	This failure occurs when the communication between CPU board and the robot monitoring unit stops.	(1)Please confirm whether connector (CNCOM) of robot monitoring unit is correctly connected. (2)Please confirm power supply to the robot monitoring unit. (3)Please replace the robot monitoring unit.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
1109		Robot monitoring unit Stop monitor failure.	When the "StopMonitorInputSignal" isn't input, the robot move.	Please input "Stop Monitor Signal".	Failure reset.	E	E	E	E	on	on
1110		Robot monitoring unit	This failure occurs when there is	Please check motors cable and encoder cable.	Failure reset.	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		Position monitor failure.	disparity between "Encoder postion" and "Motor position".								
1111		Robot monitoring unit Position disparity failure.	This failure occurs when there is position disparity between CPU1 and CPU2.	Please check parameters "Pos. Con.".	Failure reset.	E	E	E	E	on	on
1112		Robot monitoring unit Velocity disparity failure.	This failure occurs when there is velocity disparity between CPU1 and CPU2.	Please check parameters "Vel. Con.".	Failure reset.	E	E	E	E	on	on
1113		Robot monitoring unit connection failure.	The robot monitoring unit is not correctly connected.	(1)Please confirm the robot monitoring unit connection setting in the "Servo amplifier unit"menu. (2)Please confirm the communication line to the robot monitoring unit. (3)Please confirm the power-supply voltage of the robot monitoring unit.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
1114		Robot monitoring unit Tool monitor failure.	This failure occurs when there is disparity between "Tool input" and "robot motion tool".	Please confirm the input sigal "Tool number".	Failure reset.	E	E	E	E	on	on
1155	Spot weld failure	The welder board failed in initialization.	Error occurs when the initialization of the RE-01 welder board is not complete.	Power ON again. If error persists replace the welder board (RE-01).	Error reset.	A	A	A	A	on	on
1156	Spot weld failure	Memory error is detected by the welder board.	Error occurs when an internal memory of the welder board is destroyed.	Power ON again. If error occurs again, replace the welder board.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
1158	Spot weld failure	Timer controller CPU is not ready.	Nothing acknowledge from timer controller CPU.	Replace the timer PCB (RE-01).	Error reset.	E	E	E	E	on	on
1170	Operational failure	The command position tried to exceed the limit range.	The command position of a limit object tried to exceed the limit range.	Please confirm setting by [constant:machine constant:virtual safety fence] and confirm teaching program.	Failure reset.	A	E	A	E	on	on
1171	Operational failure	The current position exceeded the limit area.	The current position of a limit object exceeded the limit area.	Select [constant:machine constant:virtual safety fence:range setting] and move a limit object to the limit range by the manual.	Failure reset.	E	E	E	E	on	on
1174	Operational failure	Invalid relative program call command found.	Error occurs when a CALL is made within a relative program call function more than 2 times.	Alter relative program call functions in the program.	Error reset.	A	A	A	A	on	on
1820	Sealing failure	The gun nozzle is choked up.	The flow pressure exceeded a set value.	Please clean the gun nozzle.	Error reset.	E	E	E	E	on	on
1821	Sealing failure	The pressure exceeded the upper bound.	The flow pressure exceeded a set value.	Please clean the gun nozzle.	Error reset.	E	E	E	E	on	on
1822	Sealing failure	The pressure exceeded the lower bound.	The flow pressure exceeded a set value.	Please clean the gun nozzle.	Error reset.	E	E	E	E	on	on
1823	Operational failure	This function cannot be available during Adaptive Motion.	The function which cannot be used during Adaptive Motion was used.	Please record this function on the step which is not Adaptive Motion.	Error reset.	A	A	A	A	on	on
1824	Operational failure	Movement too large in Adaptive Motion.	Error occurs when movement by an external force is too large while in Adaptive Motion.	Check Adaptive Motion conditions.	Error reset.	E	E	E	E	on	on
1825	Operational failure	Controller cannot make trajectory at the singular area.	Robot cannot pass the singular area during Adaptive Motion 'Follow' type.	Please modify the teach point.	Error reset.	E	E	E	E	on	on
1826	Sensor failure	Force sensor input changed too much.	It is detected when the amount of change of the force sensor input in each scanning exceeds error detection level set in constants.	(1)Please don't give the force sensor much power. (2)Please confirm whether the the force sensor is correct. (3)Modify the error detection level.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1827	Sensor failure	No reaction from force sensor.	It is detected when the force sensor input stays in maximum or minimum value longer than error detection time set in constants. .	(1)Please confirm whether the the force sensor is correct. (2)Modify the error detection time.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1828		The shift value or the force(torque) value of force control exceeded the error detection value.	It is detected when the shift value or the force(torque) value of force control exceeded error detection value set in constants.[1]:force,[2]:torque,[3]:shift(X/Y/Z),[4]:shift(RX/RY/RZ)	(1)Modify motion to minimize force(torque). (2)Modify motion to minimize shift value. (3)Modify the error detection value.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1829		Abnormal velocity of axis is calculated by force control.	It is detected when velocity of axis exceeded maximun value is calculated by force control.	(1)Check the force control condition. (2)Check the force sensor.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
1830		The mechanism for force control cannot be selected.	(1)Force control dose not support mechanism except manipulator mechanism. Or Specified mechanism is not in the unit.(2)There is another mechanism under force control	(1)Check mechanism number of function parameter. (2)Modify the program so that there is only one mechanism under force control condition.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			condition. The force control cannot be executed at the same time for two or more mechanisms.								
1831		The coordinate for force control cannot be selected.	Another coordinate is used by force control condition. The coordinate for force control can not be changed under force control condition.	(1)Check the coordinate number of selected contition as function parameter. (2)Modify the program so that same coordinate is used under force control condition.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
1832		Froce Control function can not be carried out.	The mistake of the method of recording the force control function is found.	Please record force controlfunction after step 1 or move step.	After recording the move step, Please Check Go.	A	A	A	A	on	on
1833		GETFORCE2 function can not be carried out.	GETFORCE2 function is already carried out.	GETFORCE2 function is started after GETFORCE2 function is ended.	This error will be canceled if a program is corrected and restarted.	A	A	A	A	on	on
1834		Route Coordinata can not be created under force control condition.	The follows occured under force control condition. (1)"Interpolation Off" Step was carried out. (2)Touch founction was carried out. (3) Robot moved to the direction of Z axis of tool coordinate. (4) The robot passed discontinuous track.	Modify the robot program.	No reset operations neccesary.	E	E	A	A	on	on
1835		The Tool No. was changed during force control motion.	The Tool No. can not be changed during force control motion.	Modify the robot program.	No reset operations neccesary.	A	A	A	A	on	on
1836	Sensor failure	Abnormal zero position value of force sensor is detected.	It is detected when zero position value of force sensor exceeds error detection level set in constants.	(1)Please confirm whether the the force sensor is correct. (2)Modify the error detection level.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
2002	Control failure	Playback unavailable because Motors-OFF sequence is being executed.	This error occurs when an Motors-ON command is input while the Motors-OFF sequence is being executed.	(1)Please push the Motors-ON button after the Motors-OFF sequence has been finished. (2)Please input the Motors-ON command after the Motors-OFF sequence has been finished.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
2003	Spot weld failure	Spot welding function can not be carried out.	The mistake of the method of recording the welding function is found.	(1)Please confirm the welding number. (2)Please record spot welding function after step 1. (3)You tried to drive the GUN mechanism which was not able to be driven with this unit.	After recording the move step, Please Check Go.	A	A	A	A	on	on
2006	Control failure	T/P selector switch is set to AUTO.	In Teach mode, Motors are not able to be ON while T/P selector switch is set to AUTO.	Set the T/P selector switch to MANUAL side.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
2010	Operational failure	It was going to start while the work program was edited on the screen.	This error occurs if it starts while the work program was edited on the screen.	Please start after ending the editor on the screen.	This error is released if it starts again after ending the editor on the screen.	A	A	A	A	on	on
2021	Operational failure	WI cancel operation is disabled. (Servo gun)	This error occurs when WI cancel is operated during a servo gun motor power off.	Please operate WI cancel after a motor power on.	No reset operations neccesary.	I	I	I	I	on	on
2022	Operational failure	Variable which gives speed parameter is invalid.	This error occurs when speed parameter of Moving command made by Robot Language is given by variable and its value is invalid.	Please set value to the variable or change speed parameter to numerical value.	Please set value to the variable or change speed parameter to numerical value.	A	A	A	A	on	on
2027	Spot weld failure	The change in the tip consumption detected by search 3 is abnormal.	The difference between the consumption detected by search 3 and the consumption detected by search 1 exceeded the search 3 abnormal tip change.	Check the lack of gun tip. If it is no trouble, execute gun search 1.	Error reset.	A	A	A	A	on	on
2030	Operational failure	Designated command position exceeds Robot operating area.	This failure occurs when the operation radius exceeds the limitation.	(1)Please move the robot to the position in a permissible torque in the constant setting mode. (2)Please correct the teaching so as not to exceed the position in a permissible torque. (3)Please confirm installed posture. (4)Please confirm the tool load.	Error reset.	A	E	A	E	on	on
2038	Spot weld failure	The function can not be used while servo gun is separating.	The function was attempted that is not allowable while servo gun is separationg.	Please execute the function after releasing the separation.	Error reset.	A	A	A	A	on	on
2044	Spot weld failure	The encoder data of gun axis is not steady.	The servo gun axis did not stop while waiting to reach the specified pressure.	Please reconsider the recorded position.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
2048	Spot weld failure	The command pressure is out of range.	Error occurs when a pressure too great or too small for the Servo gun is designated.	Use pressures adequate for the Servo gun being used.	Error reset.	A	A	A	A	on	on
2049	Spot weld failure	Ready to weld status from welder board isn't completed, or a weld-enabled signal isn't input.	Welder power turned off or welder error occurred, a weld-enabled signal not given.	Check the peripheral system or welder.	Error reset.	A	A	A	A	on	on
2050	Operational failure	Robot does not keep the basic position between multi driven axises.	This error occurs if robot does not keep the basic position between multi driven axises.	Return robot to the basic position by manual operation without Multi Drive Conrtol. If this error occurs again, check the basic position or the level of error detection.	Error reset.	E	E	E	E	on	on
2055	Spot weld failure	Pressure already achieved to the designated value for manual operation.	Servo Gun Pressure already achieved to the designated value for manual operation.	Pressure value is too low when servo gun axis does not move. Review pressure data.	Error reset.	A	A	A	A	on	on
2059	Operational failure	There is a possibility that the interpolation operation and the de-and acceleration control are not correctly done due to a set disagreement of rectangular coordinate system.	Setting rectangular coordinate system is different registering the tool and now.	Please set the tool constant (length and center of gravity) again by present rectangular coordinate system. Or, please change setting rectangular coordinate system.	The error is not released until measures are executed.	A	A	A	A	on	on
2060	Operational failure	4th axis operating range exceeded.	Error occurs when 4th-axis moves out of its Operating range. Though 4th axis is within the software motion range, the 4th axis occasionally exceeds the range of motion by receiving axis interference from other axes.	Select [Constants][Machine constants] and use the correct axis operation keys to move back into the 4th-axis Operating range. Warning! damage can occur if 4th-axis hits arm 1.	No reset operations neccesary.	A	E	A	E	on	on
2062	Spot weld failure	Weld condition dose not exist.	Weld condition setting with group, the weld condition is 1-16(Group16 is 1-15).Weld condition number is out of range.	Check the desired condition number and retry.	The error is not released until measures are executed.	A	A	A	A	on	on
2063	Spot weld failure	Weld condition group number is not set.	Spot weld function(Fn119 or Fn303) was executed without recording weld condition with group function(Fn282).	Please record weld condition with group function(Fn282) before executing spot welding function(Fn119 or Fn303).	The error is not released until measures are executed.	A	A	A	A	on	on
2082	Operational failure	The memory medium is not prepared.	The detection reason is that the specified device was not detected when the file operation is done.	Whether the device such as memory cards specified by the file operation menu is correctly installed is confirmed.	It will be canceled if some keys are pushed.	I	I	I	I	on	on
2083	Operational failure	The memory medium is read-only.	When it is going to copy a file to a write-protected memory cards etc., this error sets.	Please prepare the memory medium to which writing is made and perform a copy from the beginning once again.	It will be canceled if some keys are pushed.	A	A	A	A	on	on
2089	Operational failure	It cannot process in the same device.	It was going to copy to the same device by the same file name.	Please change a file name or a device and redo copy operation again.	It will be canceled if some keys are pushed.	A	A	A	A	on	on
2090	Control failure	Max. follow angle over.	Error occurs when the robot was about to follow more than the max. follow angle.	Check the press syncronize parameters.	Error reset.	E	E	E	E	on	on
2091	Control failure	Record point of press synchronous step is not available.	Error occurs when the position of press interlock waiting step and a synchronous step is different.	Confirm record point of press synchronous step.	Error reset.	E	E	E	E	on	on
2092	CPU board failure	It is not possible to start from a current step.	Error occurs when playback start is done from press synchronous step.	Please do playback start from steps other than press synchronous step.	Error reset.	A	A	A	A	on	on
2093	Control failure	Press brake sync. is not available.	Error occurs if execution of a function related to the press brake is attempted when Press is not selected with Conveyer type.	Set Conveyer shape in Press.	Error reset.	E	E	E	E	on	on
2100	FieldBus failure	Specified channel number or slave node number is not used.	Channel number or the slave node number specified with FN312 or R502 is not used.	Please confirm channel number or the slave node number.	Error reset.	E	E	E	E	on	on
2101	Operational failure	Stop or External stop signal being given.	Error occurs when a Start command is given while the Stop button is being held or External stop signal is being given.	Release Stop button or External stop signal(if External stop signal cable is cut the external stop signal is considered as being given.	Error reset.	I	I	I	I	on	on
2103	Operational failure	The emergency stop button or the external emergency stop is inputted.	Where an emergency stop button or an external emergency stop signal is inputted, it detects, when the Motors-ON signal or the External Motors-ON signal is	Please cancel an emergency stop button and an external emergency stop signal.	Error reset.	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			inputted.								
2104	Operational failure	External Motors-OFF is inputted.	In the state where the external Motors-OFF signal is inputted, when the Motors-ON signal or the external Motors-ON signal is inputted, it detects.	Please cancel the external Motors-OFF signal.	Error reset.	I	I	I	I	on	on
2106	Operational failure	Playback unavailable because servo system has not been turned on yet.	The start is impossible, because the start operation is done before MSHP is turned on.	Please start after turning on MSHP.	Error reset.	I	I	I	I	on	on
2108	Operational failure	It is not possible to start by specifying the function step	This It is prohibited to start specifying the function because there is the position where the function is executed is not an original position but a possibility.	Please start after specifying the move step.	Error reset.	I	I	I	I	on	on
2109	Operational failure	It is not possible to start by selecting this function step.	It is not possible to start by selecting this function step.	Please select the move step or the function step that can be executed from, and start.	Error reset.	A	A	I	I	on	on
2110	PLC failure	Toyopuc I/F:The sequence program has stopped.	Toyopuc I/F:The sequence program has stopped.	Please confirm Toyopuc I/F.	Automatically restores, when the problem is solved.	E	E	E	E	on	on
2111	Operational failure	The internal operation signal was inputted in the state of external selection.	It detects, when starting selection tends to push the Motors-ON button or a starting button in the state of the exterior or it is going to choose a program from TP in the state of the program selection exterior.	Please operate it after setting starting selection or program selection as an inside.	Error reset.	I	I	I	I	on	on
2112	Operational failure	The external operation signal was inputted in the state of internal selection.	It detects, when the Motors-ON or the start signals are inputted from the exterior in the state of an inside of start selection or a program selection signal is inputted from the exterior in the state of the inside of program selection.	Please perform external operation after setting up starting selection or program selection outside.	Error reset.	I	I	I	I	on	on
2113	Operational failure	Settings were changed. To initialize the ststus, please cycle the primary power.	This error is detected when Motors-ON command is inputted in a state where some settings were changeed.	Please cycle the primary power to initialize the state.	Error reset.	E	E	E	E	off	off
2118	Shift failure	Shift register contains no data.	Error occurs when data aren't established in specified shift register.	Setting data in shift register.	Error reset.	A	A	A	A	on	on
2119	Shift failure	The command buffer of serial communication is full. The communication command failed.	Too many command of serial communication requested at the same time.	Please modify robot program.	Error reset.	A	A	A	A	on	on
2138	Operational failure	Setting the call instruction is improper.	This error occurs when the number of step call and return instruction is match or the multiple call exceeds eight times.	Please correct the program so that the number of call return instructions is corresponding, and a multiple call should not exceed eight times.	This error is released if the step set do over again and restart playback.	A	A	A	A	on	on
2141	Operational failure	The unit composition is a different program.	This error occurs when the program jump or call instruction directly jumps or calls the program that the unit is different.	Please correct the called program number value.	This failure is released if a correct program is setted and restart playback.	A	A	A	A	on	on
2142	Operational failure	Program number selected is not available.	This error occurs when the program number designated is more than 9999.	Check the desired program number and retry.	No reset operations neccesary.	I	I	I	I	on	on
2144	Operational failure	There is no end.	If there is no end mark when playback executing, this error is detected after the last step is executed.	Please record the end instruction.	This error is released if restart playback.	I	I	I	I	on	on
2150	Operational failure	Program is too large.	Error occurs when number of bytes of a program is too large.	Edit program in order to reduce its size.	No reset operations neccesary.	I	I	I	I	on	on
2151	Operational failure	The program or the file does not exist.	This error occurs when the program number is specified which does not exist in the program jump call instruction.	Please correct the program number to a correct value the jump call ahead.	This failure is released if a correct program is setted and restart playback.	I	I	I	I	on	on
2152	Operational	The step does not exist.	This error is detected when the	Please correct the step number to a correct value at	This error is	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure		step number which does not exist in the step jump call instruction is specified.	the jump destination.	released if the correct step set do over again and restart playback.						
2155	Operational failure	The usage of the flow control instruction is improper..	This error is detected when the usage of the flow control instruction is wrong.	Please correct the program so that the usage of the flow control instruction may become proper.	his error is released if it reactivates after the program is corrected so that the usage of the flow control instruction may become proper.	A	A	A	A	on	on
2161	Operational failure	Change of a coordinate system cannot be performed during circular.	This error occurs if a coordinate system is changed during circular.	Please teach by the same coordinate system during circular.	This error will be canceled if a program is corrected and restarted.	I	I	I	I	on	on
2164	Operational failure	Change of a tool cannot be performed during circular.	This error occurs if a tool is changed during circular.	Please teach by the same tool during circular.	This error will be canceled if a program is corrected and restarted.	I	I	I	I	on	on
2165	Operational failure	The file is protected.	All protected files or files partially protected (program or constant) tried to be corrected and deleted.	Because the specified file (program or constant) contains important data, protecting is put so that the content is not carelessly changed.	Please release protecting the file (program or constant).	I	I	I	I	on	on
2166	Operational failure	The reproduction protection of the program is carried out.	It detects, when it is going to carry out reproduction or check GO of the work program which required reproduction protection from a head step (Step 0).	The specified work program is not a program which should be used for operation operation.	When you start, please choose Step 1 from T/P.	A	A	A	A	on	on
2167	Operational failure	The amount of the movement of each axis is too small in the automatic tool constant setting. Or, the number of record steps does not suffice.	When there is no point or less 10 point data effective to the calculation, and the program is not clearly recorded the same point excluding the error by the teaching.	Recreate the 10 point program (4 point under tool constant setting only) ensuring the recorded points are exactly the same point in space.	Error reset.	I	I	I	I	on	on
2169	Operational failure	A step number is unsuitable..	It is displayed, when the specified step does not exist, or when the step of a reference program is the function step.	Please specify a move function.	Error reset.	A	A	A	A	off	off
2170	Operational failure	Tool postures differ.	It is displayed when the tool posture in two specified points is not the same.	Please make a tool posture the same.	Error reset.	A	A	A	A	off	off
2171	Operational failure	Tool number do not match.	The tool number recorded on the specified step differs from the selected tool number.	Please make a tool number the same.	Error reset.	A	A	A	A	off	off
2173	Shift failure	Shift value limit exceeded.	This error occurs if the allowable shift distance is too large.	Reset the limit value[Constants][Shift limit & evaluation value] and retry program.	No reset operations neccesary.	A	A	A	A	on	on
2174	Control failure	This function cannot be available during conveyor synchronization.	The function which cannot be used during conveyor synchronization was used.	Please record this function on the step which is not conveyor synchronization.	Error reset.	A	A	A	A	on	on
2175	Operational failure	The file path is not found.	The system cannot find the path specified.	Please check whether a file path is right.	No reset operations neccesary.	I	I	I	I	on	on
2176	Operational failure	The file access is denied.	The process cannot access the file because it is being used by another process.	Please try once again. If it still recurs, please re-switch on the controller.	No reset operations neccesary.	I	I	I	I	on	on
2177	Shift failure	Move limit during shift execution exceeded between steps.	This error occurs if the allowable distance between steps during shift execution is too large.	1. Please reteach as don't pass wrist dead zone. 2. Please consider to use form specified commands. 3. Reset the limit value[Constants][Shift Amount limit][Move limit between steps] and retry program.	No reset operations neccesary.	A	A	A	A	on	on
2181	Control failure	Conveyer running signal was not received.	Conveyer running signal was not received in conveyer normal mode.	In conveyer normal mode, turn on conveyer running signal. If the signal is not used, set [When turning off conveyor running signal. = Ignore] in [Constant: 20 Conveyor constant: 4 Conveyor added function] menu.	No reset operations neccesary.	A	A	A	A	on	on
2185	Operational failure	Step number selected is not available.	This error occurs when designated step number does not exist.	Check the desired step number and retry.	No reset operations	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
					neccesary.						
2194	Operational failure	The program is not recorded nor selected.	This error occurs when the program which is not recorded is selclted and start playback.	Please start after recording the program or selecting other programs.	This error is released if it sets a correct program and restart playback.	I	I	I	I	on	on
2201	Shift failure	Palletize-end does not follow Palletize function.	This error occurs when a palletize-end function(M47) does not follow Palletize function(M48).	Correct the sequence of Palletize and Palletize end functions in the program.	No reset operations neccesary.	A	A	A	A	on	on
2202	Shift failure	More than 32 Palletizing routines not allowed.	When palletizing of 32 or more is executed at the same time, this error is detected.	Terminate the unnecessary palletize.(by using R55 or R377)	No reset operations neccesary.	A	A	A	A	on	on
2203	Shift failure	Palletize data is abnormal.	This error occurred calculate shift value is failed from palletize data.	Please refer to palletize data.	No reset operations neccesary.	A	A	A	A	on	on
2204	Shift failure	Multiplex palletize over.	This error occurs when multiplex palletize beyond 8 is carried out.	Please confirm a robot program.	No reset operations neccesary.	A	A	A	A	on	on
2230	Control failure	Conveyer sync. is not available.	Failure occurs if execution of a function related to the Conveyer is attempted when Conveyer synchronization has not been enabled.	Enable Conveyer synchronization	Error reset.	A	A	A	A	on	on
2240	Operational failure	PUBLIC.INC file is wrong.	This failure occurs when the mistake is found in the method of defining the variable.	Please confirm the definition of variables.	Error reset.	A	A	A	A	on	on
2241	Operational failure	COSNT.INC file is wrong.	This failure occurs when the mistake is found in the method of defining the name.	Please confirm the definition of names.	Error reset.	A	A	A	A	on	on
2242	Operational failure	Module file is wrong.	This failure occurs when the mistake is found in the method of recording the function.	Please confirm the method of the function.	Error reset.	A	A	A	A	on	on
2243	Operational failure	The variable Data file is wrong.	This failure occurs when it failed in the preservation of the variable data file.	Please set the initial data of variables, after to select program.	Error reset.	A	A	A	A	on	on
2244	Operational failure	The variable data is an irregular value.	The variable of irregular data cannot be used.	Please set the initial data of variable.	Error reset.	A	A	A	A	on	on
2245	Operational failure	The variable cannot be rewritten.	The variable data of an other unit cannot be rewritten.	Please review the variable.	Error reset.	A	A	A	A	on	on
2246	Operational failure	The variable doesn't exist.	The variable that doesn't exist cannot be used.	Please review the variable.	Error reset.	A	A	A	A	on	on
2247	Operational failure	The variable has already existed.	The existing variable cannot be redefined.	Please review the variable.	Error reset.	A	A	A	A	on	on
2248	Operational failure	The mistake is found in the method of recording the function.	The function command that cannot be used is recorded. whether to find the mistake in the method of recording the function.	Please confirm the method of the function.	Error reset.	A	A	A	A	on	on
2250	Operational failure	The step data is abnormal.	This error occurs when the value which is not permitted as a parameter of the function instruction is setted while playback executing, and the robot stops.	Please set a correct parameter again.	This error is released if a correct program or step is setted and restart playback.	A	A	A	A	on	on
2251	Operational failure	Incorrect Register or variable number.	Error occurs when incorrect Register or variable number is used in a program.	Enter the correct register or variable number.	Error reset.	A	A	A	A	on	on
2252	Operational failure	Failed in reading or writing variable.	This error occurs when the variable is continuously read or written.	Please confirm the number of variables which are read or written.	Error reset.	A	A	A	A	on	on
2253	Operational failure	The parameter for the function command exceeds the normal range.	This error occurs when an illegal parameter is found in the function command while playback operation, and the robot stops.	Please correct the parameter.	Althogh re-start operation is possible, please correct the teaching program.	A	A	A	A	on	on
2254	Operational failure	The Dynalog function command exceeds the normal range.	This error occurs when an illegal function command is found while playback operation, and the robot stops.	Please set a correct function command again.	This error is released if a correct program or step is setted and restart playback.	A	A	A	A	on	on
2255	Operational failure	Division by 0.	This error occurs when a value is divided by 0 in robot language file.	Check the program.	Check the program.	A	A	A	A	on	on
2256	Operational	Playback unavailable	Error occurs when input playback	Please start after the compilation processing ends.	No reset	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure	because compilation process is executing.	command while it is executing the compilation process.		operations neccesary.						
2258	Operational failure	Outside wrist posture limit range	The wrist operated by posture beyond the limits of the posture limit setting.	Please operate the robot so that the wrist posture may operate within the range of the limit.	Error reset.	A	A	A	A	on	on
2259	Operational failure	It is the tool which does not appoint limit angle	Step of the tool where 0 is set to limit angle the when regulation effective of wrist posture limit was played back.	When step of the tool which does not use wrist posture limit is played back, please set wrist posture limit to invalidity.	Error reset.	A	A	A	A	on	on
2268	Operational failure	The program can not reserve any more.	This error occurs when the number of program reservations exceeds ten.	The number of program reservation should cope with it by the sequence etc. not to accumulate too much.	Error reset.	A	A	A	A	on	on
2272	Control failure	Conveyer running signal is ON.	Error occurs when a Conveyer running signal is inputed when conveyer simulation or test mode.	Turn off the conveyer running input signal OFF.	Error reset.	E	E	E	E	on	on
2277	Spot weld failure	Analog input override and digital input override can not be used at same time.	Error occurs when analog input override (FN169) and digital input override (FN277) are played at the same time.	Check the program, and delete function.	Error reset.	A	A	A	A	on	on
2300	Spot weld failure	No signal input while executing FN227	The specified interruption signal was not input whiel executing FN227.	Please confirm the state of the sensor, the connection with the controller and the number of the signal.	Error reset.	A	A	A	A	on	on
2301	Operational failure	There is no referring to point for the circle middle point (C1).	This error occurs when the program on which the move command is not recorded before or after the circle middle point (C1) is started.	Please start after recording a move command before or after the circle middle point (C1).	This error will be canceled if a program is corrected and restarted.	A	A	A	A	on	on
2302	Operational failure	There is no referring to point for the circle end point (C2).	This error occurs when the program on which the move command is not recorded before the circle middle end (C2) is started.	Please start after recording a move command before the circle end point (C2).	This error will be canceled if a program is corrected and restarted.	A	A	A	A	on	on
2303	Operational failure	Step is too big.	Error occurs when number of bytes of a step is too big.	Modify or delete the step.	Error reset.	A	A	A	A	on	on
2356	Shift failure	Playback mode of Search write function is not corrected.	This error occurs when Search write function is attempted when not in <1 cycle> mode.	Select <1 cycle> mode.	No reset operations neccesary.	A	A	A	A	on	on
2357	Shift failure	Search range exceeded.	This error occurs when the robot moves beyond search range	Modify(enlarge) the search range or program to rectify error.	No reset operations neccesary.	A	A	A	A	on	on
2358	Shift failure	Search base step position is not defined.	This error occurs if a Search is attempted without the existence of the Search base step position.	The Search base step position(s) will be automatically written into the functions.	No reset operations neccesary.	A	A	A	A	on	on
2359	Shift failure	Search Start not followed by Search End.	This error occurs when a Search start does not follow a Search End function.	Alter program to give correct Search start/end sequence.	No reset operations neccesary.	A	A	A	A	on	on
2360	Operational failure	The setting of a case jump function is unsuitable.	This failure occurs when a case jump and a case jump end do not correspond while playback executing, and the robot will stop.	Please check a case jump and correspondence of a case jump end.	This failure is released if a correct program is setted and restart playback.	I	I	I	I	on	on
2361	Operational failure	It was going to jump beyond the case jump range.	This failure occurs when the condition value of a case jump is too large and there is no jump step in the program while playback executing, this abnormality is detected, and the robot will stop.	Please set a correct parameter again.	This failure is released if a correct program is setted and restart playback.	I	I	I	I	on	on
2367	PLC failure	Scan of Built-in PLC has stopped.	Although Built-in PLC status is except <Disabled>, when scan of Built-in PLC has stopped, it becomes this error at the time of robot operation.	Built-in PLC status is set as <RUN> by constant mode, and scan is started.	Unusual reset is carried out after changing Built-in PLC into a starting state.	A	A	A	A	on	on
2368	PLC failure	Connection with Built-in PLC cannot be performed.	It becomes this error when connection with Built-in PLC cannot be performed.	Please check the environment of Built-in PLC of operation.	Unusual reset is carried out after changing Built-in PLC into a starting state.	A	A	A	A	on	on
2369	PLC failure	Built-in PLC cannot be started.	It becomes this error when Built-in PLC cannot be started.	Please check the environment of Built-in PLC of operation.	Unusual reset is carried out after changing Built-in PLC into a starting state.	A	A	A	A	on	on
2370	PLC failure	Built-in PLC cannot be stopped.	It becomes this error when Built-in PLC cannot be stopped.	Please check the environment of Built-in PLC of operation.	Unusual reset is carried out after	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
					changing Built-in PLC into a starting state.						
2371	PLC failure	There is no resource performed by Built-in PLC.	It will become this error if a starting demand is performed in the state where there is no resource performed by Built-in PLC.	Download a PLC ladder program.	After download, it changes into a starting state and unusual reset is carried out.	A	A	A	A	on	on
2372	PLC failure	PLC-Engine has not been started.	It becomes this error when it is not able to start by the starting demand of PLC-Engine.	Please check the environment of Built-in PLC of operation.	Again, a starting setup is carried out, it changes into a starting state, and unusual reset is carried out.	A	A	A	A	on	on
2373	PLC failure	The error was detected by Program check at the time of PLC-Engine starting.	It becomes this error when an error is detected by Program check at the time of PLC-Engine starting.	Please carry out program check by [3 PLC program check] of [14 PLC program Edit] of Service.	Error reset.	A	A	A	A	on	on
2383	Operational failure	The function data is abnormal.	This error occurs when the function instruction which is not permitted is setted while playback executing, and the robot stops.	Please set the function again.	This error is released if a correct program or step is setted and restart playback.	A	A	A	A	on	on
2387	Shift failure	3 of the step points for On-transfer are in line.	Error occurs when 3 step points are situated along the same line for the On-line Transfer(M53,M54).	Designate step positions not in the same line for the On-line transfer function.	Designate step positions not in the same line for the On-line transfer function.	A	A	A	A	on	on
2390	Operational failure	There is no user function definition data.	Error occurs when there is no data which defined the specified user function.	Create a user function definition file.	A power supply is re-switched on after creating a user function definition file.	A	A	A	A	on	on
2391	Operational failure	There is no user function definition data.	Error occurs when there is no data which defined the specified user function.	Create a user function definition file.	A power supply is re-switched on after creating a user function definition file.	A	A	A	A	on	on
2400	Emergency stop failure	Emergency stop signal input line failure.	This Error occurs when disagreement has happened between dual emergency stop signal input lines. (1) Cable failure(contact failure, broken wire) (2)Emergency stop switch troubles.	First, release all emergency stop switches, and perform operation again. If the error recurs, check whether the emergency stop SW line is correctly wired.	First, release all emergency stop switches, and perform operation again. If impossible, remove the cause of the error, and turn on the power again.	E	E	E	E	on	on
2401	Emergency stop failure	Safety signal input line failure(Safety plug)	This Error occurs when disagreement has happened between dual safety signal input lines. (1) Cable failure(contact failure, broken wire) (2)Safety plug troubles.	First, release sefety plugs, and perform operation again. If the error recurs, check whether the safety plug line is correctly wired.	First, release safety plugs, and perform operation again. If impossible, remove the cause of the error, and turn on the power again.	E	E	E	E	on	on
2402	Emergency stop failure	Safety signal input line failure(Enable(Deadman)/Mat SW)	This error occurs when disagreement has happened between dual safety signal input lines. (1) Cable failure(contact failure, broken wire) (2)Enable(Deadman)/Mat SW troubles.	First, release enable(deadman) switches, and perform the operation again. If the error recurs, check whether the enable(deadman) switch line is correctly wired.	First, release enable(deadman) switches, and perform the operation again. If it is impossible, remove the cause of the error, and turn ON the power again.	E	E	E	E	on	on
2410	Operational failure	User failure is not defined.	The error file was not found.	Please define Failure by [Service]→[25 Robot Diagnosis]→[6 User Error].	Error reset.	E	E	E	E	on	on
2411	Request maintenanc	It became a check time limit.	check	Please do the check completion processing after it checks.	The check completion	I	I	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	e				processing is done.						
2412	Request maintenance	Information by number of failure log	The number of remainder failure log reached a set value.	The failure log file is backing up preserved if necessary. Afterwards, "Failure log clear" is executed by the failure logging monitor. Or, information on the number of failure log is set to "Not Occur" by the error logger item.	Error reset.	I	I	E	E	on	on
2413	Request maintenance	Information by number of another preservation failure log	The number of remainder another preservation failure log reached a set value.	The failure log file is backing up preserved if necessary. Afterwards, "Failure log clear" is executed by the failure logging monitor. Or, information on the number of another preservation failure log is set to "Not Occur" by the error logger item.	Error reset.	I	I	E	E	on	on
2435	Spot weld failure	The specified welder cannot be used with this unit.	The servo gun connected with the specified welder is not defined as a mechanism of this unit.	Modify the program.	Error reset.	A	A	A	A	on	on
2436	Spot weld failure	The servo gun is not connected with the specified welder.	The welder with which the servo gun was not connected when the servo gun function was used was specified.	Modify the program.	Error reset.	A	A	A	A	on	on
2437	Spot weld failure	Abnormal panel thickness detected.	Dramatic difference of panel thickness exists between recorded value in weld condition and detected value.	Check the weld condition data and real work piece thickness.	This error is released if restart playback.	A	A	A	A	on	on
2497	FieldBus failure	RIO detected the communications error.	An abnormal communication was generated by the RIO link.	Please check the connection and the RIO scanner of the communication cable.	Error reset.	A	A	A	A	on	on
2498	FieldBus failure	The RIO interface is abnormal.	There is no answer from the RIO interface.	Please exchange the RIO interface.	Error reset.	A	A	A	A	on	on
2518	Operational failure	Step number not designated.	This error occurs when a command only valid after designating a step number is attempted without step designation.	Please designate a step number and retry.	This error is released if a correct program or step is setted and restart playback.	A	A	A	A	on	on
2527	Operational failure	File read or write fault.	This failure occurs when the media format does not match the format selected in the controller or the file has been corrupted.",	Please try once again, after delete the file.	No reset operations neccesary.	I	I	I	I	on	on
2528	Operational failure	The memory medium is not discriminable.	When memory media, such as a FIROPPI disk and an memory card, are not initialized, this error occurs.	By Service / File Manager / Format memory card/Floppy disk, please use it after initializing a memory medium.	It will be canceled if some keys are pushed.	I	I	I	I	on	on
2530	Operational failure	Bad program file.	Error occurs when data header of program file is crashed.	Delete the program file.	Error reset.	A	A	A	A	on	on
2535	Spot weld failure	File operation of FTP client is canceled.	FTP client menu is closed, when upload or download executed.	The file under writing might been damaged. Please confirm the file that is uploaded or downloaded. Please delete and execute download or upload again when the file has been damaged.	No reset operations neccesary.	A	A	A	A	on	on
2536	Spot weld failure	Welder fault.	Error occurs when the welding timer detected some errors. Standard welding timer generates this error when the controller received the welder fault signal from welding timer after the end of welding sequence. Regarding except standard welding timer, refer the each operation manual.	Check the welder unit.	This error is released if restart playback.	A	A	A	A	on	on
2537	Spot weld failure	Welding time exceeded limit.	Error occurs if a Weld competed signal is not input before the designated time period.	Check the welder is operating normally.	This error is released if restart playback.	A	A	A	A	on	on
2538	Spot weld failure	The gun not open.	Error occurs if the Gun closed signal is received after the welding sequence ends.	Check the GUN or welding unit.	This error is released if restart playback.	A	A	A	A	on	on
2539	Spot weld failure	The gun is not half open.	Error occurs if the Gun half-open signal is not received after Open gun half signal is output by the controller.	Check the GUN or welding unit.	This error is released if restart playback.	A	A	A	A	on	on
2540	Spot weld failure	The gun is not fully open.	Error occurs if the Gun full-open signal is not received after Open gun fully signal is output by the controller.	Check the GUN or welding unit.	This error is released if restart playback.	A	A	A	A	on	on
2541	Spot weld failure	Stuck Weld GUN detected.	Error occurs if the System fault signal is detected after completion of a welding sequence.	Error occurs if the Weld stuck signal is received when the welding sequence ends.	This error is released if restart playback.	A	A	A	A	on	on
2542	Spot weld	Coolant fault #1.	Error occurs if the Water flow	Check the GUN or welding unit.	This error is	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure		switch #1 signal is detected after completion of a welding sequence.		released if restart playback.						
2543	Spot weld failure	Coolant fault #2.	Error occurs if the Water flow switch #2 signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	This error is released if restart playback.	A	A	A	A	on	on
2544	Spot weld failure	Air pressure fault.	Error occurs if the Air pressure switch signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	This error is released if restart playback.	A	A	A	A	on	on
2545	Spot weld failure	Transformer temperature fault.	Error occurs if the Thermo. temp. fault signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	This error is released if restart playback.	A	A	A	A	on	on
2546	Spot weld failure	Peripheral system fault.	Error occurs if the System fault signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	This error is released if restart playback.	A	A	A	A	on	on
2552	Spot weld failure	Both of half-open and full-open signals are given.	Error occurs if both the Gun half-open signal and Gun full-open signal are received simultaneously after Open gun half signal is output by the controller.	Check the GUN or welding unit to determine the cause of the two simultaneous signals.	This error is released if restart playback.	A	A	A	A	on	on
2555	Spot weld failure	Servo-gun is not executed to obey the welder sequence.	Error occurs when the servo gun is not achieved to command pressure.	Please confirm to the sequence of weld-timer.	This error is released if restart playback.	A	A	A	A	on	on
2569	Shift failure	The amount of circle locus compensation is unusual.	This error occurs if the amount of compensation of each axis becomes excessive as a result of compensation calculation.	Please modify teaching position.	No reset operations neccesary.	A	A	A	A	on	on
2570	Vision sensor failure	Vision sensor communication data error.	Internal error in the vision sensor system was detected.	Please check hardware of vision sensor.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2571	Vision sensor failure	Vision sensor command/reply buffer overflow.	Too many commands to vision sensor or replies from vision sensor at the same time.	Please modify timing of function execution.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
2572	Vision sensor failure	Vision sensor recognition error.	Vision sensor could not recognize the measure object.	Please check the measure object is within measure area. If the object is within measure area, please modify measure condition parameters or adjust lighting environment.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2573	Vision sensor failure	Vision sensor shift error.	The measure object isn't within shift area or vision sensor could not recognize the measure object.	Please check the measure object is within shift area. If the object is within shift area, please modify measure condition parameters or adjust lighting environment.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2574	Vision sensor failure	Error about frame grabber.	Frame grabber is out of order.	Please replace the frame grabber board.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2575	Vision sensor failure	Image acquire error.	Acquiring image timeout detected. Or Camera cable is cut / camera is out of order.	Please check camera setting. If this is right, replace the camera cable / camera.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2576	Vision sensor failure	Vision sensor socket error.	Fail to create the socket which connect to vision sensor unit.	Please check setting of connection to vision sensor unit.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2577	Vision sensor failure	Vision sensor type error.	Vision sensor function recorded by another vision sensor type is done.	Please remove the vision sensor function and record again.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2578	Vision sensor failure	Measure of Vision sensor is not complete.	Vision measure wait function was done without measuring, or Vision shift function was done before measure completed.	Please measure again, or record Vision measure wait function before Vision shift function.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2579	Vision sensor failure	The measurement time is over.	The measurement processing time too much or the trigger signal line has been disconnected.	Please modify the method of measuring the vision sensor, and check the trigger signal line.	After removal of failure, please turn on power supply of the	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
					controller again.						
2582	Vision sensor failure	Vision sensor communication data error.	Error was detected in the data format which had been sent from the vision sensor.	Please confirm whether there is loosening of connector.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2583	Vision sensor failure	Vision sensor returns no answer.	It takes time to process the vision sensor too much.	Please modify setting of the vision sensor.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2584	Vision sensor failure	Vision sensor error.	Error was detected in the vision sensor.	Please refer to the manual of the vision sensor.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2585	Vision sensor failure	Vision sensor function can not be carried out.	The function execution by the check go/back is not permitted in the vision mode.	Please cancel the vision mode, and do the check go/back.	Error reset.	A	A	A	A	on	on
2586	Vision sensor failure	A synchronous gap was occered by a vision correction conveyer synchronous function.	The vision sensor was not able to complete processing while the conveyer moved at trigger intervals.	Please slow down the conveyer speed.	Error reset.	A	A	A	A	on	on
2587	Spot weld failure	Playback unavailable because visual teaching correction is valid.	The visual teaching correction function is set as enable.	Please set the visual teaching correction function to disable.	Error reset.	A	A	A	A	on	on
2588	Vision sensor failure	The measurement point exceeded the distance limit.	The distance between the measurement points is abnormal or the shape of the measurement point is abnormal.	Please measure these points again.	Error reset.	I	I	I	I	on	on
2589	Vision sensor failure	A multiple measurement happened.	The measurement had been executed again before the measurement was completed.	Please modify the measurement execution timing.	Error reset.	A	A	A	A	on	on
2590	Vision sensor failure	Shift range over.	The measurement result is out of shift range.	Please check the position of the work.	Error reset.	I	I	I	I	on	on
2591	Vision sensor failure	Vision sensor error.	Error was detected in the vision sensor.	Please refer to the manual of the vision sensor.	After removal of failure, please carry out "failure-reset".	I	I	I	I	on	on
2592	Operational failure	Multiple shift failure.	A shift, an online transformation, and the base coordinate shift with the vision sensor were executed in the multiple.	Modify program to rectify error.	Error reset.	A	A	A	A	on	on
2593	Vision sensor failure	The measurement time is over.	The measurement processing time too much or the trigger signal line has been disconnected.	Please modify the method of measuring the vision sensor, and check the trigger signal line.	Error reset.	I	I	I	I	off	off
2594	Spot weld failure	Seam welding function can not be carried out.	Carrying out this function is not permitted during seam welding. Or errors are in constant data.	Please modify program or constant data.	Error reset.	A	A	A	A	on	on
2595	Spot weld failure	It was going to execute the function which is not permitted during seam welding.	The function about another units, such as CALLFAR, is not permitted during seam welding.	Please modify program.	Error reset.	A	A	A	A	on	on
2596	Vision sensor failure	No base position data set.	There is no base position before doing the shift function.	Please register base position.	Error reset.	I	I	I	I	on	on
2597	Vision sensor failure	Measure point datas is abnormal.	This failure occurs when the measurement point data is insufficient or the measurement position contradicts the data of a base position when the shift amount is calculated.	(1)Please measure these points again. (2)Please confirm base positional data.	Error reset.	I	I	I	I	on	on
2598	Vision sensor failure	The measurement type is abnormal.	When the measurement type was a setting of 2D, it tried to execute 'VLOCCVT' function.	(1)Please confirm the measurement type. (2)Please use the 'SHIFTR' function at 2D measurement.	Error reset.	A	A	A	A	on	on
2599	Shift failure	Shift register contains no data.	Error occurs when data aren't established in specified shift register.	Setting data in shift register.	Error reset.	I	I	I	I	on	on
2601	Operational failure	Servo gun auto-setting gets abnormal data.	It is not possible to compute the servo gun inertia using current gathered by parametor auto-setting	(1)Please make the servo gun position more wildly between pose 1 and pose 2. (2)Please confirm the servo parameters of target servo gun mechanism.	No reset operations neccesary.	A	A	A	A	on	on
2605	Operational	User coordinate does	Failure occurs when use of User	Define User coordinate system(s) in [Service][10	No reset	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure	not exist.	coordinate is attempted without the coordinate system being pre-defined.	User Coord. Definition]before attempting to use it.	operations neccesary.						
2606	Operational failure	User coordinate is indefinite.	This error is detected when the base of specified user coordinates is not in agreement with the operation standard mechanism of the current unit.	Define User coordinate system(s) in [Service][10 User Coord. Definition]before attempting to use it.	No reset operations neccesary.	A	A	A	A	on	on
2607	Operational failure	The user coordinate number which cannot be used as the Stationary tool coordinate was chosen.	Failure occurs although step is Stationary tool interpolation, the operation standard mechanism is chosen as the base of Stationary tool coordinate.	Please select stationary tool defined by the world coordinate using FN67.	No reset operations neccesary.	A	A	A	A	on	on
2608	Operational failure	The user coordinate number which cannot be used was chosen.	This function is not permitted for using user coordinate on TCF coordinate system.	Please define user coordinate defined by the world coordinate.	No reset operations neccesary.	A	A	A	A	on	on
2609	Operational failure	The coordinate which cannot be used was chosen.	Work coordinate or user coordinate on TCF coordinate was used for the manipulator set as the operation standard mechanism.	Please change coordinate.	No reset operations neccesary.	A	A	A	A	on	on
2610	Operational failure	Pause substitution overlaps.	Without executing move command, pause substitution to the same mechanism was performed.	Please teach move command after LETCOORDP function and execute.	No reset operations neccesary.	A	A	A	A	on	on
2611	Operational failure	Modifying user coordinate failed.	Modifying user coordinate failed for one reason of the followings. (1)[OZX order] is chosen though it is instruction of two or less points. (2)The points are less than three points. (3)Three points are on the same line. (4)Position data is not encoder. (5)User coordinates register file does not exist.	Please correct instruction points.	No reset operations neccesary.	A	A	A	A	on	on
2620	PLC failure	SHARP I/F: JW32CV module cannot be recognized.	When the data exchange with the module cannot be processed, this error is detected.	Please confirm setting of JW32CV module.	Error reset.	A	A	A	A	on	on
2621	PLC failure	SHARP I/F: Memory error detected.	Error occurs when Memory failure in the JW32CV module self-check is detected.	Refer to the Self-check section of the JW32CV Manual.	Error reset.	A	A	A	A	on	on
2622	PLC failure	SHARP I/F: CPU error detected.	Error occurs when CPU failure in the JW32CV module self-check is detected.	Refer to the Self-check section of the JW32CV Manual.	Error reset.	A	A	A	A	on	on
2623	PLC failure	SHARP I/F: I/O error detected.	Error occurs when I/O failure in the JW32CV module self-check is detected.	Refer to the Self-check section of the JW32CV Manual.	Error reset.	A	A	A	A	on	on
2624	PLC failure	SHARP I/F: Special I/O error detected.	Error occurs when Special I/O failure in the JW32CV module self-check is detected.	Refer to the Self-check section of the JW32CV Manual.	Error reset.	A	A	A	A	on	on
2625	PLC failure	SHARP I/F: Option error detected.	Error occurs when Option failure in the JW32CV module self-check is detected.	Refer to the Self-check section of the JW32CV Manual.	Error reset.	A	A	A	A	on	on
2626	PLC failure	SHARP I/F: Power error detected.	Error occurs when Power failure in the JW32CV module self-check is detected.	Refer to the Self-check section of the JW32CV Manual.	Error reset.	A	A	A	A	on	on
2627	PLC failure	SHARP I/F: Extend Power error detected.	Error occurs when Extend Power failure in the JW32CV module self-check is detected.	Refer to the Self-check section of the JW32CV Manual.	Error reset.	A	A	A	A	on	on
2628	PLC failure	SHARP I/F: Sequence program is stopping.	A sequence program of JW32CV module is stopping.	Please start a sequence program of JW32CV module.	Error reset.	A	A	A	A	on	on
2651	PLC failure	Toyopuc I/F is a uninstallation.	Toyopuc I/F is not found.	Please confirm whether Toyopuc I/F is installed.	Please turn on the power supply again after Toyopuc I/F installs.	E	E	E	E	on	on
2652	PLC failure	Toyopuc I/F:I/O refreshing has stopped.	There is no response from Toyopuc I/F.	Please confirm Toyopuc I/F.	Automatically restores, when the problem is solved.	E	E	E	E	on	on
2653	PLC failure	Toyopuc I/F:Abnormality is found in the dual port memory.	Toyopuc I/F detected the dual port memory malfunction.	Please refer to the manual of Toyopuc I/F.	Automatically restores, when the problem is solved.	E	E	E	E	on	on
2654	PLC failure	Error occurred by toyopuc I/F.	Toyopuc I/F detected the error.	Please refer to the manual of toyopuc I/F.	Automatically restores, when	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
					the problem is solved.						
2655	PLC failure	The communication with Toyopuc I/F got the suspension.	The communication with Toyopuc I/F did the time-out.	The bad electrical contact of Toyopuc I/F or bad functionality of UM237 is thought.	Please reenter the power supply after removing a wrong cause.	E	E	E	E	on	on
2656	Spot weld failure	Current of tip dresser abnormaled.	This error occurs when the servo dresser is exceeded beyond current range.	(1)Please confirm the tip dress condition.(2)Please confirm the cable between the controller and the servo tip dresser.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2657	Spot weld failure	Tip dresser abnormal.	This error occurs when normal input signal from tip dresser is lost during tip dress function.	Please check the normal input signal from the tip dresser.	This error is released if restart playback.	A	A	A	A	on	on
2658	Operational failure	The user window has not been opened.	The user window has not been opened.	The user window has not been opened.	This error will be canceled if a program is corrected and restarted.	I	I	I	I	on	on
2659	Operational failure	Other user tasks use the user window.	Other user tasks use the user window.	Other user tasks use the user window.	This error will be canceled if a program is corrected and restarted.	I	I	I	I	on	on
2660	Spot weld failure	length of tip dressed abnormaled.	This error occurs when the dress length of tip is exceeded beyond dress length range.	(1)Please confirm the tip dress condition.(2)Please confirm the tip consumption.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2661	Spot weld failure	Tip dress cannot be executed that is servo gun search write is enabled.	Servo gun tip cannot be dressing during of search write.	(1)If tip dress control "servo" then set the tip dress search write "Enabled", else set the servo gun search write "Disabled".	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2662	PLC failure	2port ram is abnormal.	Abnormality of 2port ram occurred.	Please confirm the contact failure of Toyopuc I/F, confirm the stop of PC, and confirm reset of PC.	Please reenter the power supply after removing a wrong cause.	E	E	E	E	on	on
2663	PLC failure	The interface is abnormal with PC.	Failed in the data reading from PC.	Please confirm the contact failure of Toyopuc I/F, confirm the stop of PC, and confirm reset of PC.	Please reenter the power supply after removing a wrong cause.	E	E	E	E	on	on
2669	Shift failure	X Bending shift volume is bigger than the error limit.	For glass handling, X bending shift is calculated too big.	Modify XY bending table to correct value.	Error reset.	E	E	E	E	on	on
2670	Shift failure	Y Bending shift volume is bigger than the error limit.	For glass handling, Y bending shift is calculated too big.	Modify XY bending table to correct value.	Error reset.	E	E	E	E	on	on
2671	Control failure	Conveyer synchronization not ON	Error occurs if a command or function is attempted requiring Conveyer synchronization ON.	Turn Conveyer synchronization ON	Error reset.	A	A	A	A	on	on
2672	Shift failure	Usage of MAPPING function is wrong.	MAPPING function is re-executed while MAPPING execution.	Modify program to rectify error.	Error reset.	A	A	A	A	on	on
2673	Shift failure	Usage of ALIGNMENT function is wrong.	ALIGNMENT function is re-executed while ALIGNMENT execution.	Modify program to rectify error.	Error reset.	A	A	A	A	on	on
2674	Shift failure	Sensors don't turn on.(ALIGMNENT)	There was no input of alignment sensors while ALIGNMENT searching.	Confirm that the work passes on the alignmnet sensors. Adjust sensor sensitivity. Confirm connection from sensors.	Error reset.	A	A	A	A	on	on
2675	Shift failure	Bending shift volume is bigger than the error limit.	For glass handling, bending shift is calculated too big.	Modify bending table to correct value.	Error reset.	E	E	E	E	on	on
2676	Shift failure	No support function for SJ type manipulator.	This error occurs if no support function for SJ is executed.	No support function is not used.	No reset operations neccesary.	A	A	A	A	on	on
2677	Spot weld failure	Major Welder error(Fault).	Error occurs when the welder board generate the error(Fault).	Remove the cause of the error.	Error reset.	A	A	A	A	on	on
2678	Spot weld failure	Welding command is not execute.	Error occurs when the welder board abort welding command sequence.	Remove the cause of weld error.	Error reset.	A	A	A	A	on	on
2679	Shift failure	Torsion shift volume is bigger than the error limit.	For glass handling, torsion shift is calculated too big.	Modify twist table to correct value.	Error reset.	E	E	E	E	on	on
2680	Operational	The position of X1	The position of X1 of the robot	Please correct the position of X1 by use of Adjust	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure	exceeded the amount of the compulsion return.	exceeds the amount of the compulsion return.	Position key.							
2681	Operational failure	The position of X1 exceeded the record position tolerable quantity.	The value of X1 in the set step exceeds the record position tolerable quantity.	Please set X1 below the record position tolerable quantity.	Error reset.	A	A	A	A	on	on
2682	Shift failure	Sensors don't turn on.(MAPPING)	There was no input of alignment sensors while MAPPING.	Confirm connection from sensors.	Error reset.	A	A	A	A	on	on
2683	Shift failure	Glass Handling : The SJ type manipulator's 1st and 2nd arms are unbalanced.	For glass handling, the J1 angle of the earth does not equal to the J2 angle of the earth.	1) On [Constant Setting]-[Machine Parameters]-[Encoder Correct], the J1 angle of the earth equals to the J2 angle of the earth. 2) After the memory format of the controller, this error occurs. The encoder correct is exactly executed.	Error reset.	E	E			on	on
2684	Shift failure	Glass Handling : Dynamic twisted correction value over.(Accelerating revision)	For glass handling, dynamic twisted correction value exceeded error inspection level.	Please take a second look accelerating twisted revision parameter.	Error reset.	A	E			on	on
2685	Shift failure	Glass Handling : Dynamic twisted correction value over.(Teach point revision)	For glass handling, dynamic twisted correction value exceeded error inspection level.	Please take a second look teach point twisted revision parameter.	Error reset.	A	E			on	on
2686	Shift failure	Glass Handling : Dynamic twisted correction value over.(Position)	For glass handling, dynamic twisted correction value exceeded error inspection level.	Please take a second look position twisted revision parameter.	Error reset.	A	E			on	on
2687	Spot weld failure	Major Welder error.	Error occurs when the welder board generate the weld error.	Remove the cause of weld error.	Error reset.	A	A	A	A	on	on
2688	Spot weld failure	Welding command is not execute.	Error occurs when the welder board abort welding command sequence.	Remove the cause of weld error.	Error reset.	A	A	A	A	on	on
2698	Operational failure	Data level too low for Auto tool load center setting.	In the automatic tool center of gravity set function, it is not possible to calculate by the gathered current value.	(1)Teach points that enough unbalanced torque is exerted on J3,J5 and J6 axis. (2)Make the wrist posture vary greatly between step 1 and step 2 positions.	No reset operations neccesary.	A	A	A	A	on	on
2699	Operational failure	The measurement result of the automatic setting of tool moment of inertia is abnormal.	This failure occurs when gathered speed or current data are abnormal.	(1)Please correct the teaching so that move range is wide as much as possible. (2)Please correct the teaching so that the move axis is not influenced by gravity.	No reset operations neccesary.	A	A	A	A	on	on
2701	Spot weld failure	Servo gun pressure is not achieved.	Error occurs when the set gun pressure is not achieved within the time period set in [Constant][General characteristic of Servo Gun].	Error occurs when the set gun pressure is not achieved within the time period set in [Constant][General characteristic of Servo Gun].	This error is released if restart playback.	A	A	A	A	on	on
2703	Spot weld failure	GUN SEARCH not complete.	Error occurs when a GUN search function is abnormally interrupted by a Spot welding function. Or, the order of executing the tip consumption detection is wrong.	Please modify the execution timing of the tip consumption detection.	Error reset.	A	A	A	A	on	on
2710	Spot weld failure	WI signal does not become off.	Error occurs when a WI signal, from the last weld sequence, remains on more than 5s after a GUN or WELD signal is output by the controller.	Check the welder is operating normally.	This error is released if restart playback.	A	A	A	A	on	on
2757	Spot weld failure	Weld control is not supported by MEDLAN command.	Error occurs when the weld control software is too old.	Install the latest software version.	Error reset.	A	A	A	A	on	on
2763	Spot weld failure	Different spot welding gun mounted.	Error occurs when a gun different from the gun specified in a Spot welding function is detected.	Correct the program, otherwise attach the correct gun before using Spot welding function.	Error reset.	A	A	A	A	on	on
2781	Spot weld failure	Servo Gun Move-tip consumption exceeded maximum limit.	Servo Gun Move-tip consumption exceeded the maximum limit.	Replace the worn Move-tip and detect tip consumption again.	Error reset.	A	A	A	A	on	on
2782	Spot weld failure	Servo Gun Settle-tip consumption exceeded maximum limit.	Servo Gun Settle-tip consumption exceeded the maximum limit.	Replace the worn Settle-tip and detect tip consumption again.	Error reset.	A	A	A	A	on	on
2783	Spot weld failure	The difference of tip consumption is too large. The synchronous welding was not executed.	When the synchronous welding was executed, the difference of tip consumption of master gun and slave gun exceeded the alarm detection level.	Please execute synchronous welding again after exchanging the tip, and detecting the tip consumption.	Error reset.	A	A	A	A	on	on
2784	Spot weld failure	The synchronous welding cannot be	(1)Specified cancer is not connected. (2)The same welder is	Please reconsider gun/welder number.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		executed.	specified. (3)Specified gun is not in the unit. (4) Guns with different installation has been selected. (5)The servo gun exists together to the air gun. (6)MEDbus welding I/F is specified in SYNCSPOT(FN303). (7)MEDbus welding I/F is not specified in SYNCSPOTIWB(FN316).								
2785	Spot weld failure	Welding point is far from a recorded point.	This error occurs when the welding point is far from a recorded point.	Please check not to collide from other equipment. Please check settings as below, servo gun contact detect, tool constant parameters, servo gun tip consumption, servo gun bend characters.	Error reset.	A	A	A	A	on	on
2786	Spot weld failure	It was going to start while waiting for WI of manual or external welding.	It will generate, if it starts while waiting for WI of manual or external welding.	Please start after releasing WI.	Error reset.	A	A	A	A	on	on
2790	Operational failure	Pose calculation failed.	This error occurs when any axis angles can not be calculated with the form parameters.	Check form parameters.	No reset operations neccesary.	A	A	A	A	on	on
2791	Operational failure	Error signal detected during form cutting.	This error occurs when the error signal of form cutting is ON during form cutting..	Check the cutting controller. Check the connection with the cutting contorller.	No reset operations neccesary.	A	A	A	A	on	on
2792	Operational failure	No current detection signal turn on.	This error occurs when the current detection signal isn't turn on at cutting start.	Check the cutting controller. Check the connection with the cutting contorller.	No reset operations neccesary.	A	A	A	A	on	on
2793	Operational failure	Form cutting error.	This error occurs when any trouble are happen during the form cutting.	Check form cutting parameters. And Check the cutting controller and the connection with the cutting contorller.	No reset operations neccesary.	A	A	A	A	on	on
2800	Operational failure	Mechanism is not mounted.	Error occurs when a mount mechanism function is attempted without a mechanism being attached. Or, the sub-mechanism input signal line has been disconnected.	Attach a mechanism before using a mount mechanism function.	Error reset.	A	A	A	A	on	on
2801	Operational failure	Sub-mechanism cannot be selected.	Because two or more submechanism input signal has been turned on, the connected mechanism cannot be selected.	Please input the submechanism input signal correctly, and using a mount mechanism function.	Error reset.	A	A	A	A	on	on
2802	Operational failure	Mechanism number is wrong.	The mechanism number that was not able to change the mechanism or was being registered with the Connection simultaneously mech. table by the slave was selected. .	Please set the mechanism number correctly.	Error reset.	A	A	A	A	on	on
2803	Operational failure	Different mechanism mounted.	Error occurs when a mechanism different from the mechanism specified in a step is detected.	Please correct the program.	Error reset.	A	A	A	A	on	on
2804	Operational failure	Conflict of mechanism change.	Error occurs when the change function was executed for the mechanism using other units.	Please correct the program.	Error reset.	A	A	A	A	on	on
2805	Operational failure	Mechanism number is wrong.	The mechanism number which was not able to change the mechanism was selected.	Please set the mechanism number correctly.	Error reset.	A	A	A	A	on	on
2806	Operational failure	The state of the master mechanism and the slave mechanism is the disagreements.	The connection of the mechanism registered in “Connection simultaneously mech. table” of the mechanism change is a disagreement.	Please connect the mechanism again after separating the mechanism once.	Error reset.	A	A	A	A	on	on
2823	Sealing failure	The temperature of the material exceeded the upper bound.	The temperature of the seal material exceeded the set upper bound value.	Please check the temperature adjuster.	Error reset.	A	A	A	A	on	on
2824	Sealing failure	The temperature of the material exceeded the lower bound.	The temperature of the seal material exceeded the set lower bound value.	Please check the temperature adjuster.	Error reset.	A	A	A	A	on	on
2825	Sealing failure	Flow ready fault.	Error occurs when the set pressure is not achieved within the time period set in constant.	Please check whether the specified pressure is appropriate.	Error reset.	A	A	A	A	on	on
2826	Sealing failure	The material is lack.	The seal material in the pump does not suffice for the specified amount.	Please modify the timing of reload.	Error reset.	A	A	A	A	on	on
2827	Sealing failure	The sealing incomplete.	The robot stopped while flowing or the pump position reached flow limit.	Please cancel the cause of stopping or modify the timing to flow after the reload operation is done.	Error reset.	A	A	A	A	on	on
2828	Sealing	The sealing operation	Other sealing operation is	Please modify the timing of operation.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure	cannnot be executed.	executing.								
2829	Sealing failure	The reload operation is incomplete.	Because Motor's on is turn off while reloading, reload operation is not able to be completed.	Please modify the timing of operation.	Error reset.	A	A	A	A	on	on
2830	Sealing failure	Dispense incomplete.	Reached flow limit.	Please modify the timing to flow after the reload operation is done.	Error reset.	A	A	A	A	on	on
2831	Sealing failure	The analog input board is a uninstallation.	It is setting which uses the thermo sensor and the pressure sensor though the analog input board is not installed.	Please modify setting whether to install the analog input board.	Error reset.	A	A	A	A	on	on
2832	Sealing failure	The dispense function can not be carried out.	Specified gun is not defined in the unit.	Please modify program.	Error reset.	A	A	A	A	on	on
2850	Operational failure	The command which is not permitted was executed in the controller with the force/Torque sensor.	In a controller with the force/torque sensor, the commands (SPDDOWNA etc.) which use the analog input's of those other than a force/torque sensor cannot be used.	Please correct not to use the analog input use function of a force/torque sensor and others with the same controller.	No reset operations neccesary.	A	A	A	A	on	on
2851	Operational failure	The force/torque sensor function can not be carried out.	Force/torque sensor function is disabled.	Please modify parameter.	Error reset.	A	A	A	A	on	on
2852	FLEXhand failure	Clamp position limit over.	It detects when clamping motion quantity exceeds 'Clamp position limit' setting.	(1)Confirm a place of the work piece. (2)Confirm the recorded position of the clamping start step.	Error reset.	A	A	A	A	on	on
2853	FLEXhand failure	The air assist mechanism is abnormal.	It detects when the air assist mechanism is located on the clamping end during the clamp function is executed.	(1)Confirm whether FLEXhand grips the work correctly.(2)Confirm whether FLEXhand is dropping the work.	Error reset.	A	A	A	A	on	on
2854	FLEXhand failure	FLEXhand clamping motion time over.	It detects when clamping motion time exceeds the setting 'Wait time for clamp action'.	(1)Confirm FLEXhand clamps the work piece well. if it doesn't, correct its position or recorded step position. (2)Correct setting 'Clamping pressure' higher.	Error reset.	A	A	A	A	on	on
2855	FLEXhand failure	Air assist mechanism does not work.	It detects when input signal from the air assist mechanism is not change even if its activation signal is output.	Confirm whether the air assist mechanism works correctly. (2)Confirm whether the signal from the air assist mechanism is input correctly.	Error reset.	A	A	A	A	on	on
2856	FLEXhand failure	Clamp function usage is wrong.	It detests when FN362 clamp function is executed again while FLEXhand is clamping.	Confirm and correct the program.	Error reset.	A	A	A	A	on	on
2857	FLEXhand failure	Unclamp function usage is wrong.	It detests when FN363 unclamp function is executed while FLEXhand is not clamping.	Confirm and correct the program.	Error reset.	A	A	A	A	on	on
2858	FLEXhand failure	Unclamp direction is not correct.	It detests when FLEXhand tries to move to clamping direction when unclamp function is executed.	(1)Confirm setting of 'Opened finger position'. (2)If the parameter is 0, the setting 'Standard unclamp distance' in service menu is used. Confirm the setting.	Error reset.	A	A	A	A	on	on
2859	Operational failure	A fetched signal status has changed.	I-signal status fetched by 'FN528 FETCH' function must not change before a function referring the I-signal is executed.	(1)Control the I-signal status so as not to change until a function referring the signal is executed. (2)Modify 'FN528 FETCH' recorded step.	This failure is released if restart playback.	E	E	A	A	on	on
2860	Operational failure	Effective steps which FETCH result is available was exceeded.	Executed position step number exceed the setting number of Effective span of a fetched signal before reaching the step which is checked by the signal set by fetch function.	(1)Modify 'FN528 FETCH' recorded step. (2)Effective span of fetched signal can be modified at "Constant Setting:6 Signals:1 Signal Condition".	This failure is released if restart playback.	E	E	A	A	on	on
2861	Shift failure	The designated palletize No. is not registered.	The palletize pattern of designated number is not defined.	(1)Please designated a defined palletize number. (2)Please define palletize pattern of the designated number.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
2862	Shift failure	The designated palletize number has never been executed yet.	Palletize status is registered in palletize register when executing it once, and maintained until resetting it. This operation cannot be done to palletize number unregistered in the palletize register.	(1)Please designated an executed palletize number. (2)Please execute palletize of the designated number even once before doing this operation.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
2863	Shift failure	Designate a palletize number under execution.	This operation is possible only the palletize number under execution.	(1)Please designated a palletize number under execution. (2)Please execute palletize of the designated number before doing this operation.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
2864	Shift failure	This function is not supported to the unit without manipulator.	This error occurs if this function is executed in the unit without manipulator.	Do not use this function in the unit without manipulator.	No reset operations neccesary.	A	A	A	A	on	on
2865	Shift failure	palletize function can	A move step is needed just after	Please record move step just after	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		not be carried out.	FN388(PALLET3_SELZ) step.	FN388(PALLET3_SELZ).							
2866	Spot weld failure	Welder fault.	Error occurs when the Welder fault signal is detected in a welding sequence.	Check the welder unit.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2867	Spot weld failure	Coolant fault #1.	Error occurs when the Water flow switch #1 signal is detected in a welding sequence.	Check the GUN or welding unit.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2868	Spot weld failure	Coolant fault #2.	Error occurs when the Water flow switch #2 signal is detected in a welding sequence.	Check the GUN or welding unit.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2869	Spot weld failure	Air pressure fault.	Error occurs when the Air pressure switch signal is detected in a welding sequence.	Check the GUN or welding unit.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2870	Spot weld failure	Transformer temperature fault.	Error occurs when the Thermo. temp. fault signal is detected in a welding sequence.	Check the GUN or welding unit.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2871	Spot weld failure	Peripheral system fault.	Error occurs when the System fault signal is detected in a welding sequence.	Check the System.	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
2872	Spot weld failure	The move-electrode diameter is less than the minimum diameter.	The move-electrode diameter is less than the minimum diameter set by the seam welding parameters.	Replace the worn move-electrode and detect electrode consumption again.	Error reset.	A	A	A	A	on	on
2873	Spot weld failure	The settle-electrode diameter is less than the minimum diameter.	The settle-electrode diameter is less than the minimum diameter set by the seam welding parameters.	Replace the worn settle-electrode and detect electrode consumption again.	Error reset.	A	A	A	A	on	on
2908	Spot weld failure	The specified welder is not effective.	The specified welder is not effectively set by the spot welding constant.	Modify the welder number.	Error reset.	A	A	A	A	on	on
2923	Spot weld failure	Spot welding gun is not mechanically connected	It was judged that spot welding gun was not mechanically connected because the connection signal was not input.	Connect gun mechanically. When gun is connected, check the disconnection of the signal line.	Error reset.	A	A	A	A	on	on
2937	Operational failure	Speed type endless cannot be executed.	Error occurs when speed type endless was not able to be executed.	Please set the mechanism number again.	The error is not released until measures are executed.	A	A	A	A	on	on
2938	Operational failure	The change in an endless control cannot be executed.	Because the endless control method is not set to "Change", the specified mechanism cannot be executed.	1. Please confirm the endless control method. 2. Please confirm the mechanism number.	Error reset	A	A	A	A	off	off
2939	Operational failure	The function can not be used in velocity control.	The function was attempted that is not allowable while change type endless axis is controlled by velocity control.	Please execute the function after change control type of change type endless axis to position control.	Error reset	A	A	A	A	off	off
2945	Operational failure	Signals of multi input are not designated.	Error occurs when a multi input function was attempted playback with no condition number.	Create the multi input conditions, or replace the function to normal input.	Error reset.	I	I	I	I	on	on
2946	Shift failure	User coordinate number is not selected.	It is necessary to select user coordinate number before shift function at user coordinate.	Execute [FN113 Change coordinate for shift] before shift functions.	No reset operations neccesary.	A	A	A	A	on	on
2961	FieldBus failure	Setted area of common memory is overlapped.	Area of common memory setted by robot controller is already used by other node.	After change setting into correct one, perform re-initialization of field bus.	No reset operations neccesary.	A	A	A	A	on	on
2971	Operational failure	Stationary tool is not selected.	Failure occurs when Stationary tool is not selected although step is Stationary tool interpolation.	Please select stationary tool using FN67.	No reset operations neccesary.	A	A	A	A	on	on
2973	Control failure	Playback unavailable because the enable switch is not in the release position.	This error occurs when a playback command was input while the enable switch is being grasped.	(1)Please input the playback command after releasing the enable switch. (2)Replace the teach pendant.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
2974	Operational failure	Pause or External pause signal being given.	Error occurs when a Start command is given while the pause signal is being held or External pause signal is being given.	Release Pause or External pause signal(if External pause signal cable is cut the external pause signal is considered as being given.	Error reset.	A	A	A	A	on	on
2975	Control failure	It cannot be started under G-STOP.	Error occurs when a start command is given under G-STOP.	Please release G-STOP by turning on G-STOP signal (TBEX1).	Error reset.	A	A	A	A	on	on
2976	Preventive maintenance message	System Memory Protection disabled	System Memory Protection is disabled. You must not turn off the controller.	Please change System Memory Protection enable.	Please change System Memory Protection enable and restart the controller.	A	A	A	A	on	on
2977	Preventive maintenance message	System Memory Protection disabled	System Memory Protection is disabled. You must not turn off the controller.	Please change System Memory Protection enable.	Please change System Memory Protection enable and restart the controller.	I	I	I	I	off	off
2978	Preventive maintenance message	System Memory Protection disabled	System Memory Protection is disabled. You may lost the data of system memory at power off.	Please change System Memory Protection enable.	Please change System Memory Protection enable and restart the controller.	E	E	E	E	on	on
2990	Spot weld failure	The user application is not ready.	The user application is not ready or it stopped.	Check the user application.	Error reset.	A	A	A	A	on	on
2991	Spot weld failure	No response form the user application.	No response to the specified user application to the command.	Check the user application.	Error reset.	A	A	A	A	on	on
2999	Operational failure	Duplicate output signal attribute.	FN35 was going to carried out or set on output signal which assigned attribute already.	Please clear attribute assignment in order not to attribute is duplicate.	Error reset.	A	A	A	A	on	on
3010	Control failure	Far distance between a current position and a position at putting servo-power off.	Since stopping during high-speed playback and so on, robot couldn't normally stop on the trajectry. Since the distance is over the limit for error detection value, robot can't recovery.	If a limit for error detection is too small, change the value in constant setting. Position Recovery is invalidated setting both recovery limit values to zero.	Robot can restart from there without reset operation.	I	I	I	I	on	on
3018	Spot weld failure	Weld tip may be worn.	This warning occurs when the Weld counter exceeds the limit value.	Check the Gun tip and reset the counter.	No reset operations neccesary.	I	I	I	I	on	on
3021	Control failure	Too far distance between a current position and a position at putting servo-power off.	Since stopping during high-speed playback and so on, robot couldn't normally stop on the trajectry. Since the distance is over the limit for error detection value, robot can't recovery.	If a limit for error detection is too small, change the value in constant setting.	Error reset. Robot can't playback, untill step is set.	A	A	A	A	on	on
3022	Operational failure	Take care of not recovering position at the next servo on.	Since the position for recovery couldn't recorded, never recover the position at the next servo on without related to distance. This might be occured at servo off during recovery position.	There is no way.	No reset operations neccesary.	I	I	I	I	on	on
3037	Spot weld failure	The external operation of servo gun is not permitted while running program.	The external operation of servo gun was executed while running program.	Please execute of external operation while program is stopping or servo gun is separating.	No reset operations neccesary.	I	I	I	I	on	on
3051	Control failure	Please release both of the enable swiches.	This failure occurs when grasping the enable swich after detecting inconsistency without releasing both of them.	Please release both of the enable swiches.	No reset operations neccesary.	I	I	I	I	off	off
3057	Spot weld failure	Cannot startup while read/write text executing.	When the startup is input during the processing execution by text read/write screen, this error is output.	Please input the startup instruction after text read/write operation ends.	No reset operations neccesary.	I	I	I	I	on	on
3062	Spot weld failure	Enable switch is not released position.	At the teach-mode, Enable switch was not released position and robot master ON operation was carried into effect.	Release Enalbe switch and please perform robot master ON operation.	No reset operations neccesary.	I	I	I	I	off	off
3079	CPU board failure	CPU bord temperature warning.	This error occurs when detecting the temperature alarm on the CPU board.	(1)Check the fans on the rack unit are operating, or clean up them. (2)Replace the rack-unit fan. (3)Replace the CPU board.	Error reset.	I	I	I	I	on	on
3081	Operational failure	Auto backup can't connect to FTP server for auto backup.	It was not a connection to the FTP server that was backing up of an automatic backup ahead. Or, neither an initial folder nor the folder of this name existed on the home directory of the FTP server.	Please confirm host name, user ID, password, and initial folder of ftp client.	No reset operations neccesary.	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
3082	Operational failure	Abnormality occurred while backing up automatically.	The thing backed up automatically cannot be done. The storage medium is not prepared, and read-only and memory capacity shortage, etc. are thought.	Please confirm the state of the storage medium.	No reset operations neccesary.	I	I	I	I	on	on
3083	Operational failure	The memory medium is read-only.	When it is going to copy a file to a write-protected memory cards etc., this error sets.	Please prepare the memory medium to which writing is made and perform a copy from the beginning once again.	It will be canceled if some keys are pushed.	I	I	I	I	on	on
3084	Operational failure	Media device is full.	Failure occurs if there is no memory space left when attempting to copy to external device or internal memory.",	Create space in current media device or use another.	No reset operations neccesary.	I	I	I	I	on	on
3085	Operational failure	The memory media is not prepared.	The detection reason is that the specified device was not detected when the file operation is done.	Whether the device such as memory cards specified by the file operation menu is correctly installed is confirmed.	It will be canceled if some keys are pushed.	I	I	I	I	on	on
3086	Operational failure	Auto backup can't connect to the T/P external memory for auto backup.	Because T/P was not connected, it was not able to access the T/P external memory.	Please connect T/P.	No reset operations neccesary.	I	I	I	I	on	on
3087	Operational failure	It failed in the attestation with TP.	The attestation to TP external memory went wrong.	Please check connection of TP external memory.	No reset operations neccesary.	I	I	I	I	on	on
3089	Operational failure	It cannot process in the same device.	It was going to copy to the same device by the same file name.	Please change a file name or a device and redo copy operation again.	It will be canceled if some keys are pushed.	I	I	I	I	on	on
3097	Spot weld failure	Cannot startup while read/write text executing.	When the startup is input during the processing execution by text read/write screen, this error is output.	Please input the startup instruction after text read/write operation ends.	No reset operations neccesary.	I	I	I	I	off	off
3103	Control failure	In OFF-mode, motors are not able to be ON.	Both of play and teach signal are OFF.	Please confirm play and teach signals are connected exactly.	No reset operations neccesary.	I	I	I	I	off	off
3110	Operational failure	Number of axes miss-matched.	Failure occurs when the number of axes used in a program is not compatible with the unit constant files.	Check the program file type is comptible with the constants currently in use.	No reset operations neccesary.	I	A	I	A	on	on
3111	PLC failure	The alarm was generated by Toyopuc I/F.	Toyopuc I/F detected the alarm.	Please refer to the manual of Toyopuc I/F.	Automatically restores, when the problem is solved.	A	A	A	A	on	on
3112	PLC failure	SHARP I/F: Battery error occurred.	Warning occurs when the battery for the memory backup is nothing or discharged.	Replace the battery for the memory backup.	No reset operations.	I	I	I	I	on	on
3113	PLC failure	SHARP I/F: It exists together to fieldbus functions.	It exists together to fieldbus functions.	Disable fieldbus functions, and reenter the power supply.	Error reset.	I	I	I	I	on	on
3134	Operational failure	Data given is incorrect.	Data keyed-in is out of range or not defined.	Input suitable data.	No reset operations neccesary.	I	I	I	I	on	on
3137	Spot weld failure	Servo Gun Dramatic tip consumption change detected.	Warning is given when the set warning limit for gun tip consumption is exceeded. Tip consumption warning signal is outputted.	Check the lack of gun tip.	No reset operations neccesary.	I	I	I	I	on	on
3138	Spot weld failure	Welder version is unmatched.	Welder version is unmatched.	Initialize welder data.	No reset operations neccesary.	I	I	I	I	on	on
3141	Spot weld failure	Welder backup file is not found.	Welder backup file is not found.	Initialize welder data.	No reset operations neccesary.	I	I	I	I	on	on
3142	Spot weld failure	Welder error occurred.	Welder detects ALERT or FAULT.	Refer to the Welder Manual.	Error reset.	I	I	I	I	on	on
3146	Preventive maintenance message	It seems to reach at the grease exchange time.	The decelerator of the displayed axis reached at the grease exchange time.	(1)Please execute the grease exchange. (2)Please refer to the robot maintenance manual for the exchange method and the exchange part.	After exchanging grease, Please reset at the [Service][Robot Diagnosis][Grease Exchange Cycle] menu.	I	I	I	I	on	on
3147	Preventive maintenance message	It seems to reach at the grease replenishment time.	The decelerator, the bearing or balancer of the displayed axis reached at the grease replenishment time.	(1)Please execute the grease replenishment. (2)Please refer to the robot maintenance manual for the replenishment method and the replenishment part.	After replenishing grease, Please reset at the [Service][Robot Diagnosis][Greas	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
					e Exchange Cycle] menu.						
3148	Preventive maintenance message	There is an axis which exceeds the allowance and maximum torque.	The presumption generation torque exceeded a permissible value by displayed program step and axis.	(1)Change to ratings or less when the robot load condition is investigated, and weight and the wrist torque exceed it to ratings.(Gravity setting is used) (2)There is a possibility to exceed the acceleration which can be used. (Check the step before and after) (3)There is a possibility with a large interference torque, too. (Drop the acceleration of the displayed step.)	Error reset.	I	I	I	I	on	on
3149	Preventive maintenance message	It is a program which remarkably shortens longevity.	In the displayed program, longevity is within at 5000 hours.There is a possibility which is the program of call/jump origin when the call/jump are used.	(1)Change to ratings or less when the robot load condition is investigated, and weight and the wrist torque exceed it to ratings. (Gravity setting is used) (2)The amount of operation is, and the average speed and the average torque greatly exceed ratings because of largeness or high speed, and there is a possibility that longevity has shortened. Reduce the amount of operation of the object axis or slow down the speed if there is no obstacle in work. (program diagnosis) (3)There is a possibility to be generated because the cycle time is remarkably short. Slow down the speed overall.	Error reset.	I	I	I	I	on	on
3150	Preventive maintenance message	There is a possibility that the setting of the load weight and center of gravity is inapposite.	IIt is detected when there is a big difference between the longevities calculated from longevity and the motor speed calculated from the current.	(1)Please confirm whether the setting of the load weight and center of gravity is correct. (2)Please change to ratings or less when the robot load condition is investigated, and weight and the wrist torque exceed it to ratings. (3)There is a possibility that the trouble occurs in the robot when not corresponding to the above-mentioned.	Error reset.	I	I	I	I	on	on
3151	Operational failure	The program or the file does not exist.	This error occurs when the program number is specified which does not exist in the program jump call instruction.	Please correct the program number to a correct value the jump call ahead.	This failure is released if a correct program is setted and restart playback.	I	I	I	I	on	on
3155	Operational failure	This robot type is different.	Error occurs when a program created for different robot type is read.	Please select a suitable program.	Error reset.	A	A	A	A	on	on
3156	Spot weld failure	Servo Gun Move-tip consumption approaching limit.	Warning is given when the set warning for Move-tip consumption limit is exceeded. Tip consumption warning signal is outputted.	Check the Gun tip. If tips are good check the setting otherwise change the tip to the new one, and detect tip consumption again.	Error reset.	I	I	I	I	on	on
3157	Spot weld failure	Servo Gun Settle-tip consumption approaching limit.	Warning is given when the set warning for Settle-tip consumption limit is exceeded. Tip consumption warning signal is outputted.	Check the Gun tip. If tips are good check the setting otherwise change the tip to the new one, and detect tip consumption again.	Error reset.	I	I	I	I	on	on
3158	Spot weld failure	Servo Gun Move-tip consumption exceeded maximum limit.	Servo Gun Move-tip consumption exceeded the maximum limit.	Replace the worn Move-tip and detect tip consumption again.	Error reset.	I	I	I	I	on	on
3159	Spot weld failure	Servo Gun Settle-tip consumption exceeded maximum limit.	Servo Gun Settle-tip consumption exceeded the maximum limit.	Replace the worn Settle-tip and detect tip consumption again.	Error reset.	I	I	I	I	on	on
3160	Spot weld failure	The change in the tip consumption detected by search 3 is abnormal.	The difference between the consumption detected by search 3 and the consumption detected by search 1 exceeded the search 3 abnormal tip change.	Check the lack of gun tip. If it is no trouble, execute gun search 1.	Error reset.	I	I	I	I	on	on
3161	Spot weld failure	Servo gun pressure is not achieved.	Error occurs when the set gun pressure is not achieved.	Check the external pressure value.	Error reset.	I	I	I	I	on	on
3162	Spot weld failure	GUN SEARCH not complete.	The order of executing the tip consumption detection is wrong.	Please modify the execution timing of the tip consumption detection.	Error reset.	I	I	I	I	on	on
3165	Operational failure	The file is protected.	All protected files or files partially protected (program or constant) tried to be corrected and deleted.	Because the specified file (program or constant) contains important data, protecting is put so that the content is not carelessly changed.	Please release protecting the file (program or constant).	I	I	I	I	on	on
3168	Preventive maintenance message	There is the axis in 1000 hours for overhaul.	The life time of the axis displayed with present operated (time to reaching to longevity) became 1,000 hours or less.	Exchange the axis early. After that 0 clearing of "Consumption time until present".	Error reset.	I	I	I	I	on	on
3169	Preventive maintenance message	There is the axis in 0 hours for overhaul.	The life time of the axis displayed with present operated (time to reaching to longevity) became 0 hour or less.	Exchange the axis. After that 0 clearing of "Consumption time until present".	Error reset.	I	I	I	I	on	on
3170	Operational failure	It was going to start, when unit was not	This error occurs if it starts when unit is not ready.	Please check unit ready signal output conditions, and start after making it the unit ready.	This error is released if it	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		ready.			starts again after making it the unit ready.						
3175	Spot weld failure	Abnormal panel thickness detected.	Dramatic difference of panel thickness exists between recorded value in weld condition and detected value.	Check the weld condition data and real work piece thickness.	No reset operations neccesary.	I	I	I	I	on	on
3177	CPU board failure	Controller temperature fault.	Information occurs when the temperature of the core of the controller exceeds 60℃. If this state lasts 10 min, motor power will be automatically shutdown and E0063 displayed.,	Check the fans are operating, or clean up the heat exchanger.	No reset operations neccesary.	I	I	I	I	on	on
3178	Spot weld failure	Re-weld is not allowed.	You did re-weld except for the time of abnormal welding.	Please restart after set a step in auto mode, or do manual weld.	No reset operations neccesary.	I	I	I	I	on	on
3181	Control failure	Conveyer running signal was not received.	Conveyer running signal was not received in conveyer normal mode.	In conveyer normal mode, turn on conveyer running signal.	No reset operations neccesary.	I	I	I	I	on	on
3194	Operational failure	The program is not recorded nor selected.	This error occurs when the program which is not recorded is selclted and reserve playback.	Please reserve after recording the program or selecting other programs.	This error is released if it sets a correct program and reserve playback.	I	I	I	I	on	on
3218	Operational failure	Command not possible while running program.	This command is not able to be used during the execution of a program.	Stop the program and retry the command.	No reset operations neccesary.	I	I	I	I	on	on
3353	Operational failure	It is protected with the record-disable-switch or the password.	It detects, when it is going to correct or delete the file (a program, constant) protected with the password.	Since the specified file (program or constant) contains important data, protection is applied	Set the record-disable-s witch to OFF or release password protecting.	I	I	I	I	on	on
3354	Servo failure	Rising of motor torque is observed.	The motor torque in a cycle went up as compared with the average value the 10 cycles past.	Check whether there is any cause of raising motor torque, about motors, reduction gears or cables etc.	No reset operations neccesary.	I	I	I	I	on	on
3355	Spot weld failure	Current feedback of servo gun is abnormal.	In the servo gun with pressure sensor, the axis current to pressurizing power is abnormal.	Please check the pressure sensor, the axis motor of servo gun, or those cables connected.	No reset operations neccesary.	I	I	I	I	on	on
3528	Operational failure	The memory medium is not discriminable.	When memory media, such as a FIROPPI disk and an memory card, are not initialized, this error occurs.	By Service / File Manager / Format memory card/Floppy disk, please use it after initializing a memory medium.	It will be canceled if some keys are pushed.	I	I	I	I	on	on
3536	Spot weld failure	Welder fault.	Error occurs when the welding timer detected some errors. Standard welding timer generates this error when the controller received the welder fault signal from welding timer after the end of welding sequence. Regarding except standard welding timer, refer the each operation manual.	Check the welder unit.	No reset operations neccesary.	I	I	I	I	on	on
3537	Spot weld failure	Welding time exceeded limit.	Error occurs if a Weld competed signal is not input before the designated time period.	Check the welder is operating normally.	No reset operations neccesary.	I	I	I	I	on	on
3538	Spot weld failure	The gun not open.	Error occurs if the Gun closed signal is received after the welding sequence ends.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on
3539	Spot weld failure	The gun is not half open.	Error occurs if the Gun half-open signal is not received after Open gun half signal is output by the controller.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on
3540	Spot weld failure	The gun is not fully open.	Error occurs if the Gun full-open signal is not received after Open gun fully signal is output by the controller.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on
3541	Spot weld failure	Stuck Weld GUN detected.	Error occurs if the System fault signal is detected after completion of a welding sequence.	Error occurs if the Weld stuck signal is received when the welding sequence ends.	No reset operations neccesary.	I	I	I	I	on	on
3542	Spot weld failure	Coolant fault #1.	Error occurs if the Water flow switch #1 signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on
3543	Spot weld failure	Coolant fault #2.	Error occurs if the Water flow switch #2 signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
3544	Spot weld failure	Air pressure fault.	Error occurs if the Air pressure switch signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on
3545	Spot weld failure	Transformer temperature fault.	Error occurs if the Thermo. temp. fault signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on
3546	Spot weld failure	Peripheral system fault.	Error occurs if the System fault signal is detected after completion of a welding sequence.	Check the GUN or welding unit.	No reset operations neccesary.	I	I	I	I	on	on
3552	Spot weld failure	Both of half-open and full-open signals are given.	Error occurs if both the Gun half-open signal and Gun full-open signal are received simultaneously after Open gun half signal is output by the controller.	Check the GUN or welding unit to determine the cause of the two simultaneous signals.	No reset operations neccesary.	I	I	I	I	on	on
3553	Spot weld failure	Manual axis moving cannot be operated during waiting for WI.	Error occurs if manual axis moving during waiting for WI.	Please releasing WI.	Please release the WI.	I	I	I	I	on	on
3555	Spot weld failure	Servo-gun is not executed to obey the welder sequence.	Error occurs when the servo-gun is not achieved to command pressure.	Please confirm to the sequence of weld-timer.	No reset operations neccesary.	I	I	I	I	on	on
3656	Spot weld failure	Current of tip dresser abnormaled.	This error occurs when the servo dresser is exceeded beyond current range.	(1)Please confirm the tip dress condition.(2)Please confirm the cable between the controller and the servo tip dresser.	Error reset.	I	I	I	I	on	on
3660	Spot weld failure	Current of tip dresser abnormaled.	This error occurs when the dress length of tip is exceeded beyond dress length range.	(1)Please confirm the tip dress condition.(2)Please confirm the tip consumption.	Error reset.	I	I	I	I	on	on
3666	Request maintenanc e	Cooler fans stopped.	Error occurs when cooler fans stopped.	Please confirm the cable between the controller and the robot manipulator.	After removal of failure, please carry out "failure-reset".	I	I	I	I	on	on
3677	Spot weld failure	Minor Welder warning(Alarm).	Error occurs when the welder board generate the warning(Alarm).	Remove the cause of the warning.	Error reset.	I	I	A	A	on	on
3678	Spot weld failure	Weld error reset is not execute.	Error occurs when welder command execute without reset the error.	Error reset.	Error reset.	I	I	A	A	on	on
3687	Spot weld failure	Minor Welder error.	Error occurs when the welder board generate the weld error.	Remove the cause of weld error.	Error reset.	I	I	A	A	on	on
3688	Spot weld failure	Weld error reset is not execute.	Error occurs when welder command execute without reset the error.	Error reset.	Error reset.	I	I	A	A	on	on
3689	Spot weld failure	RE-01 battery error	Lithem battery cannot be used if it does.	Please exchange the lithem batteries referring to the "RE-01 maintenance manual".	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
3690	Spot weld failure	RE-01 battery charge low	Error occurs when the voltage of lithium battery on RE-01 bord has decreased.	Please exchange the lithem batteries referring to the "RE-01 maintenance manual".	After removal of failure, please turn on power supply of the controller again.	A	A	A	A	on	on
3700	Operational failure	It stopped in the home stop position.	It will generate, if it comes to the position registered by setup of a home stop position function.	Please carry out manual operation again.	No reset operations neccesary.	I	I	I	I	on	on
3701	Operational failure	Option un-setting up.	It generates, when it is going to use the option function which is not set up.	Please set up an option.	No reset operations neccesary.	I	I	I	I	on	on
3702	Vision sensor failure	Illigal request of conveyor sync.	Conveyor sync. request method is different from vision sensor constant setting. Or, it was requested when edit mode of vision sensor.	Please modify constant setting. Or, cancel edit mode.	No reset operations neccesary.	I	I	I	I	on	on
3703	Vision sensor failure	The measurement number is a unsetting.	When conveyor sync. is requested, the measurement number is a unsetting.	Please modify parameters. Or, check input signals.	No reset operations neccesary.	I	I	I	I	on	on
3704	Vision sensor failure	The buffer is full. The measurement result was not able to be stored.	The conveyer speed is too fast.	Please slow down the conveyer speed.	No reset operations neccesary.	I	I	I	I	on	on
3782	Vision sensor failure	The pose search shift data cannot be acquired.	The shift data corresponding to the master data number that has been sent from the vision sensor is not registered.	Please check master data for pose search.	No reset operations neccesary.	I	I	I	I	on	on
3790	Encoder failure	The error counter of the encoder exceeded the	The error counter of the encoder exceeded the setting value.	Please check the encoder.	Error reset.	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		setting value.									
3800	User failure	Abnormal shift data received.	The received shift data contains the status that notifies abnormality.	Please confirm the state of PC that transmits the shift data.	No reset operations neccesary.	I	I	I	I	on	on
3810	Spot weld failure	Welder communication fault(No reply).	Error occurs when the welder is not correctly connected.	(1)Check power supply of the welder and communication cables. (2)Initialize welder data.	Error reset.	I	I	I	I	off	off
3811	Operational failure	Welder option isn't set up.	It generates, when it is going to use the welder option function which is not set up.	Please set up an welder option.	No reset operations neccesary.	I	I	I	I	on	on
3812	Spot weld failure	Welder version is unmatched.	Welder version is unmatched.	Cannot restore a welding parameter using the backup data of a welder different in a version.	No reset operations neccesary.	I	I	I	I	on	on
3813	Spot weld failure	Welder error occurred.	Welder detects FAULT.	Refer to the Welder Manual.	Error reset.	I	I	I	I	on	on
3814	Spot weld failure	Welder error occurred.	Welder detects ALERT.	Refer to the Welder Manual.	Error reset.	I	I	I	I	on	on
3872	Spot weld failure	The move-electrode diameter is less than the warning diameter.	The move-electrode diameter is less than the warning diameter set by the seam welding parameters.	Please check the electrode. The electrode is not worn out, and correct the seam welding parameters. The electrode is worn out, and replace the worn move-electrode and detect electrode consumption again..	Error reset.	I	I	I	I	on	on
3960	FieldBus failure	A part or all I/O links are stopping.	Since the between title has occurred in the I/O device, a robot cannot be started.	Please check the device which the problem has generated by the field bus monitor.	If a problem is solved, it will restore automatically. (In order to solve a problem, the re-injection of a power supply may be required)	I	I	I	I	on	on
3992	Operational failure	The function can not be used in external application mode.	The function was attempted that is not allowable while mode is external application.	Please execute the function after releasing the external application mode.	Error reset	I	I	I	I	off	off
4000	Arc weld failure	Communication timeout occurred between the controller and the welding power supply.	The welding power supply didn't respond.	Check the connection of the welding power supply to the controller.	Turn on the controller and the welding power supply again.	E	E	E	E	on	on
4001	Arc weld failure	Received data failure.	The data which are received from the welding power supply are incorrect.	Check the connection of the welding power supply to the controller.	Turn on the controller and the welding power supply again.	E	E	E	E	on	on
4002	Arc weld failure	Can't communicate with the welding power supply.	The communication between the controller and the welding power supply is shutdown.	Check the connection of the welding power supply to (L21700S00/UM355).	Turn on the controller and the welding power supply again.	E	E	E	E	on	on
4003	Arc weld failure	Can't communicate with the welding power supply.	The communication driver detected the failure.	Check the connection of the welding power supply to the controller. And check the connection of UM355(L21700S00) board.	Turn on the controller and the welding power supply again.	E	E	E	E	on	on
4004	Arc weld failure	The registration of the welding power supply is incorrect.	The kind of registered WPS and actual WPS are not same, or the Dip switch setting of Robot I/F board inside the welding power supply is wrong.	Register WPS correctly, or set Dip switch of Robot I/F board correctly.	After registeration/setting, turn on the controller and the welding power supply again.	E	E	E	E	on	on
4005	Arc weld failure	The welding power supply of old version is connected.	The controll software of the welding power supply is old.	Please update the welding power supply.	After updating, turn on the controller and the welding power supply again.	E	E	E	E	on	on
4006	Arc weld failure	The welding power supply version is wrong for the servo wire feed control.	The servo of the wire feed control unit does not turn on/off because the software of the welding power supply is old.	Please update the welding power supply.	After updating, turn on the welding power supply again.	E	E	E	E	on	on
4007	Arc weld failure	The control software is abnormal in the welding power supply.	The welding power supply doesn't correspond to the stitch pulse welding function.	The control software of the welding power supply must improve in the version.	The control software of the welding power supply improves in the version, and the power supply in the robot controller and the welding power supply is	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
					turned on again.						
4008	Arc weld failure	The welding power supply version does not support the Synchro-welding by CAN communication.	The Synchro-welding is not executed because the software of the welding power supply does not support the Synchro-welding by CAN communication.	Please update the welding power supply.	After updating, turn on the welding power supply again.	E	E	E	E	on	on
4009	Arc weld failure	The welding power supply does not support the Synchro-welding by CAN communication.	The Synchro-welding is not executed because the welding power supply does not support the Synchro-welding by CAN communication.	Please setup the Synchro-welding by RS-422 communication.	Error reset.	E	E	E	E	on	on
4010	Arc weld failure	The arc welding cannot be done.	The arc welding power supply doesn't correspond to the welding condition slope function.	The upgrade should do the software of the arc welding power supply.	Error reset.	E	E	E	E	on	on
4011	Arc weld failure	The arc welding cannot be done.	The arc welding power supply doesn't correspond to the welding characteristic data self adjustment function.	The upgrade should do the software of the arc welding power supply.	Error reset.	E	E	E	E	on	on
4012	Arc weld failure	The gas mass flow control function cannot be used.	The arc welding power supply doesn't correspond to the gas mass flow control function.	The upgrade should do the software of the arc welding power supply.	Error reset.	E	E	E	E	on	on
4013	Arc weld failure	The control software is abnormal in the welding power supply.	The welding power supply doesn't correspond to the cycle pulsed welding function.	Please update the welding power supply.	After updating, turn on the welding power supply again.	E	E	E	E	on	on
4014	Arc weld failure	It was not possible to communicate with the robot controller or the peripherals on the arc welding power supply.	Abnormality occurred by the communication with the robot controller or peripherals on the welding power supply.	Confirm the connection with the welding power supply or the peripherals. Or, in the function of the welding power supply, confirm the the setting of the transmission rate of the CAN communication .	Turn the welding power supply on again.	E	E	E	E	on	on
4015	Arc weld failure	Microcomputer control failure occurred in the welding power supply.	The failure occurs in the controller of the welding power supply.	Turn the welding power supply on again. Confirm an abnormal display of the arc welding power supply, and contact our service when abnormality relapses. Back up files to external CF memory.	Failure reset, and turn on the welding power supply again.	E	E	E	E	on	on
4016	Arc weld failure	The Arc-I/F is not found.	The Arc-I/F board(L21700S) doesn't connect with the sequence board(L21700F).	Check the connection of the Arc-I/F(L21700S) to the sequence board(L21700F).	Turn on the power again.	E	E	E	E	off	off
4017	Arc weld failure	CAN baudrate setting is failure.	CAN baudrate of the Arc-I/F board(L21700S) couldn't set.	Set CAN baudrate 500Kbps. And turn on the power again.	Turn on the power again.	E	E	E	E	on	on
4018	Arc weld failure	The communication error has occurred.	The communication error has occurred between the Arc-I/F board(L21700S) and the sequence board(L21700F).	Please check the connection between the Arc-I/F board(L21700S) and the sequence board(L21700F). You might exchange their boards. Please contact our service department.	Error reset.	E	E	E	E	on	on
4019	Arc weld failure	The communication test has failed.	The communication error has occurred between the Arc-I/F board(L21700S) and the sequence board(L21700F).	Please check the connection between the Arc-I/F board(L21700S) and the sequence board(L21700F). You might exchange their boards. Please contact our service department.	Error reset.	E	E	E	E	on	on
4020	Arc weld failure	The cold tandem welding function cannot be used.	The welding power supply doesn't correspond to the cold tandem welding function.	Please update the welding power supply.	After updating, turn on the welding power supply again.	E	E	E	E	on	on
4021	Arc weld failure	The wire touch detection cannot be used.	The welding power supply doesn't correspond to the wire touch detection.	Please update the welding power supply.	After updating, turn on the welding power supply again.	E	E	E	E	on	on
4085	Arc weld failure	Communication timeout occurred inside the welding power supply.	The contollor of the welding power supply didn't respond.	Turn off the power supply in the welding power supply, and contact our service.	Turn the welding power supply on again.	E	E	E	E	on	on
4099	Arc weld failure	It was not possible to communicate with the arc welding power supply.	There is no response from the arc welding power supply.	Check the connection of the welding power supply to (L21700S00/UM355).	Turn the welding power supply on again.	E	E	E	E	on	on
4102	Operational failure	It is weaving condition disagreement.	In simultaneous weaing, weaving conditions are not in agreement.	Please make weaving conditions in agreement.	Error reset.	A	E	A	E	on	on
4900	Operational failure	Mechanism Error in External axis relative move function (FN407).	The mechanism number specified in the 1st parameter is not belong to current unit.	Specify correct mechanism number which belongs to current unit.	Error reset.	E	E	E	E	on	on
4901	Operational failure	Axis Error in External axis relative move function (FN407:RELMOV)	The axis number specified in the 2nd parameter is not defined in a mechanism of 1st parameter.	Check the axis number of 2nd parameter taught in the function command, and teach again.	Error reset.	E	E	E	E	on	on
4902	Operational failure	Mechanism type error.	The mechanism specified in 1st paramter is neither positioner nor slider.	Select a unit which has positioner or slider, and then specify a positioner or a slider in 1st parameter.	Error reset.	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
4903	Operational failure	G-STOP input value is not corresponding.	This error is detected when the G-STOP input value in two systems is not corresponding.	Please confirm the G-STOP input value.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
4905	Operational failure	Playback was started in the state that the basic posture of any axes is not setup.	Since the data when power failure did not be saved correctly, the position data of endless rotation axis has not been resumed to the data before power failure.	Please perform the Encoder Correction (with position record method) to the axis in which abnormalities have generated.	Error reset.	A	A	E	E	on	on
4906	Operational failure	The position of the endless rotation axis is abnormal.	The basic position of endless rotation axis was not able to be restored correctly by the mechanism change.	Please perform the Encoder reset and Correction (with position record method) to the axis in which abnormalities have generated.	Error reset.	E	E	E	E	on	on
4910	Operational failure	Mechanism* is servo off.	The manual operation, check operation or playback operation has been performed for a mechanism whose servo power has been individually set to OFF.	Check the mechanism whose servo power is OFF, and turn it ON.	Error reset.	A	E	A	E	on	on
4911	Operational failure	SPN parameter error.	Mechanisms other than the ones targeted for operation have been specified in the servo ON command (SPN).	Review the mechanisms which have been specified by the servo ON command (SPN).	Error reset.	A	E	A	E	on	on
4912	Operational failure	SPF parameter error.	Mechanisms other than the ones targeted for operation have been specified in the servo OFF command (SPF).	Review the mechanisms which have been specified by the servo OFF command (SPF).	Error reset.	A	E	A	E	on	on
4914	Servo failure	Mechanism servo OFF cannot be executed.	Because robot doesn't reach the command position, servo OFF cannot be executed.	(1)Please confirm whether the robot manipulator interferes in something.(2)Please confirm that the Pay-load is within the nominal rating.(3)If failure persists, the problem may be a mechanical defect in the manipulator, contact our service department.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
4915	Operational failure	The instruction value of the mechanism to which servo OFF is set has changed.	This error detected when the difference between the instruction position and the current position exceeds a regulated value in the mechanism to which servo OFF is set.	Please confirm followings to the mechansim to which servo off is set. (1)Instruction angle is not changed. (2)Current angle is not changed, by the external force.	After removal of failure, please carry out "failure-reset".	A	E	A	E	on	on
4920	Emergency stop failure	Shock sensor detected the collision.	Since the shock sensor detected the collision, the robot was stopped for safety.	Cancel shock sensor by manual operation.	Error reset.	A	E	A	E	on	on
4921	Operational failure	Module mechanism interpolation failure.	This failure occurs when a module mechanism cannot reach the position and the posture.	Please change a interporation type to [joint] or make the same the wrist axis angle of a starting point and an ending point.	Error reset.	A	E	A	E	on	on
4930	Operational failure	The connection mechanism of the Spray machine does not exist.	This error is detected, when the Spray machine set as the first parameter is not registered or the connection mechanism is not set up.	Please improve registration of the Spray machine, and a setup of a connection mechanism.	Error reset.	E	E	E	E	off	off
4931	Operational failure	The Spray machine does not belong to a current unit.	This error is detected when the mechanism connected to the Spray machine set as the first parameter does not belong to the present unit.	Please record by the Spray machine number belonging to the present unit.	Error reset.	E	E	E	E	off	off
4932	Operational failure	Rotation shaft information is unusual.	By the case of extension synchronization control, the rotation shaft information over the shaft number set as Thermal spraying start conditions is not set up, or this error is detected when the interval of a start position-end position is less than 300mm.	Please reset up correctly the rotation shaft information corresponding to the shaft number set as the Thermal spraying start conditions.	Error reset.	E	E	E	E	off	off
4999	Emergency stop failure	Alarm carried out number-of-times generating of regulation, and was breaking down.	Alarm carried out number-of-times generating of regulation, and was breaking down.	Please fix failure from the cause of alarm.	Error reset.	E	E	E	E	on	on
5005	Arc weld failure	The weaving trajectory exceeded regulation speed.	The speed of weaving trajectory has been exceeded the regulation speed, since the move distance between weaving points is too long, or the frequency (speed) is too high.	Correct the distance between weaving points, frequency, or speed.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5006	Arc weld failure	The amount of posture change of taught	The amount of posture change between weaving points is too	Please correct posture change of taught weaving pattern data.	After removal of failure, please	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		weaving exceeded the restriction value.	large.		carry out "failure-reset".						
5007	Arc weld failure	Pose calculation failed.	Each axis angle can't be calculated. The posture data specified in the weaving condition is incorrect.	Check the posture data in weaving condition.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5008	Operational failure	Permission speed over occurred.	The stop time of weaving conditions was too large at maintenance of welding time, or frequency was too high, and permission speed over occurred.	Stop time is made small or frequency is dropped. Or please change into not carrying out welding time maintenance.	Error reset.	A	A	A	A	on	on
5010	Arc weld failure	The welding current value has exceeded the allowable limit.	The difference between the welding current value measured by the welding power supply and the taught one has exceeded the allowable limit set by the arc constants.	Check the welding conditions(wire extension etc). There is possibility of missmatch the welding characteristic data to your environment if this failure occurs over and over again. In such case, adjust the welding characteristic data by the adjudstment of welding condition function etc.	Error reset.	A	A	A	A	on	on
5011	Arc weld failure	The welding voltage value has exceeded the allowable limit.	The difference between the welding voltage value measured by the welding power supply and the taught one has exceeded the allowable limit set by the arc constants.	Check the welding conditions(wire extension etc). There is possibility of missmatch the welding characteristic data to your environment if this failure occurs over and over again. In such case, adjust the welding characteristic data by the adjudstment of welding condition function etc.	Error reset.	A	A	A	A	on	on
5013	Arc weld failure	The welding power supply has been turned off.	The controller couldn't communicate with the welding power supply.	Turn on the welding power supply. In case the welding power supply has been already turned on, check the connection of the welding power supply to the controller.	Error reset.	A	A	A	A	on	on
5014	Arc weld failure	Arc start failure.	No arc has been generated in spite of retrying the arc start.	Check the workpiece's condition, wire's condition, and connection of the cable.	This failure is released if restart playback.	A	A	A	A	on	on
5015	Arc weld failure	Arc outage was detected.	Arc outage occurred during welding.	Eliminate all causes of arc outage, for instance by adjusting the wedling conditions, fixing wire feed failure, and so on.	This failure is released if restart playback.	A	A	A	A	on	on
5016	Arc weld failure	Wire stick has been detected.	Wire has stuck.	Cut stuck wire.	This failure is released if restart playback.	A	A	A	A	on	on
5017	Arc weld failure	Low gas pressure.	Low gas pressure signal is inputted.	Supply gas.	Error reset.	A	A	A	A	on	on
5018	Arc weld failure	Lack of wire was detected.	Wire not fed signal is inputted.	Supply wire.	Error reset.	A	A	A	A	on	on
5020	Arc weld failure	Lack of water was detected.	Cooling water signal is inputted.	Supply water.	Error reset.	A	A	A	A	on	on
5021	Arc weld failure	Arc welding characteristic data failure.	The registered welding characteristic data isn't for the connected welding power supply.	Register the welding characteristic data for the using one.	Error reset.	A	A	A	A	on	on
5022	Arc weld failure	Welding voltage adjustment method can't be changed while welding.	Welding voltage adjustment method has been changed from the synergetic control to the individual control, and vise versa while welding.	Modify the task program.	Error reset.	A	A	A	A	on	on
5023	Arc weld failure	Failure of the welding power supply occurred.	W.P.S failure signal is inputted, or failure of the welding power supply occurs.	Read through the welding power supply instruction manual and eliminate all causes.	Error reset.	A	A	A	A	on	on
5024	Arc weld failure	Input voltage shortage failure ocurred in the welding power supply.	The primary input voltage of the welding power supply has decreased.	Refer to the instruction manual of the welding power supply(Failure Name: Input voltage shortage) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5025	Arc weld failure	Output overcurrent occurred in the welding power supply.	The average current used for the inner control of the welding power supply exceeds the limit.	Refer to the instruction manual of the welding power supply (Failure Name: Output overcurrent) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5026	Arc weld failure	Thermal overload occurred in the welding power supply.	An internal temperature of the welding power supply rises.	Refer to the instruction manual of the welding power supply (Failure Name: Thermal overload) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5027	Arc weld failure	Input overvoltage occurred in the welding power supply.	The primary input voltage of the welding power supply exceeds the threshold.	Refer to the instruction manual of the welding power supply (Failure Name: Input overvoltage) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5028	Arc weld failure	Loss of phase occurred in the welding power supply.	Loss of phase in the primary input of the welding power supply.	Refer to the instruction manual of the welding power supply (Failure Name: Loss of phase) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5029	Arc weld failure	Inverter drive circuit failure occurred in the welding power supply.	The failure occurs around the inverter drive circuit of the welding power supply.	Refer to the instruction manual of the welding power supply (Failure Name: Inverter drive circuit error) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5030	Arc weld failure	Arc voltage detection failure occurred in the welding power supply.	Arc voltage detection failure or arc voltage detecting line failure occurred.	Refer to the instruction manual of the welding power supply (Failure Name: Arc voltage detecting line error/detection error) and eliminate all causes.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
5031	Arc weld failure	Microcomputer failure occurred in the welding power supply.	The failure occurs in the welding power supply.	Refer to the instruction manual of the welding power supply (Failure Name: Microcomputer failure) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5032	Arc weld failure	Encoder failure was detected by the welding power supply.	Failure exists in the encoder of a wire feed unit or encoder cables are not connected.	Refer to the instruction manual of the welding power supply (Failure Name: Encoder error) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5033	Arc weld failure	Current detection line failure occurred in the welding power supply.	The failure(the connector is disconnected etc) exists in the current detecting cable of the welding power supply.	Refer to the instruction manual of the welding power supply (Failure Name: 9. Current detection error).	Error reset.	A	A	A	A	on	on
5034	Arc weld failure	Gas check failure occurred in the welding power supply.	The gas check switch of the welding power supply is ON for more than two minutes without a break.	Turn OFF the gas check switch of the welding power supply.	Error reset.	A	A	A	A	on	on
5035	Arc weld failure	Secondaly transistor failure occurred in the welding power supply.	The surge power of the second transistor for the welding power supply is abnormally high.	Refer to the instruction manual of the welding power supply (Failure Name: Secondaly transistor failure) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5036	Arc weld failure	Water pressure failure occurred in the welding power supply.	Cooling water flow is not sufficient when using a water cooled torch.	Refer to the instruction manual of the welding power supply (Failure Name: Water pressure error) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5037	Arc weld failure	Secondaly transistor failure occurred in the welding power supply.	The surge power of the second transistor for the robot welding power supply is abnormally high.	Refer to the instruction manual of the welding power supply (Failure Name: Secondaly transistor failure) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5038	Arc weld failure	The specified welding power supply can't use in this unit.	The specified welding power supply isn't defined in this unit.	Register the welding power supply which is specified by the task program, or modify the task program.	Error reset.	A	A	A	A	on	on
5039	Arc weld failure	A control power supply failure occurred in the welding power supply.	A control power supply failure occurred in welding power supply.	Refer to the instruction manual of the welding power supply (Failure Name: (The wire feed control board)Control power supply) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5040	Arc weld failure	An electric detection vessel failure occurred in welding power supply.	A connector inside the welding power supply may be miss-connected.	Refer to the instruction manual of the welding power supply (Failure Name: The first·second electric current error) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5041	Arc weld failure	The excess failure of the use rate occurred in welding power supply.	Inside temperature of the welding power supply rises.	Refer to the instruction manual of the welding power supply (Failure Name: The excess of the use rate) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5042	Arc weld failure	A temperature failure occurred in the wire feed control circuit ing the welding power supply.	An unusual fever appears on the wire feed control circuit of the welding power supply.	Refer to the instruction manual of the welding power supply (Failure Name: The temperature wrong point of the wire feed control circuit) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5043	Arc weld failure	The load of wire feed exceeded allowable value.	The wire feed load has exceeded the allowable value set in the arc constant.	A load is on the wire feeder by wear of the liner, the chip defect, and so on. Remove the factors.	Error reset.	A	A	A	A	on	on
5045	Arc weld failure	The control power supply of the welding power supply was reset.	The control power supply of the welding power supply was reset.	The voltage of primary power may decrease in an instance. Check the voltage of primary power.	Failure reset, and turn on the welding power supply again.	A	A	A	A	on	on
5046	Arc weld failure	The welding characteristic data are not installed.	If the welding characteristic data are not installed, Arc function commands can't be execute.	Turn on the welding power supply again.	Error reset.	A	A	A	A	on	on
5047	Arc weld failure	The arc characteristic can't be changed while arc welding.	The arc function attempted changing the arc characteristic into the incorrect one.	Please modify the task program.	Error reset.	A	A	A	A	on	on
5048	Arc weld failure	The incorrect welding method is specified.	The welding method of the arc function and the welding method of the arc characteristic aren't the same.	Please modify the task program.	Error reset.	A	A	A	A	on	on
5049	Arc weld failure	The arc characteristic file can't be read.	Read file failure occurs while reading the arc characteristic file.	Please initialize the arc characteristic file.	Error reset.	A	A	A	A	on	on
5050	Arc weld failure	The wire feed characteristic file can't be read.	Read file failure occurs while reading the wire feed characteristic file.	Please initialize the wire feed characteristic file.	Error reset.	A	A	A	A	on	on
5051	Arc weld failure	The arc welding wave control file can't be read.	Read file failure occurs while reading the arc welding wave control file.	Please initialize the arc welding wave data file.	Error reset.	A	A	A	A	on	on
5052	Arc weld failure	The arc constant file can't be read.	Read file failure occurs while reading the arc constant file.	Please initialize the arc constant file.	Error reset.	A	A	A	A	on	on
5053	Arc weld failure	Welding voltage adjustment method differs.	The voltage adjusting method currently taught differs from the voltage adjusting method of characteristic data.	Modify the task program.	Error reset.	A	A	A	A	on	on
5054	Arc weld failure	WCR Short-circuit Error	WCR of W-I/F had short-circuited at the time of arc start.	Please check the state of W-I/F or a welding power supply.	This failure is released if restart playback.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
5056	Arc weld failure	The electrode short-circuited failure.	The electrode and the work are short-circuited while arc welding.	Please modify the task program.	Error reset.	A	A	A	A	on	on
5057	Arc weld failure	The Filler Wire heating failure.	During Filler Wire heating, inside the electric supply tip, a wire melts and was cut.	Please check the wire inside an electric supply tip, and the heating cable failure (contact failure, broken wire).	This failure is released if restart playback.	A	A	A	A	on	on
5058	Arc weld failure	The Filler Wire heating Defect.	It can consider that there was no wire in an electric supply tip, or a wire melts and was cut inside the electric supply tip at the time of heating.	Please check the wire inside an electric supply tip, and the heating cable failure (contact failure, broken wire).	This failure is released if restart playback.	A	A	A	A	on	on
5059	Arc weld failure	The wire short-circuited failure.	The wire and the work are short-circuited while arc welding.	Please check the state of W-I/F, and a welding power supply.	This failure is released if restart playback.	A	A	A	A	on	on
5060	Arc weld failure	The heating characteristic file can't be read.	Read file failure occurs while reading the heating characteristic file.	Please initialize the heating characteristic file.	Error reset.	A	A	A	A	on	on
5061	Arc weld failure	The arc condition file doesn't exist.	The arc condition file which is specified by the arc welding function doesn't exist.	Please create the arc condition file or edit the task program.	Error reset.	A	A	A	A	on	on
5062	Arc weld failure	The offset condition file or the multi offset file doesn't exist.	The offset condition file or the multi offset file which is specified by the multi offset function doesn't exist.	Please create the offset condition file or the multi offset file, or edit the task program.	Error reset.	A	A	A	A	on	on
5063	Arc weld failure	The weaving synchronization went wrong.	A communication failure has been detected between the welding power supply and the extension serial board.	Please check connection between an extension serial board and a welding power supply.	Turn on the controller and the welding power supply again.	A	A	A	A	on	on
5064	Arc weld failure	The weaving condition file doesn't exist.	The weaving condition file which is specified by the weaving function doesn't exist.	Please create the weaving condition file or edit the task program.	Error reset.	A	A	A	A	on	on
5065	Arc weld failure	The power supply of a feed control device is not on.	Communication with a feed control device was not completed.	When you turn on a feed control device or the power supply is already on, please check connection with a feed control device.	Error reset.	A	A	A	A	on	on
5066	Arc weld failure	Pump failure occurred in the welding power supply.	Cooling water flow is not sufficient when using a water cooled torch.	Refer to the instruction manual of the welding power supply (Failure Name: Pump error) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5067	Arc weld failure	The arc retry condition file doesn't exist.	The arc retry condition file which is specified by the arc welding function doesn't exist.	Please create the arc retry condition file or edit the task program.	Error reset.	A	A	A	A	on	on
5068	Arc weld failure	The arc robotrs condition file doesn't exist.	The arc robotrs condition file which is specified by the arc welding function doesn't exist.	Please create the robotrs condition file or edit the task program.	Error reset.	A	A	A	A	on	on
5069	Arc weld failure	The robot move condition file doesn't exist.	The robot move condition file which is specified by the arc welding function doesn't exist.	Please create the robot move condition file or edit the task program.	Error reset.	A	A	A	A	on	on
5070	Arc weld failure	The arc rs condition file doesn't exist.	The arc rs condition file which is specified by the arc welding function doesn't exist.	Please create the rs condition file or edit the task program.	Error reset.	A	A	A	A	on	on
5071	Arc weld failure	The module error in WPS.	Abnormality occurs by the module in the welding power supply.	Refer to the instruction manual of the welding power supply and eliminate all causes.(An abnormal number of the welding power supply has been described in the above-mentioned parentheses.)	Error reset.	A	A	A	A	on	on
5072	Arc weld failure	The speed failure of the wire feed control circuit occurred in the welding power supply.	The speed failure of the wire feed control circuit occurred in the welding power supply.	Refer to the instruction manual of the welding power supply and eliminate all causes.	Error reset.	A	A	A	A	on	on
5073	Arc weld failure	Input voltage shortage failure ocurred in the welding power supply.	The primary input driver of the welding power supply has decreased.	Refer to the instruction manual of the welding power supply(Failure Name: The primary input driver) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5074	Arc weld failure	The cooler fan failure ocurred in the welding power supply.	The cooler fan's rotation has fallen or it stops.	Refer to the instruction manual of the welding power supply(Failure Name: The cooler fan failure) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5075	Arc weld failure	A control power supply abnormal temperature occurred in the welding power supply.	The temperature rises in the control power supply.	Refer to the instruction manual of the welding power supply(Failure Name: A control power supply abnormal temperature) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5076	Arc weld failure	The arc welding power supply detected abnormality of the servo feeder unit.	The failure occurs in servo feeder unit.	Refer to the instruction manual of the servo feeder unit and eliminate all causes.(An abnormal number of the servo feeder unit has been described in the above-mentioned parentheses.)	Error reset.	A	A	A	A	on	on
5077	Arc weld failure	The controller couldn't communicate with the servo feeder unit.	Abnormality occurred by the communication between the arc welding power supply and the servo feeder unit.	Please confirm the connection of the arc welding power supply and the servo feeder unit.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
5078	Arc weld failure	The power supply of a gas mass flow control unit is not on.	Communication with a gas mass flow control unit was not completed.	When you turn on a gas mass flow control unit or the power supply is already on, please check connection with a gas mass flow control unit.	Error reset.	A	A	A	A	on	on
5079	Arc weld failure	The gas equipment file doesn't exist.	The gas equipment file which is specified by the gas mass flow control file doesn't exist.	Please create the gas equipment file or edit the gas mass flow control data.	Error reset.	A	A	A	A	on	on
5080	Operational failure	Resources were not securable at the time of starting.	The wait time of resource reservation was over.	Modify the wait time specified in FORK or CALLFAR command.	Error reset.	A	A	A	A	on	on
5081	Operational failure	The appointed program cannot be edited / playback.	The same number program exists.	Delete the program not to overlap with file operation.	Error reset.	A	A	A	A	on	on
5082	Operational failure	Operation or command for Multi-unit cannot be executed.	The option of Multi-unit is not set up.	Please set up the option of Multi-unit.	Error reset.	A	A	A	A	on	on
5083	Operational failure	The unit-branch commands cannot be executed.	Some unit-branch commands were tried to execute at the same time.	Please correct the program so that the unit-branch commands does not be executed at the same time.	Error reset.	A	A	A	A	on	on
5084	Operational failure	The unit-branch commands cannot be executed.	A unit-branch commands FORK were tried to execute in the already forked program.	Please correct the program so that the unit-branch commands does not be executed in the already forked program.	Error reset.	A	A	A	A	on	on
5085	Arc weld failure	Communication timeout occurred inside the welding power supply.	The contollor of the welding power supply didn't respond.	Check the route of cable and ground connection.	Turn the welding power supply on again.	A	A	A	A	on	on
5086	Arc weld failure	There is a illegal section of melt down control within a arc welding section.	Condition changing from Melt Down Control to Normal Control or from Normal Control to Melt Down Control, is not acceptable.	Please correct the taught program.	No reset operations neccesary.	A	A	A	A	on	on
5087	Arc weld failure	There is a illegal section of melt down control within a arc welding section.	Condition changing from Melt Down Control to Normal Control or from Normal Control to Melt Down Control, is not acceptable.	Please correct the taught program.	No reset operations neccesary.	A	A	A	A	on	on
5088	Arc weld failure	Back bead has detected.	Arc welder has changed the welding condtion.	Please re-designe the welding condition or the taught path.	No reset operations neccesary.	I	I	I	I	on	on
5089	Arc weld failure	Deviation of welding path has detected.	Deviation of welding path toward upper plate has occured.	Please re-designe the taught path.	No reset operations neccesary.	I	I	I	I	on	on
5090	Arc weld failure	Tandem-Arc-Start-command is incorrect.(Fe-wire)	A move command must be inserted between preceding and trailing arc-start-command.	Modify the task program.	Error reset.	A	A	A	A	on	on
5091	Arc weld failure	Tandem-Arc-Start-command is incorrect.(Al-wire)	Trailing-arc-start-command must follow preceding-arc-start-command continually.	Modify the task program.	Error reset.	A	A	A	A	on	on
5092	Arc weld failure	The Electrode type is incorrect.	Trailing-arc-start-command is taught before preceding-arc-start-command.	Modify the task program.	Error reset.	A	A	A	A	on	on
5093	Arc weld failure	The current execution pass is in another multipass section	It is prohibited to start since the different offset might be applied.	Please set the step which the multipass section suitable for the current execution pass or change the current execution pass.	Error reset.	A	A	A	A	on	on
5094	Arc weld failure	The arc welding power supply is installed.	During installation of an arc welding power supply, neither operation of the arc welding power supply nor execution of playback command can be performed.	Please perform again after the completion of installation of an arc welding power supply.	Error reset.	A	A	A	A	on	on
5095	Arc weld failure	Motor overcurrent occurred in the welding power supply.	Short circuit in the power line to the motor or motor overload happens.	Refer to the instruction manual of the welding power supply (Failure Name: Motor overcurrent) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5096	Arc weld failure	The emergency is stopping or the welding power supply is stopping.	The emergency stop is input or the wiring of the STOP terminals in the welding power supply is disconnected.	Please cancel an emergency stop button and an external emergency stop signal, and check the connection of the welding power supply to the controller.	Error reset.	A	A	A	A	on	on
5097	Arc weld failure	Arc voltage cannot be detected while RS control.	Arc start faiulre using RS control or arc voltage detection failure occurred in the welding power supply.	Check the workpiece's condition, wire's condition, connection of the cable, and RS control condition. Or refer to the instruction manual of the welding power supply (Failure Name: Arc voltage detection error) and eliminate all causes.	Error reset.	A	A	A	A	on	on
5098	Arc weld failure	EP start failure.	The arc welding characteristic data of EP mode isn't registered. Or the welding voltage adjustment method of EP mode is different from EN mode.	Register the correct welding characteristic data. Or Correct EP start condition.	Error reset.	A	A	A	A	on	on
5099	Arc weld	The arc welding power	The arc welding power supply	Please do not operate the welding power supply	Failure reset, and	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure	supply was operated during playback.	cannot be operated during playback.	during playback.	turn on the welding power supply again.						
5100	Arc weld failure	EP start failure.	EP start condition of AS function is wrong.	Correct EP start condition.	Error reset.	A	A	A	A	on	on
5101	Arc weld failure	An adjustment movement start is unusual.	Arc-Monitor isn't indicated.	Indicate Arc-Monitor, and confirm an adjustment condition.	This failure is released if restart playback.	A	A	A	A	on	on
5102	Arc weld failure	An adjustment program choice is unusual.	An start program is different from the adjustment program.	Start by the specified adjustment program.	This failure is released if restart playback.	A	A	A	A	on	on
5103	Arc weld failure	Adjustment welding mode wrong point.	The welding mode of the AS function is different from the welding mode of the adjustment object.	Check the welding mode to adjust.	Error reset.	A	A	A	A	on	on
5104	Arc weld failure	Pilot arc start failure.	The pilot arc was not turned on.	Check the connection condition of the cable.	This failure is released if restart playback.	A	A	A	A	on	on
5105	Arc weld failure	A plasma unit/WPS is abnormal.	Abnormality occurs by a plasma fine unit or Plasma Welding Power Supply.	Please see the manual of a plasma fine unit or Plasma Welding Power Supply.	Error reset.	A	A	A	A	on	on
5106	Arc weld failure	The pilot arc outage is abnormal.	The pilot arc outage occurred.	Check the connection condition of the cable.	This failure is released if restart playback.	A	A	A	A	on	on
5107	Arc weld failure	Pilot arc OFF error.	The pilot arc was not able to be turned off.	Check the connection condition of the cable.	Error reset.	A	A	A	A	on	on
5108	Arc weld failure	Pilot arc ON error.	Since the purge was turned on, the pilot arc was not able to be turned on.	Turn off the purge.	Error reset.	A	A	A	A	on	on
5109	Arc weld failure	The error occurs in servo wire feed control unit.	The error occurs in servo wire feed control unit.	Refer to the instruction manual of the servo wire feed control unit and eliminate all causes.	Error reset.	A	A	A	A	on	on
5110	Arc weld failure	Retract operation was executed over 10 seconds.	Stop retract for the protection of Assist Feeder.	If you operate retract more, execute 90 seconds later.	Error reset.	A	A	A	A	on	on
5111	Arc weld failure	Stitch pulse welding control error.	The synchronized control, the FC control, the slope control or the adjustment of the WCD cannot be executed by the stitch pulse welding.	Please change the welding condition.	Error reset.	A	A	A	A	on	on
5112	Arc weld failure	Stitch pulse welding unit setting error.	The stitch pulse cannot weld with the unit to which two or more welding machines are registered.	Please change the registration of the weld power supply in the unit.	Error reset.	A	A	A	A	on	on
5113	Arc weld failure	WCR input signal unsetting.	The WCR input signal is not allocated.	Please allocate the WCR input signal.	Error reset.	A	A	A	A	on	on
5114	Arc weld failure	Arc welding unit setting abnormality.	For the unit to which two or more welding machines are registered, it is not possible to weld.	Please change the registration of the welding machine in the unit.	Error reset.	A	A	A	A	on	on
5115	Arc weld failure	The WCR OFF time-out is abnormal.	WCR was not turned off in the time limit.	Please check the WCR signal from "WCR OFF waiting time" of the welding constant and the welding power supply.	Error reset.	A	A	A	A	on	on
5118	Arc weld failure	There is a wrong arc start command in the tool change setting welding power supply.	The AS command more than two passing is recorded by one mechanism.	Please modify the task program.	Error reset.	A	A	A	A	on	on
5119	Arc weld failure	There is a wrong AS command.	The Synchro or FC welding is taught to the AS command.	Please teach again after deleteing the AS command.	Error reset.	A	A	A	A	on	on
5120	Arc weld failure	The arc welding power supply detected abnormality of the gas mass flow control unit.	The failure occurs in gas mass flow control unit.	Refer to the instruction manual of the gas mass flow control unit and eliminate all causes.(An abnormal number of the gas mass flow control unit has been described in the above-mentioned parentheses.)	Error reset.	A	A	A	A	on	on
5121	Arc weld failure	The gas mass flow value has exceeded the allowable limit.	The difference between the gas mass flow value measured by the welding power supply and the taught one has exceeded the allowable limit set by the contloler.	Please confirm [The remainder pressure of gas cylinder, the piping of the gas, and the setting of the gas mass flow control unit.	Error reset.	A	A	A	A	on	on
5122	Arc weld failure	The gas pressure value has exceeded the allowable limit.	The gas pressure measured in the arc welding power supply exceeded the limiting value set with the controller.	Please confirm the remainder pressure of gas cylinder, the piping of the gas, and the setting of the gas mass flow control unit.	Error reset.	A	A	A	A	on	on
5123	Arc weld failure	The set gas mass flow is not output.	The set gas mass flow was not output in specified time.	Please confirm the residual quantity of the gas cylinder, the piping of the gas, and the setting of the gas mass flow control unit.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
5124	Arc weld failure	The gas flow control unit was reset.	The control data in the gas flow control unit was reset.	Please confirm the power cable of the gas flow control unit.	Error reset.	A	A	A	A	on	on
5125	Arc weld failure	The data to the gas flow control unit cannot be set.	The data set to the gas flow control unit is abnormal.	Please confirm the data of the gas flow control unit.	Error reset.	A	A	A	A	on	on
5126	Arc weld failure	Zero deviation error on the gas flow control unit was detected.	Even if passing the specified time after Gas OFF, the actual gas flow could not restore 0 on the gas flow control unit.	1.Check the error judgment delay time. 2.Check the gas type and the gas pressure at main cock. 3.The gas flow control unit may be damaged or broken down. Please contact our customer service center.	Error reset.	A	A	A	A	on	on
5127	Arc weld failure	The analog output board is a uninstallation.	It is setting which uses the Plasma welder though the analog output board is not installed.	Please modify setting whether to install the analog output board.	Error reset.	A	A	A	A	on	on
5128	Arc weld failure	Filler wire stick has been detected.	Filler wire has stuck.	Cut stuck wire.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5129	Arc weld failure	Filler touch detection failure	It was not able to detect that a filler wire touched welding base metal.	Please check the state of a filler wire, a welding constant, and wiring.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5130	Operational failure	Welding mode option un-setting up.	Welding mode option which is not set up was used.	Please set up a welding mode option.	No reset operations neccesary.	A	A	A	A	on	on
5131	Operational failure	Welding mode option can't use.	Since the welding mode option is not set up correctly, it can't use.	Since system memory protection was effective, an option was not able to be written in a system memory.Please once repeal a system memory protection function and start a system again.	No reset operations neccesary.	A	A	A	A	on	on
5132	Arc weld failure	Specified mode can't use.	Since the welding unit is not supporting specified mode, it can't use.	Please use a welding unit with specified mode.	No reset operations neccesary.	A	A	A	A	on	on
5133	Operational failure	Welding mode option can't use.	Since the welding mode option is not set up correctly, it can't use.	Please restore the welding mode option on the welding mode option screen.	No reset operations neccesary.	A	A	A	A	on	on
5134	Arc weld failure	Cycle pulsed welding control error.	In the arc condition file of the cycle pulsed welding, the welding control must be "Cycle pulse" and the slope condition must be specified by "Distance".	Please change the welding condition.	Error reset.	A	A	A	A	on	on
5135	Arc weld failure	Cycle pulsed welding control error.	The condition of Cycle pulsed welding is specified by 'AS' function. It must be specified by 'ASS' function.	Please modify the task program.	Error reset.	A	A	A	A	on	on
5136	Arc weld failure	The multipass section is abnormal.	The 'ASM' function, the 'AEM' function, the 'OFFSET' function, and the 'EP' function cannot be executed outside the multipass section.	Please teach the 'MPS' function and the 'MPE' function.	Error reset.	A	A	A	A	on	on
5137	Arc weld failure	The welding power supply secondaly electric characteristic file can't be read.	Read file failure occurs while reading the welding power supply secondaly electric characteristic file.	Please initialize the welding power supply secondaly electric characteristic file.	Error reset.	A	A	A	A	on	on
5138	Arc weld failure	The first·second main circuit failure occurred in the welding power supply.	The failure exists in the first·second main circuit of the welding power supply.	Refer to the instruction manual of the welding power supply (Failure Name: The first·second main circuit failure).	Error reset.	A	A	A	A	on	on
5139	Arc weld failure	It is necessary to turn the welding power supply on again.	The arc welding power supply cannot be operated if it doesn't turn on again.	Turn the welding power supply on again.	Turn the welding power supply on again.	A	A	A	A	on	on
5140	Arc weld failure	The speed of the wire speed has exceeded the allowable limit.	The speed of the wire measured in the arc welding power supply has exceeded the allowable limit at the speed of the wire that the arc welding power supply output.	Please confirm whether an excessive load contracts the wire feeder. Please contact our customer service center when the permissible value is large.	Error reset.	A	A	A	A	on	on
5143	Arc weld failure	Threshold trigger	The threshold specified under the welding record condition was detected in the arc welding power supply.	Please confirm the arc welding construction condition.	Error reset.	A	A	A	A	on	on
5200	Sensor failure	Sensor Function cannot be executed.	Wrong usage of sensor function is detected in teaching program	Please record sensor search function after move step.	After recording the move step, Please Check Go.	A	A	A	A	on	on
5201	Sensor failure	Search range exceeded.	This error occurs when the robot moves beyond search range	Modify(enlarge) the search range or program to rectify error.	No reset operations neccesary.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
5202	Sensor failure	Search range is short	This error occurs when the robot detect the touch status within minimum search range.	Modify(shorten) the search range or program to rectify error.	No reset operations neccesary.	A	A	A	A	on	on
5203	Sensor failure	Deviation range exceeded.	This error occurs when the robot moves beyond deviation range	Modify(enlarge) the deviation range or program to rectify error.	No reset operations neccesary.	A	A	A	A	on	on
5204	Sensor failure	Sensor number is mismatched.	This error occures when the sensor number in the sensor step does not meet that of the connected sensor.	Check that sensor settings and /or teaching programs.	Error reset.	A	A	A	A	on	on
5205	Sensor failure	The input-and-output signal is not assigned.	This error occurs when the input-and-output signal required for search operation is not assigned.	Set up an input-and-output signal.	Error reset.	A	A	A	A	on	on
5206	Sensor failure	A deviation file is wrong.	This error occurs when read-out of a deviation file goes wrong.	Check a deviation file.	Error reset.	A	A	A	A	on	on
5207	Sensor failure	A deviation file is not found.	This error occurs when the specified deviation file cannot be found.	Correct the file number.	Error reset.	A	A	A	A	on	on
5208	Sensor failure	Mechanism type is mismatched.	This error occurs when the mechanism type in specified deviation file is mismatched.	Correct the file number.	Error reset.	A	A	A	A	on	on
5209	Sensor failure	A detecting wire extension file is wrong.	This error occurs when read-out of a detecting wire extension file goes wrong.	Check a detecting wire extension file.	Error reset.	A	A	A	A	on	on
5210	Sensor failure	A detecting wire extension file is not found.	This error occurs when the specified detecting wire extension file cannot be found.	Correct the file number.	Error reset.	A	A	A	A	on	on
5211	Sensor failure	Coordinate systems are mismatched.	This error occurs when the coordenate systems are not matched between selected deviation files.	Correct the file number.	Error reset.	A	A	A	A	on	on
5212	Sensor failure	Cannot search.	Search direction cannot be specified because the search vector is not taught, or calculating search vector was failed.	(1)Specify the search vector. (2)When the search vector was already specified, modify the search vector.	Error reset.	A	A	A	A	on	on
5213	Sensor failure	Gap Over	Detected gap is exceeded beyond maximum allowable value.	Check that gap amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5214	Sensor failure	Gap short	Detected gap becomes lower than minimum allowable value.	Check that gap amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5215	Sensor failure	Groove depth over	Detected groove depth is exceeded beyond maximum allowable value.	Check that groove depth amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5216	Sensor failure	Groove depth short	Detected groove depth becomes lower than minimum allowable value.	Check that groove depth amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5217	Sensor failure	Angle1 over	Detected angle1 is exceeded beyond maximum allowable value.	Check that angle1 amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5218	Sensor failure	Angle1 short	Detected angle1 becomes lower than minimum allowable value.	Check that angle1 amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5219	Sensor failure	Angle2 over	Detected angle2 is exceeded beyond maximum allowable value.	Check that angle2 amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5220	Sensor failure	Angle2 short	Detected angle2 becomes lower than minimum allowable value.	Check that angle2 amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5221	Sensor failure	Groove un-detected	Groove position cannot be detected	(1)Check setting parameters in GFF file. (2)If you are provided with the optional data terminal, use Groove Data function in RD/AD tab menu, and modify the teaching program so that laser data are properly obtained.	Error reset.	A	A	A	A	on	on
5222	Sensor failure	Seaching time over	This error occurs when searching time is too long.	To short the searching time less than 2s or modify sample rate in GFF file.	Error reset.	A	A	A	A	on	on
5223	Sensor failure	Sensor mounting error	This error occurs when sensor mounting is not set.	(1)Specify sensor mounting direction. (2)Execute the sensor calibration before executing the ZJLETP command.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5224	Sensor failure	Unstable detection	This error occurs when measured data is unstable.	Check that target surface condition and/or measurement angle.	Error reset.	A	A	A	A	on	on
5225	Sensor failure	Out of measurement distance	This error occurs when measured distance is out of range.	Check that target piece is located at desired position.	Error reset.	A	A	A	A	on	on
5226	Sensor failure	Reference point error	This error occurs when reference point is not stored.	Execute trial motion to get reference point.	Error reset.	A	A	A	A	on	on
5227	Sensor failure	ZG1 workpiece undetected	This error occurs when the laser reflection beam is not sufficiently received in ZG1 starting.	(1)At the ZG1 start point, the workpiece must be taught within the measurement range. (2)When the workpiece is placed within the measurement range,	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
				adjust the angle of laser against the workpiece, and constantly light the distance LED on laser head. (3)If you are provided with the optional data terminal, use RD/AD tab menu, and check that always 206 or higher laser beam in the LEVEL display is received.							
5228	Sensor failure	Gap file error	This error occurs when wrong data is detected in gap file.	Check the contents in gap file.	Error reset.	A	A	A	A	on	on
5229	Sensor failure	No gap file	This error occurs when the specified gap file is not exist.	Check the gap file number.	Error reset.	A	A	A	A	on	on
5230	Sensor failure	Gff file error	This error occurs when wrong data is detected in GFF file.	Check that contents in GFF file.	Error reset.	A	A	A	A	on	on
5231	Sensor failure	No gff file	This error occurs when the specified GFF file is not exist.	Check that GFF file number.	Error reset.	A	A	A	A	on	on
5232	Sensor failure	Sensor disconnected (Laser search)	This error occurs when there is no communication between laser sensor and RC.	Turn on the sensor unit. In case the sensor unit has been already turned on, check the connection of the sensor unit to the controller.	Error reset.	E	E	E	E	on	on
5233	Sensor failure	Communication timeout occurred between the controller and the sensor unit	This error occurs when there is no response from Laser Sensor Unit.	Check the connection of the sensor unit to the controller.	Turn on the controller and the sensor unit again.	E	E	E	E	on	on
5234	Sensor failure	Sensor condition file error	This error occurs when wrong data is detected in LSF or LSR file.	Check that contents in LSF or LSR file.	Error reset.	A	A	A	A	on	on
5235	Sensor failure	Sensor condition file is not exist.	This error occurs when specified LSF or LSR file is not exist.	Check that LSF or LSR file number.	Error reset.	A	A	A	A	on	on
5236	Sensor failure	Sensor Failure	This failure occurs when the error is issued from the sensor controller	Check the sensor status by WinUser.	Error reset.	E	E	E	E	on	on
5237	Sensor failure	Start Point un-detected	This failure occurs when the start point is not detected during ZF search.	(1)Check the groove recognization by WinUser. (2)Enlarge the ZF maximum search range.	Error reset.	A	A	A	A	on	on
5238	Sensor failure	Cannot restart during seam tracking.	Cannot restart during seam tracking.	Do not modify the position and posture of the robot when the robot is stopped in ZT period if the restarting is required.	Error reset.	A	A	A	A	on	on
5239	Sensor failure	ZF Deviation range exceeded	This error occurs when the distance between the detected start point and ZF taught point exceeded the deviation range.	Check detected position. If no problems exist, moodify(enlarge) the ZF deviation range parameter or program to rectify error.	Error reset.	A	A	A	A	on	on
5240	Sensor failure	ZF search range exceeded	This error occurs when the robot moves beyond search range	Modify(enlarge) the search range or program to rectify error.	Error reset.	A	A	A	A	on	on
5241	Sensor failure	ZT Position Deviation range exceeded	This error occurs when the robot moves beyond Position deviation range	Check the target position If no problems exist, moodify(enlarge) the ZT parameters or program to rectify error.	Error reset.	A	A	A	A	on	on
5242	Sensor failure	ZN offset range exceeded	This error occurs when the setting offset is beyond the range	Modify(enlarge) the ZN offset to rectify error.	Error reset.	A	A	A	A	on	on
5243	Sensor failure	ZN Search range exeeced.	This error occurs when the robot moves beyond search range during ZN.	Modify(enlarge) the ZN search range or program to rectify error.	Error reset.	A	A	A	A	on	on
5244	Sensor failure	End point un-detected	End point of workpiece is not detected.	Modify(enlarge) ZN search range or program to rectify error.	Error reset.	A	A	A	A	on	on
5245	Sensor failure	Deviation range exceeded.	This error occurs when the distance between the detected end point and taught point before ZE exceeded the deviation range.	Check the detected point. If no problems exist, Modify(enlarge) the deviation range or program to rectify error.	Error reset.	A	A	A	A	on	on
5246	Sensor failure	Laser ON Failed	Laser is not activated.	Turn on the Laser by ZON or manual operation.	Error reset.	A	A	A	A	on	on
5247	Sensor failure	Laser is not ready.	ZF/ZT/ZJ will be performed before 3 seconds after ZON is carried out.	Wait 3 seconds or longer after ZON was performed before ZF/ZT/ZJ.	Error reset.	A	A	A	A	on	on
5248	Sensor failure	Error in instruction of ZN command.	There is no move command immediately after ZN command to which a move command or ZT command does not exist before ZN command, or it is [that two or more move commands are taught between ZN - ZE, etc. and] a factor.	Please improve instruction.	Error reset.	A	A	A	A	on	on
5249	Sensor failure	ZT Posture Deviation range exceeded	This error occurs when the robot moves beyond Posture deviation range	Check the target posture If no problems exist, moodify(enlarge) the ZT parameters or program to rectify error.	Error reset.	A	A	A	A	on	on
5250	Sensor failure	Sensor disconnected	The controller couldn't communicate with the sensor unit.	Turn on the sensor unit. In case the sensor unit has been already turned on, check the connection of the sensor unit to the controller.	Error reset.	A	A	A	A	on	on
5251	Sensor failure	Correction amount by arc-sensor exceeds	Error is activated when the case that correction amount by the	Check that currect torch position. If it is OK, extend the value CHASING RANGE in teaching parameter.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		specified value.	sensor exceeds the specified value in teaching parameter.	If it is NG, try to adjust sensor parameters.							
5252	Sensor failure	Calculation turns to unstable during arc-sensing process.	This error is activated when stability of welding arc decreased significantly.	Check that welding condition to be stable.	Error reset.	A	A	A	A	on	on
5253	Sensor failure	Welding position cannot be detected	This error is activated when the deviation detection cannot be calculated during arc-sensing process. Note that position correction is not executed.	Try to re-adjust sensing parameters.	Error reset.	A	A	A	A	on	on
5254	Sensor failure	Unstable wire-feeding.	Wire-feeding status turn to unstable. Deviation is lager than specified value.	Check that equipments for wire feeding.	Error reset.	A	A	A	A	on	on
5255	Sensor failure	ST parameter error.	The instruction parameter of ST command is over the setting range.	It improves whether each parameter is setting within the limits.	Error reset.	A	A	A	A	on	on
5256	Sensor failure	The ET command less program was performed.	ET command is not taught after ST command.	Please teaching ET command.	Error reset.	A	A	A	A	on	on
5257	Sensor failure	Abnormalities were found in the parameter of basic data.	An appointed basic data file does not exist or a file cannot be read.	Please check a basic data file with a service menu.	Error reset.	A	A	A	A	on	on
5258	Sensor failure	Error in instruction of ZG1 command.	ZG1 command in the weaving section cannot be executed.	Please improve instruction.	Error reset.	A	A	A	A	on	on
5259	Sensor failure	At the start-point detection or in the tracking section, the move command with no Synchromotion teaching (without "H") was found.	In the start-point detection section or the tracking section in Synchromotion system, the move command is not taught as Synchromotion teaching ("H").	Specify all the move commands, right before ZF command, in ST~ET section and in ZT~ZE section to Synchromotion teaching ("H").	Error reset.	A	A	A	A	on	on
5260	Sensor failure	Sensor stop signal input.	Stop signal is input into the laser sensor unit.	(1)Release Emergency Stop Button on the Laser Sensor Unit. (2)Close the Emergency Stop Alarm Input loop connected to CN2 on the laser sensor unit.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5261	Sensor failure	Groove un-detected.	Groove cannot be detected.	(1)Check that LASER power is ON. (2)Check the cable between Laser Sensor Unit and Sensor Head is connected properly. (3)Check the cable between Robot Controller and Laser Sensor Unit is connected properly.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5262	Sensor failure	Torch moving distance over.	The distance corrected by the sensor within 1 interpolation time was exceeded over the internal distance.	(1)Adjust the stability of groove detection by WinUser. (2)Check the cable between Robot Controller and Laser Sensor Unit is connected properly. In addition, also check the sensor head cable.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5263	Sensor failure	No SFM file	This error occurs when specified SFM file is not exist.	Check SFM file number.	Error reset.	A	A	A	A	on	on
5264	Sensor failure	SFM file error	This error occurs when wrong data is detected in SFM file.	Check that contents in SFM file.	Error reset.	A	A	A	A	on	on
5265	Sensor failure	Error in instruction of DE command.	There is no move command immediately after DE command to which a move command or ST command does not exist before DE command, or it is [that two or more move commands are taught between DE - ET, etc. and] a factor.	Please improve instruction.	Error reset.	A	A	A	A	on	on
5266	Sensor failure	DE Corrected point failure	This error occurs when the order of DE corrected point and ET taught point are exchanged by tracking.	(1)Modify the AS speed so that it is close to the proper one.(2)Modify DE taught point so that the distance between DE and ET taught point is longer.	Error reset.	A	A	A	A	on	on
5267	Sensor failure	JOINT command exists in tracking section.	JOINT command cannot be executed in the tracking sensor section.	Modify JOINT command in the teaching section (ST ~ET, ZF~ZT~ZN~ZE) of tracking sensor to LIN command or CIR1/CIR2 command.	Error reset.	A	A	A	A	on	on
5268	Sensor failure	Sensor Function cannot be executed.	An error is in a connection setup of a sensor and a mechanism.	Please check a constant setup and instruction of a sensor.	No reset operations neccesary.	A	A	A	A	on	on
5269	Sensor failure	ZN Search destination point is exceeded range.	This error occurs when the robot moves beyond Software Limit range by ZN search.	Modify () the ZN mamimum distance so that the point extended ZN maximum distance from the previous point of ZE is within the robot working range.	Error reset.	A	A	A	A	on	on
5270	Sensor failure	The tracking speed is a negative value.	This error occurs when the tracking speed is set to a negative value by speed change of Adaptive Control.	(1)Specify the AS speed properly so that it will not become negative by Adaptive Control. (2)Connect WinUser to the sensor, and review the setting "gap - speed" in the spread sheet.	Error reset.	A	A	A	A	on	on
5271	Sensor failure	Error in instruction of ZE command outside	This error occurs when ZT command according to ZE does	Modify ZT or ZE command.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		tracking section	not exist.								
5272	Sensor failure	Continuous ZT commands have same sensor number.	This error occurs when continuous ZT commands have same sensor number.	Check each sensor number of ZT command.	Error reset.	A	A	A	A	on	on
5273	Sensor failure	Continuous ZN commands have same sensor number.	This error occurs when continuous ZN commands have same sensor number.	Check each sensor number of ZN command.	Error reset.	A	A	A	A	on	on
5274	Sensor failure	Continuous ZE commands have same sensor number.	This error occurs when continuous ZE commands have same sensor number.	Check each sensor number of ZE command.	Error reset.	A	A	A	A	on	on
5275	Sensor failure	ZN command according to ZT does not exist.	This error occurs in case that ZN commands for all laser sensors is not instructed when the tracking by the plural laser sensors are performed.	Modify ZN commands.	Error reset.	A	A	A	A	on	on
5276	Sensor failure	ZE command according to ZT does not exist.	This error occurs when ZE command according to ZT is not instructed.	Modify ZT or ZE command.	Error reset.	A	A	A	A	on	on
5277	Sensor failure	ZT command according to ZN does not exist.	This error occurs when ZT command according to ZN is not instructed.	Modify ZT or ZN command.	Error reset.	A	A	A	A	on	on
5278	Sensor failure	ZT command according to ZE does not exist.	This error occurs when ZT command according to ZE is not instructed.	Modify ZT or ZE command.	Error reset.	A	A	A	A	on	on
5279	Sensor failure	ZT command exists in the section of continuous ZN or ZE commands.	This error occurs when ZT command is instructed just after ZN or ZE command.	Modify ZT, ZN or ZE command.	Error reset.	A	A	A	A	on	on
5280	Sensor failure	ZN command exists in the section of continuous ZT or ZE commands.	This error occurs when ZN command is instructed just after ZT or ZE command.	Modify ZT, ZN or ZE command.	Error reset.	A	A	A	A	on	on
5281	Sensor failure	ZE command exists in the section of continuous ZT or ZN commands.	This error occurs when ZE command is instructed just after ZT or ZN command.	Modify ZT, ZN or ZE command.	Error reset.	A	A	A	A	on	on
5282	Sensor failure	Abnormal setting of ON/OFF of External I/O detection in ZN commands.	This error occurs when both settings of External I/O detection in the continuous ZN instructions are not same.	Modify the setting of External I/O detection in each ZN command.	Error reset.	A	A	A	A	on	on
5283	Sensor failure	Abnormal setting of input port number of External I/O detection in ZN commands.	This error occurs when both settings of input port number of External I/O detection in the continuous ZN instructions are not same.	Modify the setting of input port number of External I/O detection in each ZN command.	Error reset.	A	A	A	A	on	on
5284	Sensor failure	Abnormal setting of "Maximum distance" in ZN commands.	This error occurs when both parameters of "Maximum distance" in the continuous ZN instructions are not same.	Modify "Maximum distance" in each ZN command.	Error reset.	A	A	A	A	on	on
5285	Sensor failure	A reference position has not been taught.	This error occurs if a reference position is not taught when executing SF2/ZF2.	Teach a reference position by executing manual operation, macro-execution or trial operation.	Error reset.	A	A	A	A	on	on
5286	Sensor failure	An undefined dummy point is being referred.	When executing SF2/ZF2, an undefined dummy point was attempted to be referred.	To make a reference to the dummy point, modify the patterned search macro so that the dummy point can be referred after defined.	Error reset.	A	A	A	A	on	on
5287	Sensor failure	A vector is not taught.	Since a vector is not taught, the motion direction of patterned search cannot be operated.	Teach a vector (both its start point and end point).	Error reset.	A	A	A	A	on	on
5288	Sensor failure	An undefined temporary buffer point is being referred.	When executing SF2/ZF2, an undefined temporary buffer point was attempted to be referred.	To make a reference to a temporary buffer point, modify the patterned search macro so that the temporary buffer point can be referred after defined.	Error reset.	A	A	A	A	on	on
5289	Sensor failure	A vector cannot be defined or identified when executing SF2/ZF2.	(1)The motion start/end point of S (search) command or M (move) command are the same. (2)When executing the vector intersection operation mode (a=1) by L (vector calcuation) command, two kinds of vector are identical.	(3)Check the vector specified by the temporary buffer point in each command, and remove the errors.	Error reset.	A	A	A	A	on	on
5290	Sensor failure	Logic error of the patterned search macro.	Parameter settings for the patterned search macro are fault, which causes a SF2/ZF2 execution failure.	Review the contents of the patterned search macro and parameter settings for the patterned search (including the set point).	Error reset.	A	A	A	A	on	on
5291	Sensor failure	An operation error occurred when	A search target point of S (search) command or a motion target point	Review the contents of the patterned search macro and parameter settings for the patterned search	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		executing SF2/ZF2.	of M (move) command were not able to be obtained.	(including the set point) so that the search target point and the motion target point can be got within the robot motion range.							
5292	Sensor failure	DE Search range exeeced.	This error occurs when the robot moves beyond search range during DE.	Modify(enlarge) the DE search range or program to rectify error.	Error reset.	A	A	A	A	on	on
5293	Sensor failure	The command of teaching prohibition in ZF and after	This error occurs when the command not permitted has been taught in ZF-ZT and ZF-ZE section.	Review the teaching in ZF-ZT and ZF-ZE section.	Error reset.	A	A	A	A	on	on
5294	Sensor failure	Adaptive welding current over	Welding current specified by adaptive control exceeds maximum current watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum current watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5295	Sensor failure	Adaptive welding current short	Welding current specified by adaptive control becomes lower than minimum current watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum current watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5296	Sensor failure	Adaptive welding voltage over	Welding voltage specified by adaptive control exceeds maximum voltage watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum voltage watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5297	Sensor failure	Adaptive welding voltage short	Welding voltage specified by adaptive control becomes lower than minimum voltage watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum voltage watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5298	Sensor failure	Adaptive travel speed over	Travel speed specified by adaptive control exceeds maximum speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum speed watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5299	Sensor failure	Adaptive travel speed short	Travel speed specified by adaptive control becomes lower than minimum speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum speed watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5300	Auto Calibration failure	Auto Calibration function can not be carried out.	An error is in the record method of an automatic calibration related function.	Please record an automatic calibration function behind a move command.Or please choose a mechanism correctly.	After recording the move step, Please Check Go.	A	A	A	A	on	on
5301	Auto Calibration failure	Other units are running program.	CALIBROB(FN702) cannot be performed while running the program of other units.	Please perform CALIBROB (FN702) again after stopping all units.	Error reset.	A	A	A	A	on	on
5302	Auto Calibration failure	The maximum compensation value error.	The amount of compensation of joint offset or a tool parameter is over the maximum set up by the constant.	Please acquire a measuring point again after correcting a gap of a robot using a torch gauge or a point mark.	Error reset.	I	I	A	A	on	on
5303	Auto Calibration failure	The maximum search distance error.	This error occurs when the robot moves beyond search range	Modify(enlarge) the search range or program to rectify error.	No reset operations neccesary.	A	A	A	A	on	on
5304	Auto Calibration failure	The reference point for automatic calibrations is not acquired.	This error occurs when reference points are not acquired.	Please acquired reference points.	No reset operations neccesary.	A	A	A	A	on	on
5305	Auto Calibration failure	Reference point Orientation error.	This error occurs when the "A" and "B" points have different orientation.	Please make "A" and "B" points into the same orientation.	No reset operations neccesary.	A	A	A	A	on	on
5306	Auto Calibration failure	Reference point orientation error(At the time of the direction search of Z).	It becomes this error when the orientation of the reference point at the time of the direction search of Z differs from A1, B1 or A2, and B-2.	Please make the same the orientation of B points of A1, B1 point, A points of the direction search of Z or A2, B-2 point, and the direction search of Z.	No reset operations neccesary.	A	A	A	A	on	on
5307	Auto Calibration failure	The auto calibration sensor is not registered.	This error occurs when the auto calibration sensor required for search operation is not set up.	Please register an automatic calibration sensor by constant setup.	Error reset.	A	A	A	A	on	on
5308	Auto Calibration failure	The input-and-output signal is not set up.	This error occurs when the input-and-output signal required for search operation is not set up.	Set up an input-and-output signal.	Error reset.	A	A	A	A	on	on
5309	Auto Calibration failure	File reading error.	A condition file cannot be read.	Please set up constant data again or perform initialization.	Error reset.	A	A	A	A	on	on
5310	Auto Calibration failure	The abnormalities in an automatic calibration parameter.	The parameter in an automatic calibration constant file is unusual.	Please set up a constant file correctly.	Error reset.	A	A	A	A	on	on
5311	Auto Calibration failure	Automatic calibration measurement file error.	It has not accessed whether a measurement file could be created.	Please enable it to create a measurement file.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
5312	Auto Calibration failure	The abnormalities in automatic calibration correct.	Reliability is not in the measured data. There is a possibility that the sensor might incorrect-detect or a totter may be in attachment of a tool.	Please perform reference point acquisition again.	Error reset.	A	A	A	A	on	on
5313	Auto Calibration failure	The abnormalities in work program compensation.	Abnormalities occurred at the time of work program compensation.	Please perform reference point acquisition again.	Error reset.	A	A	A	A	on	on
5314	Auto Calibration failure	The abnormalities in work program compensation.	Abnormalities occurred at the time of work program compensation.	It is not especially.	No reset operations neccesary.	I	I	I	I	on	on
5315	Auto Calibration failure	A robot's position is shifted greatly.	Since a robot's position is shifted greatly, measurement is uncontinuable.	Please acquire a measuring point again after correcting a gap of a robot to the range which can be measured using a torch gauge or a point mark.	Error reset.	A	A	A	A	on	on
5316	Auto Calibration failure	All measuring points are not acquired.	The gap of a robot was detected in the state where all measuring points have not measured.	Please measure all measuring points.	Error reset.	A	A	A	A	on	on
5317	Auto Calibration failure	CALIBROB (FN702) cannot be performed.	Datum point acquisition mode CALIBROB (FN702) was performed.	It is not especially.	Error reset.	I	I	A	A	on	on
5318	Auto Calibration failure	Cannot search.	It becomes this error when the inputted search operation distance is too large.	Modify(enlarge) the search range or program to rectify error.	Error reset.	A	A	A	A	on	on
5319	Auto Calibration failure	The minimum search distance error.	This error occurs when the robot moves beyond search range	Modify(enlarge) the search range or program to rectify error.	No reset operations neccesary.	A	A	A	A	on	on
5320	Auto Calibration failure	The abnormalities in calibration compensation at the time of remeasurement.	Reliability is not in the measured data. There is a possibility that the sensor might incorrect-detect or a totter may be in attachment of a tool.	Please perform measuring point acquisition again.	Error reset.	A	A	A	A	on	on
5321	Auto Calibration failure	The quick checki point is not measured.	Although the all-points measurement of the quick checki point is not carried out, MESPOS (FN700) was performed.	Please measure the quick checki point again.	Error reset.	A	A	A	A	on	on
5322	Auto Calibration failure	Reference point error.	Reference point was not taken from point 1Q.	Please perform taking reference point from point 1Q.	Error reset.	A	A	A	A	on	on
5323	Auto Calibration failure	Reference point error.	Reference point was not taken from point 1A.	Please perform taking reference point from point 1A.	Error reset.	A	A	A	A	on	on
5330	Auto Calibration failure	Measuring point Orientation error.	This error occurs when the "A" and "B" points have different orientation. There is a possibility that the sensor might incorrect-detect or a totter may be in attachment of a tool.	Please perform measuring point acquisition again.	No reset operations neccesary.	A	A	A	A	on	on
5331	Auto Calibration failure	Measuring point orientation error(At the time of the direction search of Z).	It becomes this error when the orientation of the measuring point at the time of the direction search of Z differs from A1, B1 or A2, and B-2.There is a possibility that the sensor might incorrect-detect or a totter may be in attachment of a tool.	Please perform measuring point acquisition again.	No reset operations neccesary.	A	A	A	A	on	on
5332	Auto Calibration failure	The abnormalities in automatic calibration correct.	Reliability is not in the measured data. There is a possibility that the sensor might incorrect-detect or a totter may be in attachment of a tool.	Please perform measuring point acquisition again.	Error reset.	A	A	A	A	on	on
5333	Auto Calibration failure	The abnormalities in work program compensation.	Abnormalities occurred at the time of work program compensation.	Please perform measuring point acquisition again.	Error reset.	A	A	A	A	on	on
5334	Auto Calibration failure	Measuring point error.	Measuring point was not taken from point 1Q.	Please perform taking measuring point from point 1Q.	Error reset.	A	A	A	A	on	on
5335	Auto Calibration failure	Measuring point error.	Measuring point was not taken from point 1A.	Please perform taking measuring point from point 1A.	Error reset.	A	A	A	A	on	on
5400	Sensor failure	Abnormal setting of the speed monitoring range	This error occurs when the minimum value of speed monitoring value exceeds the maximum value in the condition	Review the minimum and maximum value of the speed monitoring value.	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			settings for the adaptive control.								
5401	Sensor failure	Abnormal setting of the current monitoring range	This error occurs when the minimum value of current monitoring value exceeds the maximum value in the condition settings for the adaptive control.	Review the minimum and maximum value of the current monitoring value.	Error reset.	A	A	A	A	on	on
5402	Sensor failure	Abnormal setting of the voltage monitoring range	This error occurs when the minimum value of voltage monitoring value exceeds the maximum value in the condition settings for the adaptive control.	Review the minimum and maximum value of the voltage monitoring value.	Error reset.	A	A	A	A	on	on
5403	Sensor failure	Adaptive condition setting error	An illegal setting change of an adaptive condition was done in the tracking section. Effective and the invalidity of an adaptive control cannot be switched in the tracking section, and the number of samples of moving averages be changed.	Please confirm the specified LSR file number. Please confirm the content of the LSR file set when the specified number is correct.	Error reset.	A	A	A	A	on	on
5404	Sensor failure	Adaptive weaving amplitude over	Weaving amplitude specified by adaptive control exceeds maximum amplitude watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum amplitude watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5406	Sensor failure	ZF Posture Deviation range exceeded.	This error occurs when the difference between the target posture calculated by ZF instruction and the taught posture exceeds Posture deviation range.	Check the target posture If no problems exist, moodify(enlarge) the ZF parameters or program to rectify error.	Error reset.	A	A	A	A	on	on
5408	Sensor failure	Maximum distance in ZN command is too long.	Target position calculated by ZN command is out of the movable area because Maximum distance in ZN command is too long.	Decrease the maximum distance in ZN command.	Error reset.	A	A	A	A	on	on
5410	Sensor failure	Stability waiting time over	The stability waiting time was exceeded.	(1)Modify(enlarge) stable waiting time to rectify error. (2)Modify the teaching point so that the groove is within the field of view of laser. (3)When the groove is within the field of view, modify the parameters by the software attached to the sensor so that the groove is detected normally.	Error reset.	A	A	A	A	on	on
5411	Sensor failure	ZJ Deviation range exceeded	This error occurs when the distance between the detected point and ZJ reference point exceeded the deviation range.	Check detected position. If no problems exist, modify(enlarge) the ZJ deviation range parameter or program to rectify error.	Error reset.	A	A	A	A	on	on
5412	Sensor failure	Adaptive Wire Speed Over	Wire Speed specified by adaptive control exceeds maximum wire speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum wire speed watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5413	Sensor failure	Adaptive Wire Speed Short	Wire speed specified by adaptive control becomes lower than minimum wire speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum wire speed watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5414	Sensor failure	Area Over	Detected area is exceeded beyond maximum allowable value.	Check the area watch value(maximum) and enlarge if needed.	Error reset.	A	A	A	A	on	on
5415	Sensor failure	Area Short	Detected area becomes lower than minimum allowable value.	Check the area watch value(minimum) and decrease if needed.	Error reset.	A	A	A	A	on	on
5416	Sensor failure	Mismatch Over	Detected mismatch is exceeded beyond maximum allowable value.	Check the mismatch watch value(maximum) and enlarge if needed.	Error reset.	A	A	A	A	on	on
5417	Sensor failure	Mismatch Short	Detected mismatch becomes lower than minimum allowable value.	Check the mismatch watch value(minimum) and decrease if needed.	Error reset.	A	A	A	A	on	on
5418	Sensor failure	Search position was changed.	It differs from the position in which search position obtained reference position.	Please execute the trial movement or the edit, and get reference position again.	Error reset.	A	A	A	A	on	on
5419	Sensor failure	SF8 Max. Compensative-Surveila nce val. Over	Contents of the register specified in SF8 exceeded beyond Max. Compensative-Surveilance val.	Check contents of the register specified in SF8. If there is no problem, increase Max. Compensative-Surveilance val. in SF8.	Error reset.	A	A	A	A	on	on
5420	Sensor failure	SF8 Min. Compensative-Surveila nce val. Short	Contents of the register specified in SF8 becomes lower than Min. Compensative-Surveilance val.	Check contents of the register specified in SF8. If there is no problem, decrease Min. Compensative-Surveilance val. in SF8.	Error reset.	A	A	A	A	on	on
5421	Sensor failure	The touch detection point is abnormal.	It leaves the final instruction position too much the position in which the touch signal was detected.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Turn on the power again.	A	A	A	A	on	on
5422	Sensor failure	Adaptive EN Ratio Over	EN ratio specified by adaptive control exceeds maximum EN	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is	Error reset.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			ratio watch value of adaptive control.	OK, increase maximum EN ratio watch value of adaptive control.							
5423	Sensor failure	Adaptive EN Ratio Short	EN ratio specified by adaptive control becomes lower than minimum EN ratio watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum EN ratio watch value of adaptive control.	Error reset.	A	A	A	A	on	on
5424	Sensor failure	Abnormal setting of the EN Ratio monitoring range	This error occurs when the minimum value of EN ratio monitoring value exceeds the maximum value in the condition settings for the adaptive control.	Review the minimum and maximum value of the EN ratio monitoring value.	Error reset.	A	A	A	A	on	on
5425	Sensor failure	Abnormal setting of the Wire speed monitoring range	This error occurs when the minimum value of Wire speed monitoring value exceeds the maximum value in the condition settings for the adaptive control.	Review the minimum and maximum value of the Wire speed monitoring value.	Error reset.	A	A	A	A	on	on
5426	Sensor failure	Normal Angle Over	Detected Normal angle is exceeded beyond maximum allowable value.	Check that Normal angle amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5427	Sensor failure	Normal Angle Short	Detected Normal angle becomes lower than minimum allowable value.	Check that Normal angle amount and modify allowable value if needed.	Error reset.	A	A	A	A	on	on
5428	Sensor failure	Sensor kind is mismatched.	This error occurs when the sensor kind in the sensor step does not meet that of the connected sensor.	Check that sensor settings and /or teaching programs.	Reset failure.	A	A	A	A	on	on
5429	Sensor failure	The target position and posture cannot be calculated.	The target position and posture were not able to be calculated according to the detection value of the sensor, taught aim angle and the lag angle.	(1) Please correct specified Aim Angle and Lad Angle. (2) Please confirm whether detected Joint Normal Angle is an expected angle with the GAP file. It is likely to become Joint Normal not anticipated according to the state of Groove. (3) It is likely to become this abnormality when the absolute amount of the offset is too large at two point search. Please reduce it in that case.	Error reset.	A	A	A	A	on	on
5430	Operational failure	Playback unavailable user task program because it is being used all user task.	Error occurs when it is not able to start user task program ,because used all user task or not exist user task program.	Please confirm the starting condition of user task.	Error reset.	A	A	A	A	on	on
5440	Sensor failure	Tracking direction cannot be defined.	For the traveling direction of the torch is parallel to the direction of gravity, tracking direction cannot be defined.	Please change tracking coordinates.	Error reset.	A	A	A	A	on	on
5441	Sensor failure	The welding length of Test Tracking is insufficient.	Test Trackinig was not able to be completed normally, because the welding length was insufficient	Please correspond whether to lengthen the welding length or to slow down the speed or to raise the weaving frequency or to reduce one section measurement frequency of the Test Tracking setting.	No reset operations neccesary.	A	A	A	A	off	on
5442	Sensor failure	Test Tracking is stopped.	Test Tracking is discontinued for sensor OFF or weaving OFF.	Please OFF both sensor and weaving.	No reset operations neccesary.	A	A	A	A	off	on
5443	Sensor failure	Data Sending Error.	Data was not able to be sent to the sensor.	Reboot robot controller. Still, there is a possibility that the increase serial board has been damaged when not released.	Turn on the power again.	A	A	A	A	on	on
5444	Sensor failure	Sensor Receive Data Error.	NAK frame was received from the sensor.	(1)Please confirm the connection of the cable between the robot controller system and the arc sensor unit. (2)Still, when it is not released, Control power supply is re-switched on.	Error reset.	A	A	A	A	on	on
5445	Sensor failure	Sensor Send Data Error.	An abnormal frame was received from the sensor.	(1)Please confirm the connection of the cable between the robot controller system and the arc sensor unit. (2)Still, when it is not released, Control power supply is re-switched on.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5446	Sensor failure	No Sensor Response.	Response command from the sensor was not able to be received.	(1)Please confirm the connection of the cable between the robot controller system and the arc sensor unit. (2)Still, when it is not released, Control power supply is re-switched on.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5447	Sensor failure	Sensor ID error.	Illegal Sensor ID.	Please confirm the sensor setting.	After removal of failure, please carry out "failure-reset".	A	A	A	A	on	on
5448	Sensor failure	The controller could not communicate with the Sensor unit.	The controller could not communicate with the sensor unit.	Reboot robot controller and sensor unit. In case that the error still occurs after rebooting, check the connection of the sensor unit to the controller.	Reboot robot controller and sensor unit.	E	E	E	E	on	on
5449	Sensor failure	ST instruction or the sample data file is wrong.	The result of an online modification cannot be applied to the sample data.	Please set 0 to current response after executing the test tracking. If TIG-AVC, set 0 to arc standard voltage.	Error reset.	A	A	A	A	on	on
5450	Sensor	Extended Ethernet Error	It failed in the start of extended	Please confirm whether the extended Ethernet card	Reset failure.	A	A	A	A	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
	failure		Ethernet.	is correctly installed. Or, please confirm whether the MAC address is correctly set. Still, there is a possibility that the version of OS is old when this abnormality occurs. Please contact our service department after confirming the version number of OS etc. Back up files to external CF memory.							
5451	Sensor failure	Sensor Lens Error	Abnormality concerning the lens was detected with the sensor camera.	Please confirm whether the protective lens is correctly installed. Please wipe dirt off when the protective lens is dirty or exchange it for a new lens.	Reset failure.	A	A	A	A	on	on
5452	Sensor failure	Sensor Interface Error	The sensor detected the error concerning the telecommunication control.	Please treat it according to the instruction of the manual when abnormality is displayed on the display of the sensor.Please put the power supply of the sensor and the controller again when abnormality is not displayed. Please contact our service after confirming the version of the sensor and the controller when same abnormality is displayed afterward.	Reset failure.	A	A	A	A	on	on
5453	Sensor failure	Sensor Hot Alarm	An internal abnormal temperature was detected with the sensor camera.	Please drop the power supply of the sensor, and put time for a while at once. Please turn on the power supply again after falling the temperature of the camera.	Reset failure.	A	A	A	A	on	on
5454	Sensor failure	Laser OFF	The Laser is disabled.	Please execute it after turning on the laser light. Please check whether cables are correctly connected when it doesn't turn on the laser light. Or, please put the power supply of the sensor and the controller again.	Reset failure.	A	A	A	A	on	on
5455	Sensor failure	The task number is wrong.	The specified task number doesn't exist in the sensor.	(1)Please specify the task number made with WeldCom. (2)Please make the task library of the specified task number with WeldCom. (3)Please load the task library file where the specified task number exists into the sensor by using WeldCom.	Reset failure.	A	A	A	A	on	on
5456	Sensor failure	The posture change amount is excessive.	The calculated target posture has greatly changed into the posture when groove is detected. And, when the amount of the change exceeds the posture change over watch value, this alarm is detected.	(1) Please correct specified Aim Angle and Lead Angle. (2) Please confirm whether detected Joint Normal Angle is an expected angle with the GAP file. It is likely to become Joint Normal not anticipated according to the state of Groove. (3) Check that actual posture change amount and modify the posture change over watch value if needed.	Reset failure.	A	A	A	A	on	on
5500	User failure	Installation Angle is updated.	Installation Angle is updated by request from OLP.	Check [Constant Setting]->[12 Format and Configuration]->[5 Installation Angle].	No reset operations neccesary.	A	A	A	A	on	on
5501	User failure	Tool Constants are updated.	Tool Constants are updated by request from OLP.	Check [Constant Setting]->[3 Machine Constants]->[1 Tool Constants].	No reset operations neccesary.	A	A	A	A	on	on
5510	Operational failure	Playback unavailable user task program because it is being used all user task.	Error occurs when it is not able to start user task program ,because used all user task or not exist user task program.	Please confirm the starting condition of user task.	Error reset.	I	I	I	I	on	on
5701	Operational failure	Option un-setting up.	It generates, when it is going to use the option function which is not set up.	Please set up an option.	No reset operations neccesary.	A	A	A	A	on	on
5702	Operational failure	It cannot re-start.	Movement in a return position or a section state cannot be resumed.	Please re-start after a step-set out of the section.	No reset operations neccesary.	A	A	A	A	on	on
5703	Shift failure	The input-and-output signal is not set up.	This error occurs when the input-and-output signal is not set up.	Set up an input-and-output signal.	Error reset.	A	A	A	A	on	on
5704	Shift failure	Abnormality occurred by the parity check of the shift input signal.	The value of the shift input signal is not steady.	Please the parity bit of the shift input signal must normally input or confirm whether the noise has gotten on the signal.	No reset operations neccesary.	A	A	A	A	on	on
5705	Shift failure	Other units are running program.	This function command cannot be performed while running the program of other units.	Please perform again after stopping all units.	Error reset.	A	A	A	A	on	on
5706	Operational failure	Application isn't set up.	It generates when it is going to use the application function which is not set up.	Please set up the correct Application.	No reset operations neccesary.	A	A	A	A	on	on
6005	Arc weld failure	The weaving trajectory exceeded regulation speed.	The amount of movements of weaving pattern data large, or frequency (speed) was large, the speed of a weaving trajectory exceeded regulation speed.	Please correct the amount of movements of weaving, or frequency (speed).	No reset operations neccesary.	I	I	I	I	on	on
6006	Arc weld failure	The amount of posture change of taught weaving exceeded the	The amount of change of the posture of weaving pattern data is too large.	Please correct posture change of taught weaving pattern data.	Move posture change restriction-within	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
		restriction value.			the limits.						
6010	Arc weld failure	The welding current value has exceeded the allowable limit.	The difference between the welding current value measured by the welding power supply and the taught one has exceeded the allowable limit set by the arc constants.	Check the welding conditions(wire extension etc). There is possibility of missmatch the welding characteristic data to your environment if this failure occurs over and over again. In such case, adjust the welding characteristic data by the adjudstment of welding condition function etc.	No reset operations neccesary.	I	I	I	I	on	on
6011	Arc weld failure	The welding voltage value has exceeded the allowable limit.	The difference between the welding voltage value measured by the welding power supply and the taught one has exceeded the allowable limit set by the arc constants.	Check the welding conditions(wire extension etc). There is possibility of missmatch the welding characteristic data to your environment if this failure occurs over and over again. In such case, adjust the welding characteristic data by the adjudstment of welding condition function etc.	No reset operations neccesary.	I	I	I	I	on	on
6014	Arc weld failure	Arc start failure.	No arc is generated after retrying.	Check the workpiece's condition, wire's condition, and connection of the cable.	No reset operations neccesary.	I	I	I	I	on	on
6015	Arc weld failure	Arc outage was detected.	Arc outage occurred during welding.	Eliminate all causes of arc outage, for instance by adjusting the wedling conditions, fixing wire feed failure, and so on.	No reset operations neccesary.	I	I	I	I	on	on
6016	Arc weld failure	Wire stick was detected.	Wire is stuck.	Cut stuck wire.	No reset operations neccesary.	I	I	I	I	on	on
6019	Arc weld failure	Wire shortage was detected.	Not enough wire signal is inputted.	Supply wire.	No reset operations neccesary.	I	I	I	I	on	on
6024	Arc weld failure	Input voltage shortage failure ocurred in the welding power supply.	The primary input voltage of the welding power supply has decreased.	Refer to the instruction manual of the welding power supply(Failure Name: Input voltage shortage) and eliminate all causes.	No reset operations neccesary.	I	I	I	I	on	on
6043	Arc weld failure	The load of wire feed exceeded allowable value.	It exceeded the allowable value which the load of wire feed was set up to by the welding fixed number.	A load is on the wire feed department by wear of the liner, the chip defect, and so on. Get rid of load factors.	No reset operations neccesary.	I	I	I	I	on	on
6044	Arc weld failure	The battery of welding power supply is exhausted.	The battery of welding power supply is exhausted.	Exchange a battery because it can't be connected any more with the welding power supply.	No reset operations neccesary.	I	I	I	I	on	on
6054	Arc weld failure	WCR Short-circuit Error	WCR of W-I/F had connected too hastily at the time of an arc start.	Please check the state of W-I/F, and a welding power supply.	No reset operations neccesary.	I	I	I	I	on	on
6074	Arc weld failure	The cooler fan failure ocurred in the welding power supply.	The cooler fan's rotation has fallen or it stops.	Refer to the instruction manual of the welding power supply(Failure Name: The cooler fan failure) and eliminate all causes.	No reset operations neccesary.	I	I	I	I	on	on
6080	Operational failure	It was going to start the unit containing the resources under starting.	It will generate, if the unit containing the resources under starting is started.	Please start after waiting for the completion of starting.	No reset operations neccesary.	I	I	I	I	on	on
6085	Arc weld failure	Communication timeout occurred inside the welding power supply.	The contollor of the welding power supply didn't respond.	Check the route of cable and ground connection.	No reset operations neccesary.	I	I	I	I	on	on
6106	Arc weld failure	The pilot arc outage is abnormal.	The pilot arc outage occurred.	Check the connection condition of the cable.	No reset operations neccesary.	I	I	I	I	on	on
6107	Arc weld failure	Setting error of the failure limit type.	The failure limit by the rate cannot be set by the version of this welder.	In the welding constant, please set a relative value.	No reset operations neccesary.	I	I	I	I	on	on
6108	Arc weld failure	Pilot arc ON error.	The pilot arc was not able to be turned on.	Please check follows. (1)Turn off the purge(cleaning gas). (2)Release the emergency stop. (3)Reset plasma unit/WPS error. (4)Set weld ON. (5)Set the registration of welder "PlasmaDA" or "PlasmaWPS".	No reset operations neccesary.	I	I	I	I	on	on
6109	Arc weld failure	Purge(Cleaning gas) ON error.	The purge(cleaning gas) was not able to be turned on.	Please check follows. (1)Turn off the pilot arc. (2)Release the emergency stop. (3)Reset plasma unit error.	No reset operations neccesary.	I	I	I	I	on	on
6116	Arc weld failure	The management of the consumption of the wire of the user maintenance function cannot be used.	The arc welding power supply doesn't correspond to the management of the consumption of the wire.	The upgrade should do the software of the arc welding power supply.	No reset operations neccesary.	I	I	I	I	on	on
6117	Arc weld failure	The Gas OFF Delay function cannot be used.	The arc welding power supply doesn't correspond to the Gas Off Delay function.	The upgrade should do the software of the arc welding power supply. Or, please set the Gas OFF Delay time to 0.	No reset operations neccesary.	I	I	I	I	on	on
6121	Arc weld failure	The gas mass flow value has exceeded the allowable limit.	The difference between the gas mass flow value measured by the welding power supply and the taught one has exceeded the allowable limit set with the controller.	Please confirm the remainder pressure of gas cylinder, the piping of the gas, and the setting of the gas mass flow control unit.	No reset operations neccesary.	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
6122	Arc weld failure	The gas pressure value has exceeded the allowable limit.	The gas pressure measured in the arc welding power supply exceeded the limiting value set with the controller.	Please confirm the remainder pressure of gas cylinder, the piping of the gas, and the setting of the gas mass flow control unit.	No reset operations neccesary.	I	I	I	I	on	on
6123	Arc weld failure	The set gas mass flow is not output.	The set gas mass flow was not output in specified time.	Please confirm the residual quantity of the gas cylinder, the piping of the gas, and the setting of the gas mass flow control unit.	No reset operations neccesary.	I	I	I	I	on	on
6140	Arc weld failure	The speed of the wire speed has exceeded the allowable limit.	The speed of the wire measured in the arc welding power supply has exceeded the allowable limit at the speed of the wire that the arc welding power supply output.	Please confirm whether an excessive load contracts the wire feeder. Please contact our customer service center when the permissible value is large.	No reset operations neccesary.	I	I	I	I	on	on
6141	Arc weld failure	The welding redorder function cannot be used.	There is not becoming empty in the memory that memorizes the welding record data.	Please reduce the number of record data.	No reset operations neccesary.	I	I	I	I	on	on
6142	Arc weld failure	The welding record file cannot be made.	The file cannot be made because there is no free space of the device.	Please secure the free space of the device.	No reset operations neccesary.	I	I	I	I	on	on
6143	Arc weld failure	Threshold trigger	The threshold specified under the welding record condition was detected in the arc welding power supply.	Please confirm the arc welding construction condition.	No reset operations neccesary.	I	I	I	I	on	on
6144	Arc weld failure	Welding recorder cannot connect to FTP server.	It was not a connection to the FTP server that was saving device for a welding recorder. Or, neither an initial folder nor the folder of this name existed on the home directory of the FTP server.	Please confirm host name, user ID, password, and initial folder of ftp client.	No reset operations neccesary.	I	I	I	I	on	on
6145	Arc weld failure	Abnormality occurred while saving the welding record file.	The welding recorder cannot save record file. The storage medium is not prepared, and read-only and memory capacity shortage, etc. are thought.	Please confirm the state of the storage medium.	No reset operations neccesary.	I	I	I	I	on	on
6237	Sensor failure	Start Point un-detected	This failure occurs when the start point is not detected during ZF search.	(1)Check the groove recognization by WinUser. (2)Enlarge the ZF maximum search range.	Error reset.	I	I	I	I	on	on
6238	Sensor failure	Cannot restart during seam tracking.	Cannot restart during seam tracking.	Do not modify the position and posture of the robot when the robot is stopped in ZT period if the restarting is required.	Error reset.	I	I	I	I	on	on
6239	Sensor failure	ZF Deviation range exceeded	This error occurs when the distance between the detected start point and ZF taught point exceeded the deviation range.	Check detected position. If no problems exist, moodify(enlarge) the ZF deviation range parameter or program to rectify error.	Error reset.	I	I	I	I	on	on
6240	Sensor failure	ZF search range exceeded	This error occurs when the robot moves beyond search range	Modify(enlarge) the search range or program to rectify error.	Error reset.	I	I	I	I	on	on
6241	Sensor failure	ZT Position Deviation range exceeded	This error occurs when the robot moves beyond Position deviation range	Check the target position If no problems exist, moodify(enlarge) the ZT parameters or program to rectify error.	Error reset.	I	I	I	I	on	on
6243	Sensor failure	ZN Search range exeeced.	This error occurs when the robot moves beyond search range during ZN.	Modify(enlarge) the ZN search range or program to rectify error.	Error reset.	I	I	I	I	on	on
6245	Sensor failure	Deviation range exceeded.	This error occurs when the distance between the detected end point and taught point before ZE exceeded the deviation range.	Check the detected point. If no problems exist, Modify(enlarge) the deviation range or program to rectify error.	Error reset.	I	I	I	I	on	on
6249	Sensor failure	ZT Posture Deviation range exceeded	This error occurs when the robot moves beyond Posture deviation range	Check the target posture If no problems exist, moodify(enlarge) the ZT parameters or program to rectify error.	Error reset.	I	I	I	I	on	on
6261	Sensor failure	Groove un-detected.	Groove cannot be detected.	(1)Check that LASER power is ON.(2)Check the cable between Laser Sensor Unit and Sensor Head is connected properly.(3)Check the cable between Robot Controller and Laser Sensor Unit is connected properly.	Take countermeasures and reset failure.	I	I	I	I	on	on
6294	Sensor failure	Adaptive welding current over	Welding current specified by adaptive control exceeds maximum current watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum current watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6295	Sensor failure	Adaptive welding current short	Welding current specified by adaptive control becomes lower than minimum current watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum current watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6296	Sensor failure	Adaptive welding voltage over	Welding voltage specified by adaptive control exceeds maximum voltage watch value of	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum voltage watch value of	Error reset.	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
			adaptive control.	adaptive control.							
6297	Sensor failure	Adaptive welding voltage short	Welding voltage specified by adaptive control becomes lower than minimum voltage watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum voltage watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6298	Sensor failure	Adaptive travel speed over	Travel speed specified by adaptive control exceeds maximum speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum speed watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6299	Sensor failure	Adaptive travel speed short	Travel speed specified by adaptive control becomes lower than minimum speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum speed watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6300	Sensor failure	Search range exceeded.	This error occurs when the robot moves beyond search range	Modify(enlarge) the search range or program to rectify error.	No reset operations neccesary.	I	I	I	I	on	on
6301	Sensor failure	Search range is short	This error occurs when the robot detect the touch status within minimum search range.	Modify(shorten) the search range or program to rectify error.	No reset operations neccesary.	I	I	I	I	on	on
6302	Sensor failure	Deviation range exceeded.	This error occurs when the robot moves beyond deviation range	Modify(enlarge) the deviation range or program to rectify error.	No reset operations neccesary.	I	I	I	I	on	on
6303	Sensor failure	Gap Over	Detected gap is exceeded beyond maximum allowable value.	Check that gap amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6304	Sensor failure	Gap short	Detected gap becomes lower than minimum allowable value.	Check that gap amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6305	Sensor failure	Groove depth over	Detected groove depth is exceeded beyond maximum allowable value.	Check that groove depth amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6306	Sensor failure	Groove depth short	Detected groove depth becomes lower than minimum allowable value.	Check that groove depth amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6307	Sensor failure	Angle1 over	Detected angle1 is exceeded beyond maximum allowable value.	Check that angle1 amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6308	Sensor failure	Angle1 short	Detected angle1 becomes lower than minimum allowable value.	Check that angle1 amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6309	Sensor failure	Angle2 over	Detected angle2 is exceeded beyond maximum allowable value.	Check that angle2 amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6310	Sensor failure	Angle2 short	Detected angle2 becomes lower than minimum allowable value.	Check that angle2 amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6311	Sensor failure	Groove un-detected	Groove position cannot be detected	Check setting parameters in GFF file.	Error reset.	I	I	I	I	on	on
6312	Sensor failure	Unstable detection	This error occurs when measured data is unstable.	Check that target surface condition and/or measurement angle.	Error reset.	I	I	I	I	on	on
6329	Sensor failure	The target position and posture cannot be calculated.	The target position and posture were not able to be calculated according to the detection value of the sensor, taught aim angle and the lag angle.	(1) Please correct specified Aim Angle and Lad Angle. (2) Please confirm whether detected Joint Normal Angle is an expected angle with the GAP file. It is likely to become Joint Normal not anticipated according to the state of Groove. (3) It is likely to become this abnormality when the absolute amount of the offset is too large at two point search. Please reduce it in that case.	No reset operations neccesary.	I	I	I	I	on	on
6330	Sensor failure	Correction amount by arc-sensor exceeds specified value.	Error is activated when the case that correction amount by the sensor exceeds the specified value in teaching parameter.	Check that currect torch position. If it is OK, extend the value CHASING RANGE in teaching parameter. If it is NG, try to adjust sensor parameters.	Error reset.	I	I	I	I	on	on
6331	Sensor failure	Calculation turns to unstable during arc-sensing process.	This error is activated when stability of welding arc decreased significantly.	Check that welding condition to be stable.	Error reset.	I	I	I	I	on	on
6332	Sensor failure	Welding position cannot be detected	This error is activated when the deviation detection cannot be calculated during arc-sensing process. Note that position correction is not executed.	Try to re-adjust sensing parameters.	Error reset.	I	I	I	I	on	on
6333	Sensor failure	Unstable wire-feeding.	Wire-feeding status turn to unstable. Deviation is lager than specified value.	Check that equipments for wire feeding.	Error reset.	I	I	I	I	on	on
6334	Sensor failure	ST parameter error.	The instruction parameter of ST command is over the setting range.	It improves whether each parameter is setting within the limits.	Error reset.	I	I	I	I	on	on
6335	Sensor failure	ZJ Deviation range exceeded	This error occurs when the distance between the detected point and ZJ reference point exceeded the deviation range.	Check detected position. If no problems exist, modify(enlarge) the ZJ deviation range parameter or program to rectify error.	Error reset.	I	I	I	I	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
6336	Sensor failure	Adaptive Wire Speed Over	Wire Speed specified by adaptive control exceeds maximum wire speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum wire speed watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6337	Sensor failure	Adaptive Wire Speed Short	Wire speed specified by adaptive control becomes lower than minimum wire speed watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum wire speed watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6338	Sensor failure	Area Over	Detected area is exceeded beyond maximum allowable value.	Check the area watch value(maximum) and enlarge if needed.	Error reset.	I	I	I	I	on	on
6339	Sensor failure	Area Short	Detected area becomes lower than minimum allowable value.	Check the area watch value(minimum) and decrease if needed.	Error reset.	I	I	I	I	on	on
6340	Sensor failure	Mismatch Over	Detected mismatch is exceeded beyond maximum allowable value.	Check the mismatch watch value(maximum) and enlarge if needed.	Error reset.	I	I	I	I	on	on
6341	Sensor failure	Mismatch Short	Detected mismatch becomes lower than minimum allowable value.	Check the mismatch watch value(minimum) and decrease if needed.	Error reset.	I	I	I	I	on	on
6342	Sensor failure	Adaptive EN Ratio Over	EN ratio specified by adaptive control exceeds maximum EN ratio watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum EN ratio watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6343	Sensor failure	Adaptive EN Ratio Short	EN ratio specified by adaptive control becomes lower than minimum EN ratio watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, decrease minimum EN ratio watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6344	Sensor failure	Normal Angle Over	Detected Normal angle is exceeded beyond maximum allowable value.	Check that Normal angle amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6345	Sensor failure	Normal Angle Short	Detected Normal angle becomes lower than minimum allowable value.	Check that Normal angle amount and modify allowable value if needed.	Error reset.	I	I	I	I	on	on
6404	Sensor failure	Adaptive weaving amplitude over	Weaving amplitude specified by adaptive control exceeds maximum amplitude watch value of adaptive control.	Check the lists of the specified spreadsheet in the sensor controller by WinUser. If the spreadsheet is OK, increase maximum amplitude watch value of adaptive control.	Error reset.	I	I	I	I	on	on
6448	TP failure	Battery remainder amount shortage of the wireless T/P.	The capacity of the battery of the wireless T/P has decreased.	Please connect with the cradle, and charge with the battery.	No reset operations neccesary.	I	I	I	I	off	off
6449	TP failure	Wireless strength shortage of th wireless T/P	Wireless strength of the wireless T/P has weakened.	Please bring the wireless T/P close to the controller.	No reset operations neccesary.	I	I	I	I	off	off
7000	User failure	User failure.	User failure.	Please carry out "failure-reset".	Error reset.	E	E	E	E	on	on
9001	Emergency stop failure	The robot's joint angle before and behind a record point was not in agreement.	The robot's joint angle was not in agreement at the starting point of this step and the target point of this step.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	A	E	A	E	on	on
9002	Emergency stop failure	The amount of step movements is abnormal.	The result which added the amount of step movements to the robot's joint angle in a starting point is not in agreement with the robot joint angle in a target point.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	A	E	A	E	on	on
9003	Operational failure	Abnormal velocity command. Modify abnormal axis motion.	Abnormal velocity command data is calculated.	Modify abnormal axis motion to be minimized. Contact our service department in case axis motion is not so big. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9005	Servo failure	Position Deviation error	This failure occurs when the deviation between the command and encoder data position exceeds the set permissible deviation.	(1)Please confirm whether the robot manipulator interferes in something.(2)Please confirm that the Pay-load is within the nominal rating.(3)If failure persists, the problem may be a mechanical defect in the manipulator, contact our service department.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9011	Emergency stop failure	The robot's joint angle before and behind a record point was not in agreement.	The robot joint angle of this step starting point and the robot joint angle of the last step target point is different.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Turn on the power again.	E	E	E	E	on	on
9012	Emergency stop failure	The amount of step movements is abnormal.	The result which added the amount of step movements to the robot's joint angle in a starting point is not in agreement with the robot joint angle in a target point.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Turn on the power again.	E	E	E	E	on	on
9020	CPU board failure	Error of Interpolation Stop.	Motion control section detected the Time-out Error of Interpolation Stop.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
9021	CPU board failure	Error of Waiting for arriving of target position.	Robot has not arrived at target position.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9022	CPU board failure	Error of Waiting for arriving of accuracy position.	Robot has not arrived at target position accurately.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9023	CPU board failure	Error of interruption of Position Command.	Position Command interrupted.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9024	CPU board failure	Error of mechanism resource acquisition.	Motion control section didn't acquire mechanism resource.	Contact our service department. Back up files to external CF memory.	Error reset.	E	E	E	E	on	on
9025	CPU board failure	Safety slow speed error	Robot speed does not become safety level.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9026	CPU board failure	Stop Release error	Stop command of Motion control section was not released.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9028	CPU board failure	Motion Calculation error	Motion control section detected Calculation error.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Because the robot stop step is different to the execute step, step-set must be needed for restart. Error reset.	E	E	E	E	on	on
9030	Emergency stop failure	Error of brake delay in interference detection.	The axis that the brake doesn't lock even if prescribed time has passed since interference was detected exists..	Turn motors ON by pressing the Motor-ON button..	Please do error reset or turn on the drive preparation.	E	E	E	E	on	on
9031	Control failure	Extremely frequent input-signal was detected.	Frequent input-signal caused system busy.	Check input-signal.	Turn on the power again.	E	E	E	E	on	on
9032	Emergency stop failure	Reducer modeling reverse amends error.	When reversely making amends by the reducer modeling, the amount of amends exceeded a specified value.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9033	CPU board failure	Motion synchronous error	Synchronous processing inside a motion was not performed normally.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9034	CPU board failure	Waiting timeout for robot starting	In spite of having canceled the synchronous waiting within a motion, a robot did not start for a definite period of time.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Error reset.	E	E	E	E	on	on
9100	Emergency stop failure	Stop interpolation	Motion control section stopped the calculation of interpolation.	Contact our service department. Back up files to external CF memory. Because the robot stop step is different to the execute step, step-set must be needed for restart.	Turn on the power again.	E	E	E	E	on	on
9101	Emergency stop failure	Exceed operation time	The robot dose not work continuously.	Contact our service department. Back up files to external CF memory.	Turn on the power again.	E	E	E	E	on	on
9102	Emergency stop failure	Playback cannot be continued.	I/O signal was not able to be processed.	Contact our service department. Back up files to external CF memory.	Turn on the power again.	E	E	E	E	on	on
9103	CPU board failure	System Error (RT_BREAKPOINT).	A breakpoint was encountered.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9105	CPU board failure	System Error (RT_ACCESS_VIOLATION).	The thread attempted to read from or write to a virtual address for which it does not have the appropriate access.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9113	CPU board failure	System Error (RT_FLT_DENORMAL_OPERAND).	One of the operands in a floating-point operation is denormal. A denormal value is one that is too small to represent as a standard floating-point value.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9114	CPU board failure	System Error (RT_FLT_DIVIDE_BY_ZERO).	The thread attempted to divide a floating-point value by a floating-point divisor of zero.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9115	CPU board failure	System Error (RT_FLT_INEXACT_RESULT).	The result of a floating-point operation cannot be represented exactly as a decimal fraction.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
9116	CPU board failure	System Error (RT_FLT_INVALID_OPERATION).	This exception represents any floating-point exception not included in this list.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9117	CPU board failure	System Error (RT_FLT_OVERFLOW).	The exponent of a floating-point operation is greater than the magnitude allowed by the corresponding type.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9119	CPU board failure	System Error (RT_FLT_UNDERFLOW).	The exponent of a floating-point operation is less than the magnitude allowed by the corresponding type.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9120	CPU board failure	System Error (RT_INT_DIVIDE_BY_ZERO).	The thread attempted to divide an integer value by an integer divisor of zero.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9129	CPU board failure	System Error (RT_ILLEGAL_INSTRUCTION).	The method has terminated due to invalid parameters or property values.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9140	CPU board failure	System Error (Mutex Timeout).	System Error. Mutex Timeout.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9144	CPU board failure	System Error (MailBox Timeout Error).	System Error. MailBox Timeout.	Turn on the power again.	Turn on the power again.	E	E	E	E	on	on
9151	Emergency stop failure	Stop interpolation by system busy	Motion control section stopped the calculation of interpolation.	Contact our service department. Back up files to external CF memory.	Error reset.	E	E	E	E	on	on
9152	CPU board failure	The Hibernation is not enabled.	Because abnormality occurred when Hibernation file is made, the Hibernation is not enabled. (Details) (1)Device opening abnormality of D drive. (2)Hibernationfile cannot be made. (3)Can not lock D drive. (4)Can not dismount D drive.(5)Can not unlock D drive.	Turn on the power again. If the error is not released, contact our service department. Back up files to external CF memory.	Error reset.	E	E	E	E	on	on
9153	CPU board failure	An internal memory is not nomally allocated.	When initialize robot controller,an internal memory is not nomally allocated.	(1)Turn on the power again. If the error is not released, contact our service department.(2)Please replace system CF.	Turn on the power again.	E	E	E	E	on	on
9200	CPU board failure	Motion process is not recognized.	Can't recongnize Motion process.	Turn on the power again. If the error is not released, reinstall the system.	Turn on the power again.	E	E	E	E	on	on
9204	CPU board failure	I/O system is not recognized.	Can't recognize I/O system.	Turn on the power again. If the error is not released, reinstall the system.	Turn on the power again.	E	E	E	E	on	on
9208	CPU board failure	Servo communication initialization failure	This failure occurs when the communication between the CPU board and the drive unit (the servo board) cannot begin.	Turn on the power again.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
9209	Amplifier unit failure	Brake fuse off	This failure occurs when the fuse F1 on the brake control board UM351/L21700X00 was cut.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9210	Amplifier unit failure	Brake fuse off.(additional axis)	This failure occurs when the fuse F1-1 or F1-2 on brake control substrate UM226(L9172Y) was cut.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9213	Amplifier unit failure	Drive unit power failure	This failure occurs when the drive unit power PG15(+15V) was not supplied.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9216	Control failure	Low voltage of sequence control power supply	This failure occurs when the voltage of sequence control power supply P1(24V) is decreases.	Replace the CFD controller.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
9217	Amplifier unit failure	Servo shared memory abnormal	This failure occurs when reading or wrinting data to the shared memory between servo communication CPU and servo CPU was not successfully finished.	Replace the CFD controller.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on
9218	CPU board failure	Servo CPU(#2) DP memory error.	Servo CPU(#2) D.P.memory error	Replace the CFD controller.	No reset operations.	E	E	E	E	on	on
9219	CPU board failure	Servo CPU(#3) DP memory error.	Servo CPU(#3) D.P.memory error	Replace the CFD controller.	No reset operations.	E	E	E	E	on	on
9220	Servo failure	An inconsistency was detected in the servo failure.	This failure occurs when an inconsistency was detected in servo failure.	Turn on the power again.	After removal of failure, please turn on power	E	E	E	E	on	on

No.	Class	Condition	Contents	Measure	Release	Severity		Output		LOGGER	
						Teach	Auto	Teach	Auto	Teach	Auto
					supply of the controller again.						
9225	CPU board failure	Servo CPU(#1 axis) is not ready.	Nothing acknowledge form servo CPU(#1 axis)	Replace the CFD controller.	No reset operations.	E	E	E	E	on	on
9226	CPU board failure	Servo CPU(#2 axis) is not ready.	Nothing acknowledge form servo CPU(#2 axis)	Replace the CFD controller.	No reset operations.	E	E	E	E	on	on
9227	CPU board failure	Servo CPU(#3 axis) is not ready.	Nothing acknowledge form servo CPU(#3 axis)	Replace the CFD controller.	No reset operations.	E	E	E	E	on	on
9228	CPU board failure	Servo CPU(#4 axis) is not ready.	Nothing acknowledge form servo CPU(#4 axis)	Replace the CFD controller.	No reset operations.	E	E	E	E	on	on
9229	Amplifier unit failure	Brake fuse off.(F1)	This failure occurs when the fuse F1 on servo board UM351/L21700X00 was cut.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9233	CPU board failure	Servo CPU(#9 axis) is not ready.	Nothing acknowledge form servo CPU(#9 axis)	Replace the CFD controller.	No reset operations.	E	E	E	E	on	on
9234	Operational failure	Operational failure.	insertion external memory during playback.	restart playback.	No reset operations neccesary.	A	A	A	A	on	on
9240	Amplifier unit failure	Drive unit power failure	This failure occurs when drive unit power (+24V) was not supplied.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9241	Amplifier unit failure	Drive unit precharge failure	This failure occurs when drive unit precharge was not executed.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9242	Amplifier unit failure	Drive unit phase lack.	This failure occurs when drive unit lacked a phase of power supply.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9243	Amplifier unit failure	Drive unit power failure	This failure occurs when drive unit power P10V(+10V) was not supplied.	Replace the CFD controller.	After removal of failure, please carry out "failure-reset".	E	E	E	E	on	on
9244	Amplifier unit failure	Current sensor failure	Error occurs if the current sensor is abnormal.	Replace the CFD controller.	After removal of failure, please turn on power supply of the controller again.	E	E	E	E	on	on

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