SOFTWARE

KR C...

System Messages

KUKA System Software (KSS)

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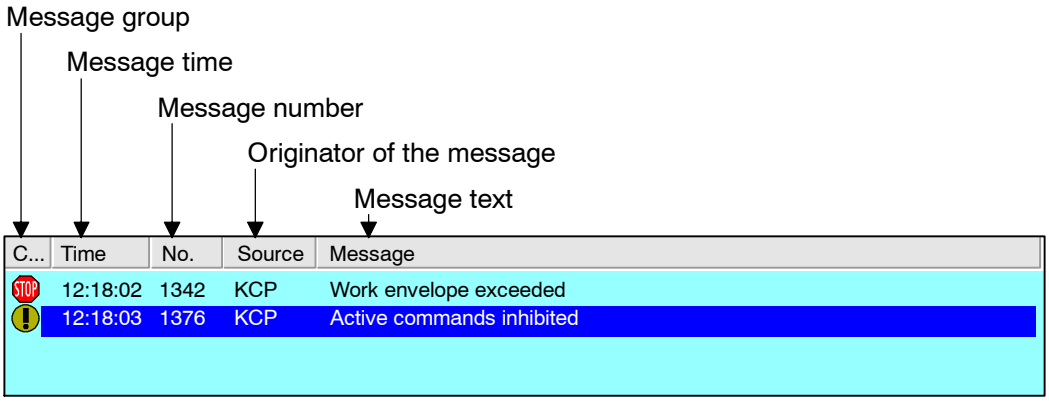
1 System messages

This table contains an overview of the system messages that can be displayed in the message window of the graphical user interface. A system message consists of the following items of information:



Message group

The message group is the category to which a system message belongs. It is represented by a small icon.

Notification message

Notification messages contain information or indicate operator actions, programming errors and operator errors. Notification messages are purely for information purposes and do not interrupt program execution.

Status message

Status messages indicate the status of the system. Status messages are also informational in character, but can interrupt the application program to a certain extent. A status message is automatically deleted as soon as the status that triggered the message is no longer applicable.

Acknowledgment message

These frequently appear following a status message (e.g. “EMERGENCY STOP”) and must be confirmed by means of a softkey. An acknowledgment message may interrupt an application program or disable jog mode. It indicates disruption to program execution.

Dialog message

The operator must respond to these messages using a softkey. A dialog message stops a running program. It is automatically deleted when one of the softkeys offered is pressed. The program is then resumed.

Message time

The message time indicates the system time at which the message was generated.

Message number

With the aid of the message number, the corresponding cause, effect and any available remedy can quickly be located in the list of system messages.

Originator of the message

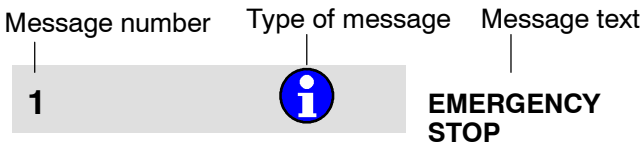
The module responsible for the system message is indicated in this column.

Message text

The active system message is described here in greater detail.

Please note:

Each system message is most easily found using the message number. For this purpose, all the messages have been arranged here in a tabular structure.



Cause	Describes the reason for the current system message.
Effect	Describes the response of the controller when the system message in question is generated.
Remedy	Describes the remedial measure(s) that can be taken to eliminate the problem.

Lines are only included in the table where necessary.

When a message is generated, placeholders such as “< %1 >” are replaced with relevant values.

1 EMERGENCY STOP

Cause	EMERGENCY STOP button pressed. EMERGENCY STOP circuit broken. EMERGENCY STOP triggered by program.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Release the EMERGENCY STOP pushbutton. Check EMERGENCY STOP pushbutton and EMERGENCY STOP circuit. Rectify and acknowledge the signalled fault.

2 Internal error

Cause	Internal test of KRC software.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

3 Message buffer overflow

Cause	The message buffer containing the messages that are currently active (acknowledgement and status messages) has reached a certain capacity limit.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Rectify and acknowledge the signalled faults.

4 Buffer battery voltage low <power module number>

Cause	The voltage of the backup battery is too low.
Effect	Next time the controller is switched off, it will no longer be possible to write completely to the hard disk the robot data that need to be saved.
Remedy	Exchange the battery.

5 Malfunction <KCP or RCP>

Cause	KCP defective.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Exchange KCP.

6 Transmission error <KCP or RCP>

Cause	Connection to KCP is faulty.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check KCP cable.

7 I/O Driver not ready: <driver number> <0>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

8 System time invalid

Cause	The system time is invalid, according to “TIME_HW_FAILURE”, and has been set to the initial value.
Effect	System time has been initialized with the setting 01.01.93 00:00:00,00.
Remedy	Update the system time using the “syszeit” form.

9 MFC - Over temperature

Cause	MFC overtemperature.
Effect	Path-maintaining braking.
Remedy	Check fan in control cabinet. Exchange MFC if necessary.

10 Error digital outputs ...

Cause	Short circuit at outputs 1 to 8 or short circuit at outputs 9 to 16.
Effect	Maximum braking.
Remedy	Rectify fault.

11 Task stack for command execution too small

Cause	Occurs during program or command execution. KRL program or command has too little task stack available for execution.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program structure and reset the program.

12 Too many messages

Cause	Too many messages have been generated cyclically.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	A warm start of the ACR.

13 Error safety loop

Cause	A channel has failed or more than one enabling switch has been pressed.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Eliminate fault and do not press more than one enabling switch.

14 SoftPLC: <Parameter>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

15 Monitoring 600V Power supply <KPS number>

Cause	KPS intermediate circuit voltage overload.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Reduce load.

16 Error while reading O-File

Cause	-Error during loading/reading of “ident_vx.o”: memory or file not found. Monitoring is carried out in the write function “w_ident_state”.
Effect	Jump to the end in load data program.
Remedy	Copy the file “ident_vx.o” to the directory “/ir_spec/l_ident”, or increase memory by changing the value “VxWinRAM” in the registry.

17 Wrong/unknown hardware found

Cause	During setup, the wrong controller type (KR C1, KR C1A, KR C2) was selected or the hardware configuration is invalid.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Carry out setup again or alter hardware configuration.

18 Servobus DSE-No. <DSE number> participant No. <IBS participant number> unknown

Cause	An unknown device which cannot be supported has been inserted in Interbus.
Effect	Maximum braking. All active commands inhibited.
Remedy	Remove unknown device from servo bus.

19 Failure of motor phase <axis number>

Cause	Power module or intermediate circuit voltage discharged.
Effect	Maximum braking. All active commands inhibited.
Remedy	Switch on drives. Check power module and DSE.

20 External EMERGENCY STOP Pressed

Cause	EMERGENCY STOP button pressed. Emergency Stop triggered by software.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Rectify and acknowledge the signalled fault. Check the EMERGENCY STOP pushbutton.

21 Second motorcable not connected

Cause	The second motor cable is not connected or is connected incorrectly. The additional cable contains two wires which are connected to the robot. The return signal is connected to the KPS X114, pin 7.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check second motor cable and return signal at KPS X114, pin 7.

22 Mainboard overtemperature

Cause	Control cabinet fan failure. Ambient temperature too high.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check fan. Exchange fan filter. Reduce ambient temperature.

23 KCP prototype

Cause	The connected KCP is a prototype device.
Effect	There is no KCP watchdog function.
Remedy	Exchange existing KCP for a series production model.

24 Slip exceeded <axis number>

Cause	The system deviation has exceeded a limit value due to excessive slip.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check hardware, etc.

25 Brake cool down time <axis number>;<cooling time> seconds

Cause	The brake of the axis specified has got too hot.
Effect	The drives are locked for the duration of the cooling time.
Remedy	Wait for the duration of the brake cooling time.

26 Module <axis number> KSD-<maximum current of the KSD> required

Cause	The maximum current of the device does not match the configured maximum current.

27 Too many participants within drive bus DSE <DSE number>

Cause	Too many devices in Interbus ring cause an excessively long IBS word length.
Effect	Maximum braking. All active commands inhibited.
Remedy	Reduce number of devices or word length.

28 Drive bus DSE <DSE number> participant no. <IBS participant number> does not exist

Cause	Interbus configuration and physical structure do not match.
Effect	Maximum braking. All active commands inhibited.
Remedy	Coordinate Interbus configuration and hardware.

29 Drive bus DSE <DSE number> participant no. <IBS participant number> not configured

Cause	Interbus configuration and physical structure do not match.
Effect	Maximum braking. All active commands inhibited.
Remedy	Coordinate Interbus configuration and hardware.

30 Configuration of drive bus DSE 1 too long

Cause	The configuration gives rise to excessive IBS word length due to too many Interbus devices.
Effect	Maximum braking. All active commands inhibited.
Remedy	Change the IBS configuration.

31 Temperature warning <drive number>

Cause	The maximum temperature has been exceeded in the drive specified.
Effect	Maximum braking. All active commands inhibited.
Remedy	Determine cause and eliminate error.

32 POST Error: Motor Enable on during power up <drive number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

33 **POST Error: Parameter table checksum fault <drive number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

34 **POST Error: Encoder FPGA loopback fault <drive number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

35 **POST Error: Power board FPGA fault <drive number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

36 **POST Error: A/D Fault <drive number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

37 **POST Error: A/D offset fault<drive number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

38 **POST Error: Invalid parameter fault <drive number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

39 POST Error: Fatal system error <drive number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

40 Error: A/D timeout fault <drive number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

41 Command timeout <drive number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

42 Invalid parameter A <axis number>

Cause	The specified parameter is invalid.
Effect	Maximum braking. All active commands inhibited.
Remedy	Correct the parameters accordingly.

43 Commutation mastering error: Servo is on <axis number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

44 Firmware version mismatch <drive number>

Effect	Maximum braking. All active commands inhibited.
Remedy	Check configuration.

45 Commutation mastering error: motor not powered <axis number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

46 Warning: axis too far from mastering position <axis number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

47 Invalid motor rating <drive number>

Cause	The load on the motor is too high.
Effect	Maximum braking. All active commands inhibited.
Remedy	Take appropriate measures to reduce the load on the motor (reduced payload, reduced acceleration, etc.).

48 Commutation fault <axis number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

49 Invalid command <drive number>

Cause	An invalid command has been called.
Effect	Maximum braking.
Remedy	Correct command.

50 **IBS <...> Master: Bus error. Error detection in process**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

51 **IBS <...> Slave: Bus error in slave circle**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

52 **POST Error: FPGA Fault <power module number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

53 **Output state mismatch <power module number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

54 **Wrong model number <power module number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

55 Initialization of the DSE running

Cause	DSE is re-initialized with parameters. If this message remains active, the initialization was not completed successfully. The message does not appear with the setting Office = TRUE in “hw_inf.ini”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check for errors in the machine data, particularly errors in the axis and power module assignment. If the machine data have been modified, compare them with the machine data on the CD and correct them if necessary.

100 RDW <RDC number> boot up failure

Cause	The resolver/digital converter (RDW) could not be initialized when the controller was booted. Fault in RDW, DSE or connecting cable.
Effect	Does not run up.
Remedy	Check connecting cable and plug-in connections between RDW and DSE. Exchange RDW, DSE or cable between RDW and DSE.

101 DSE <DSE number> program boot up failure

Cause	The kernel system has not received the checkback signal “DSEREADY” following the start of the DSE program.
Effect	All active commands inhibited.
Remedy	Check that the DSE is correctly connected. Exchange DSE.

102 Encoder cable failure <axis number>

Cause	Encoder cable defective. Loose connection. Supply voltage missing. Encoder defective.
Effect	Dynamic braking. Output “$ALARM_STOP” has signal level 0. All active commands inhibited.
Remedy	Check encoder cable. Check connections. Check supply voltage. Check encoder and exchange if necessary.

103 Watchdog interpolation cycle <axis number>

Cause	DSE has received no feed from the kernel system for this axis.
Effect	Dynamic braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Check the contacts in the connections between the DSE and the MFC and between the MFC and the motherboard. If this does not improve the situation, exchange the DSE or MFC.

104 Synchronization error with DSE <axis number>

Cause	Message from the kernel system: the kernel system has not set the watchdog timer for monitoring communication with the DSE, or the DSE has not reset the watchdog timer.
Effect	Dynamic braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Check the connections between the DSE and the MFC and between the MFC and the motherboard (loose connection). If this does not improve the situation, exchange the DSE or MFC. Investigate whether the servo bus or the ISA bus on the motherboard is affected by interference (EMC).

105 Transmission error <DSE number> DSE – RDW

Cause	Damaged cable or connector between DSE and RDC. Cable not connected or connected incorrectly. Error in data transmission between DSE and RDC.
Effect	Dynamic braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Check DSE and RDC power supply (LEDs). Check cable (including shield) and connections. Check DSE – RDW serial interface. Check the ground connection of the robot and cabinet.

106 Perform mastering <axis number>

Cause	Position actual value difference after restart too great and sensor mastering not possible because sensor location run has not been performed. Faulty correction data have been loaded.
Effect	All active commands inhibited.
Remedy	Carry out mastering.

107 EMERGENCY STOP due to dial adjustment

Cause	Softkey for dial mastering pressed. Value assignment $TURN = 1. Adjustment of an absolute or incremental encoder in the $TURN instruction.
Effect	Dynamic braking. Output “$ALARM_STOP” 0 signal. All active commands inhibited.
Remedy	Leave the mastering menu by pressing the Recall key twice.

108 Dynamic braking active

Cause	If “LAGNP” detects a request for dynamic braking (bit “GEN_STOP” set during message processing), “LAGNP” generates this status message.
Effect	Dynamic braking is continued until the robot has come to a standstill, thereby eliminating the possibility of different statuses in “LAGNP” and “LAGHP”.
Remedy	Once the robot has come to a standstill, this message is reset without a follow-up message being generated.

109 Clear fast measuring input <number>

Cause	“Fast Measurement” has been switched on.
Effect	The measuring tool must be moved free in order to be able to activate “Fast Measurement”.
Remedy	Move measuring tool free.

110 Advanced path profile not possible with linked external axes

Cause	Coupling of external axes in higher motion profile.
Remedy	Alter configuration accordingly.

111 TEPRO inactive

Cause	SBC no longer sending a signal to KRC. (TEPRO = technological process)
Effect	SBC interface inoperable.
Remedy	Re-initialize SBC program.

112 Invalid $TOOL: Working envelope surveillance not possible

Cause	“$TOOL” is invalid when working envelope monitoring is active.
Effect	None.
Remedy	Assign “$TOOL” or switch off working envelope monitoring.

113 Range overflow<motion direction> <axis number>

Cause	Overflow of the actual value of an endless axis. Actual value > +/- 90*10E15 increments or -99999000 < $REVO_NUM < 999999000.
Effect	The motion has already been stopped: - either normally during axis-specific jogging - or by means of maximum braking.
Remedy	Turn axis back or remaster.

114 Work envelope no. <work envelope number> violated

Cause	TCP is inside a working envelope with MODE “INSIDE STOP” or outside a working envelope with MODE “OUTSIDE STOP”.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Deactivate work envelope. Select the menu item “Skip Work Env Surveillance” and move free in T1 mode.

115 Drive free work envelope <work envelope number>

Cause	TCP is inside a working envelope with MODE “INSIDE STOP” or outside a working envelope with MODE “OUTSIDE STOP” and work envelope monitoring is bypassed.
Remedy	Move robot out of the effected work envelope.

116 DSE watchdog command <PV no.>

Cause	The DSE has failed to execute a command.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check DSE and MFC hardware.

117 Collision detection axis <axis number>

Cause	The motor torque is not located in the specified monitoring range.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Verify load data, increase size of range if required.

118 Heat sink temperature <axis number>

Cause	Thermostatic switch on the heat sinks of the servo output stage signals that the temperature of the output stage transistors is too high.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Rectify cause of the overheating (e.g. reduce the load).

119 Motor temperature <axis number>

Cause	The motor temperature of the axis indicated is greater than 155 °C. (Signaled by PTC element in the motor winding.)
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Reduce mechanical load. Rectify any faults that may be present.

120 Motor blocked <axis number>

Cause	The command torque value supplied by the speed controller exceeds the max. command torque value by more than 30%. The motor is shut down by the “i*t” monitoring function on reaching an “i*t” value of approx. 0.75 [(Command torque value / Max. command torque value)*sec].
Effect	Maximum braking. All active commands inhibited.
Remedy	Rectify cause of the torque overload (reduce velocity, acceleration).

121 Over current <axis number>

Cause	Intermediate circuit current monitoring safeguard triggered by overcurrent.
Effect	Maximum braking. Active commands inhibited.
Remedy	Rectify fault. Reset the fault by pressing the hardware acknowledgement button “ACK” on the DSE I module.

122 Brake fault <axis number>

Cause	Brake cable monitoring device has signaled short-circuit, overloading or break in connection.
Effect	Path-maintaining braking. Program execution is stopped.
Remedy	Rectify fault. Reset the fault by pressing the hardware acknowledgement button “ACK” on the DSE I module.

123 Under voltage <axis number>

Cause	Internal not servo output stage ready.
Effect	Maximum braking. All active commands inhibited.
Remedy	Rectify fault. Reset by pressing the hardware acknowledgement button “ACK” on the DSE I module.

124 Over voltage <power module number>

Cause	Intermediate circuit voltage is too high. Possible causes are: - Defective ballast resistor - Ballast fuse - G1 power supply unit - Braking ramp that is too steep, etc.
Effect	Maximum braking. All active commands inhibited.
Remedy	Rectify fault. Reset by pressing the hardware acknowledgement button “ACK” on the front control panel.

125 i*i-t monitoring, current limit of the motor cable <axis number> after <time>s exceeded 100%

Cause	Axis overloaded. The value for the maximum permissible limit current is specified in the machine data by “$CURR_MON[]”.
Effect	Ramp-down braking. Active commands inhibited.
Remedy	Reduce load.

126 Regulator limit exceeded <axis number>

Cause	Following error too great. The axis does not follow the command value.
Effect	Maximum braking. Active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Check the machine data $IN_POS_MA (axis positioning window) and $FOL_ERR_MA (factor for following error monitoring). Check power converter. Check manipulator and motor. Check the control parameters and the gear ratios of the axis. Check the machine data $COM_VAL_MI (axis command speed limitation) and $TL_COM_VAL (tolerance time for command speed limitation).

127  <Axis number> detached external axis

Cause	External axis is operated as asynchronous axis.

128  Software limit switch of detached external axis <motion direction> <axis number>

Cause	Asynchronous axis has tripped the positive or negative software limit switch. The software limit switch is checked cyclically if the axis is operated as an asynchronous axis.
Remedy	Move affected axis free.

129  i*i-t monitoring, current limit of the motor cable <axis number> after <time>s exceeded 95%

Cause	Axis overloaded. The value for the maximum permissible limit current is specified in the machine data by “$CURR_MON[]”.
Effect	Ramp-down braking. Active commands inhibited.
Remedy	Reduce load.

130  K1 contact fail to open <power module number>

Cause	K1 contactor is welded.
Effect	Ramp-down braking. Active commands inhibited. The energy supply is not switched off.
Remedy	Exchange contactor, KPS.

131  Bus voltage charging unit is defective <power module number>

Cause	The optocoupler on the KPS is not registering current flow.
Effect	Maximum braking. All active commands inhibited. Intermediate circuit cannot be loaded.
Remedy	Exchange affected KPS.

132 Brake defective <axis number>.

Cause	Wear on brakes. Brake defective.
Effect	Maximum braking. All active commands inhibited. Under certain circumstances, it may not be possible to brake the axis.
Remedy	Exchange the corresponding motor.

133 Monitoring of the actual velocity <axis number>

Cause	Fault in control loop: - Motor cables of two axes interchanged. - Error in the axis assignment. - Power module defective. - Resolver unmastered.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check motor cables. Eliminate fault in the control loop / error in the axis assignment. Check power module and exchange if necessary. In the case of an unmastered resolver, remaster the robot.

134 DN CH <...> Wrong fastwrite MacID in INI-File

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

135 DN CH <...> Module error <...>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

136 DN CH <...> Slave error <...>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

137 DN CH <...> Firmware error

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

138 DN CH <...> Hardware error

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

139 DN CH <...> Bus error <...>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

140 DN CH <...> Watchdog error

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

141 DN CH <...> User error <...>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

142 DN CH <...> Configuration mode enabled

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

143 Ackn. Ixt servo drive <axis number> exceed value of <I*I*t value>%

Cause	If the defined Ixt monitoring warning value of a drive servo is exceeded, the robot must be brought to a standstill; otherwise, the drive servo is deactivated when the maximum value of 100% is exceeded.
Effect	Ramp-down braking. All active commands inhibited.

144 Deviation warning master-slave <axis number>

Cause	Positional deviation between master and slave drive exceeds warning threshold.

145 Erroneous master-slave assignment <axis number>

Cause	The master/slave assignment is incorrect.
Effect	Maximum braking. All active commands inhibited.
Remedy	Correct the assignment.

146 Wrong amplifier <axis number>

Effect	Maximum braking. Active commands inhibited.
Remedy	Correct.

147 Drive free axis-specific work envelope number <work envelope number>

Cause	The robot is inside a working envelope (mode = #INSIDE_STOP) or outside a working envelope (mode = #OUTSIDE_STOP) and the working envelope monitoring is overridden.
Effect	The robot stops.
Remedy	Free axis work envelope.

148 Axis-specific work envelope no. <work envelope number> violated

Cause	The robot is inside (mode = #INSIDE_STOP) or outside (mode = #OUTSIDE_STOP) a work envelope.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Switch off axis working envelope or override work envelope monitoring in T1 mode and move robot free.

155 <Axis number> decoupled auxiliary axis

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

200 Drives contactor off

Cause	Power module, intermediate circuit voltage discharged. EMERGENCY STOP is active. Drives circuit is interrupted.
Effect	Maximum braking. All active commands inhibited.
Remedy	Switch on drives. Check power module, DSE. Check drives circuit.

201 KCP deadman switch

Cause	The enabling switch was released during an active function (axis motion) in T1 or T2 mode.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Press enabling switch. Check input $SAFETY_SW.

202 I/O Reconfiguration started, please wait

Cause	I/O Reconfigure triggered by the GUI.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Wait for end of reconfiguration.

203 General motion enable

Cause	$MOVE_ENABLE input has 0 signal.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check input.

204 Hardware limit switch / +24V missing

Cause	The robot has moved to the hardware limit switch of the axis indicated in the direction indicated.
Effect	Maximum braking. All active commands inhibited.
Remedy	Move axis off limit switch in the opposite direction.

205 Software limit switch <motion direction> <axis number>

Cause	The actual value of the axis indicated has reached the software limit switch value.
Effect	All active commands inhibited.
Remedy	Move axis off limit switch in the opposite direction.

206 Servo-Parameters axis <axis number> line <line number> incorrect

Cause	A parameter in the servo file is incorrect.
Remedy	Correct the parameter.

207 Operator safety / Gate open

Cause	The input $USER_SAF has signal state 0. Operating mode is AUTOMATIC or EXTERNAL.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Switch to T1 or T2 mode; robot motion is possible in these modes with a 0 signal. Close safety fence. Check input.

208 Safety circuit has detected an error. Use ESC-Diagnosis for further information

Cause	Fault in the peripheral cables (safety circuit).
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Rectify the diagnosed fault and acknowledge the message.

209 Passive STOP <RCP or teach pendant>

Cause	Passive operator control device stop.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

210 STOP key <teach pendant or RCP>

Cause	The Start key or jog key was pressed while the Stop key was pressed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check Stop key.

211 Check safety logic. Drives off timeout during EMERGENCY STOP occurred

Cause	The defined maximum drop-out time for a contactor has been exceeded during an EMERGENCY STOP.
Remedy	Check hardware.

212 Error writing to PERCEPTRON

Effect	Path-maintaining braking.

213 Error writing to BOSCH

Effect	Path-maintaining braking.
Remedy	Alter the program.

214 Common drives error <axis number>

Cause	There is a drive error in one axis.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check mechanical system, electrical system, etc.

215 Common drives error <axis number>

Cause	There is a drive error in the specified axis.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check mechanical system, electrical system, cabling, etc.

216 Drives error <axis number> No.: <error number>

Cause	A drive error has occurred.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Once the message has been acknowledged, the robot can be moved until the next message. Please contact the KUKA Service department.

217 EMERGENCY STOP from KRC (ALARM STOP)

Cause	The KRC system software has triggered an Emergency Stop due to a serious error.
Effect	Maximum braking. All active commands inhibited.
Remedy	Rectify the signalled fault.

218 Ballast switch energized for too long <power module number>

Cause	The energy of the braked axis exceeded the limit.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check power module ballast resistor and exchange if necessary. Set braking ramp less steep.

219 Cabinet temperature too high <power module number>

Cause	The cabinet temperature is too high.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check the functioning of the fans in the control cabinet. Check whether the ventilation openings on the cabinet are unimpeded and whether enough air is circulating. Reduce the ambient temperature. If necessary, choose a different installation site.

220 Drives contactor off, intermediate circuit loaded

Cause	The drives contactor drops out. The energy in the intermediate circuit is still sufficient to ensure path-maintaining braking.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Check drive circuit for faults. Switch drives back on.

221 Mode inadmissible E <VW safety key position>

Cause	Keyswitch E2 in mode “AUTO”.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Change mode.

222 Parity error power module <KPS number>

Cause	More than five successive parity errors when reading the power module register. Too much interference at power module interface or power module defective.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check cable. Check shield. Exchange power module.

223 Power module axis <axis number> not or wrongly plugged

Cause	The power cable for the axis is not connected to the power module or is connected incorrectly.
Effect	All active commands inhibited.
Remedy	Connect power cable correctly.

224 Power fail

Cause	The power supply to the controller has been interrupted.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Restore power supply.

225 Motor cable <axis number>

Cause	The motor cable of the specified axis is defective.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check hardware.

226 Failure of heat sink temperature sensor <axis number>

Cause	Sensor failure.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check sensor and exchange if necessary.

227 Failure of ambient temperature sensor <axis number>

Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check hardware.

228 Drives parameter data <axis number> invalid

Cause	The wrong drives parameter set has been specified for the specified axis.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Modify accordingly.

229 Failure of motor temperature sensor <axis number>

Cause	An error is being signaled for the motor temperature sensor of the specified axis.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check hardware.

230 Wrong drives parameter <axis number> <parameter set no.>

Cause	A parameter error has occurred with the specified axis number and parameter set number.
Effect	Ramp-down braking. All active commands inhibited.

231 Error sync. input drive <axis number>

Effect	Maximum braking. All active commands inhibited.
Remedy	Rectify fault.

232 Synchronisation error drive <axis number>

Cause	Synchronization error in the drive module of the specified axis.
Effect	Maximum braking. All active commands inhibited.

233 <Axis> without power

Cause	There is no power in the axis specified.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check hardware.

234 Common drives error <axis number>

Cause	A drive error has been signaled for the specified axis.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Check hardware.

235 Common drives error <axis number>

Cause	Drive error in the specified axis.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check hardware.

236 Common drives error <axis number>

Cause	Drive error in the specified axis.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Check hardware.

237 Common drives error <DSE number>

Cause	Drive error.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check hardware.

238 Common drives error <axis number>

Cause	Drive error in the specified axis.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check hardware.

239

Loading <“normal” or “configuration”> servo parameters <axis number>

Cause	Loading drive servo parameters.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Wait until parameters are loaded.

240

Please switch off the cabinet

Cause	The drive servo parameters have been loaded, but will not take effect until the next reboot.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Switch off control cabinet.

241

Servofile configuration <configuration from the machine data> does not fit the <“DSE software” or “firmware”> release <install. “DSE software” or “firmware”>

Cause	The servo file configuration contains parameters for the drive servos which are not supported by the firmware.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Upgrade drive servo firmware or servo files.

242

<Axis number> firmware release <firmware release on the drive modules>

Cause	Information about the firmware release of the axis in question.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Upgrade drive servo firmware or servo files.

243 Software of <DSE number> does not fit the hardware or defective DSE

Cause	The wrong software was configured for the DSE.
Effect	Ramp-down braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Check whether the entry in “hw_inf.ini” matches the DSE hardware present. If necessary, exchange DSE.

244 Software version of DSE <DSE number> does not fit kernel system

Cause	DSE software and kernel system software do not work together.
Effect	Ramp-down braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Create memory dump. Reinstall the KRC software.

245 Servo bus disturbance <DSE number>

Cause	Defective bus cable. Defective bus module. Defective bus driver.
Effect	Maximum braking. All active commands inhibited.
Remedy	Replace defective element.

246 Servo bus disturbance DSE <DSE number>, no buffering and automatic data storage possible

Cause	The communication with the KPS is faulty, therefore the buffering cannot be activated.
Effect	Maximum braking. All active commands inhibited.
Remedy	Re-establish communication with the KPS.

247 Servo bus disturbance <axis number>

Cause	Defective bus cable. Defective bus module. Defective bus driver.
Effect	Maximum braking. All active commands inhibited.
Remedy	Replace defective element.

248 Servo bus disturbance <KPS number>

Cause	A drive bus fault has occurred.
Effect	Maximum braking. All active commands inhibited.
Remedy	Rectify the cause of the fault.

249 $MOVE_ENABLE input (1025) not allowed

Cause	$MOVE_ENABLE may not be configured to $OUT[1025] in Automatic External mode.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Re-assign $MOVE_ENABLE.

250 Incorrect servo parameter <axis number>

Cause	Parameter in servo file is incorrect.
Effect	Servo parameter has no effect.
Remedy	Correct the servo parameter in the file.

251 <Variable> overlapping output signals

Cause	Interface unit outputs assigned twice.
Effect	No RC Ready.
Remedy	Correct the value assignment.

252 <$Variable> interface-I/O assignment error <correct index>

Cause	Interface unit output assigned twice.
Effect	No RC Ready.
Remedy	Correct the indicated machine datum.

253 Erroneous DSE axis assignment <axis number>

Cause	A drive interface has been assigned twice with machine datum $IFACE_DRV[6], or a non-existent interface has been addressed. Further possible causes: KTL encoders have been entered in $IFACE_DRV[6] without connecting APC interfaces, or ADAR axes have been entered in $ADAR_AXIS without connecting ADAR interfaces.
Effect	No RC Ready.
Remedy	Correct the corresponding machine data.

254 DSE file <file name> not available

Cause	The DSE program entered in the file “HW_INF.INI” does not exist. A servo file entered in “\R1\MADA\$MACHINE.DAT” does not exist. The file is empty or could not be opened.
Effect	All active commands inhibited.
Remedy	Check the entry in “HW_INF.INI” or “\R1\MADA\$MACHINE.DAT” and modify as required. Check whether the file in question is present on the hard drive (directories C:\KRC\Roboter\DSE and ...\R1\MADA).

255 <$Variable> invalid value

Cause	The machine data loader has detected that the specified variable was initialized incorrectly: - A limit value has been exceeded. - The machine data are not logically coherent.
Effect	No RC Ready.
Remedy	Correct the value assignment.

256 Check machine data

Cause	It cannot be ascertained whether or not the machine data loaded during a cold start are valid for the robot connected.
Effect	No RC Ready.
Remedy	Copy correct machine data to the hard disk.

257 Erroneous User Data

Cause	The user data loader has detected that a variable has been initialized with an incorrect value: – A limit value has been exceeded. – The data are not logically coherent.
Effect	Path–maintaining braking. All active commands inhibited. No RC Ready.
Remedy	Correct the value assignment of the variable indicated.

258 Erroneous Option data

Cause	The option data loader has detected that a variable has been initialized with an incorrect value: – A limit value has been exceeded. – The data are not logically coherent.
Effect	Path–maintaining braking. All active commands inhibited. No RC Ready.
Remedy	Correct the value assignment of the variable indicated.

259 <"/" or "/R1"> machine data loader aborted

Cause	The number of errors detected by the machine data loader exceeds the capacity of the message buffer.
Effect	Path–maintaining braking. All active commands inhibited. No RC Ready.
Remedy	Process the indicated error messages.

260 Machine data loader ($CUSTOM.DAT) aborted

Cause	The errors detected by the user data loader exceed the capacity of the message buffer: - A limit value has been exceeded. - The machine data are not logically coherent. - During “POWER ON” - After editing the user data. - After loading the user data.
Effect	Path-maintaining braking. All active commands inhibited. No RC Ready.
Remedy	Correct the value assignments of the variables indicated.

261 Option data loader aborted

Cause	The number of errors detected by the option data loader exceeds the capacity of the message buffer.
Effect	Path-maintaining braking. All active commands inhibited. No RC Ready.
Remedy	Process the indicated error messages.

262 Erroneous <path> machine data

Cause	The machine data loader has detected a variable with an inadmissible value: - A limit value has been exceeded. - The data are not logically coherent.
Effect	Path-maintaining braking. All active commands inhibited. No RC Ready.
Remedy	Correct the value assignment of the variables indicated.

263 Erroneous Correction data

Cause	The correction data loader has detected a variable with an inadmissible value: – A limit value has been exceeded. – The data are not logically coherent.
Effect	Maximum braking. All active commands inhibited. No RC Ready.
Remedy	Correct the value assignment of the variables indicated.

264 <Path> correction data loader aborted

Cause	The number of errors detected by the correction data loader exceeds the capacity of the message buffer.
Effect	Maximum braking. All active commands inhibited. No RC Ready.
Remedy	Correct the value assignment of the variables indicated.

265 RDW file <program name> not available

Cause	The RDC program entered in the file RD_HWINF.INI does not exist.
Effect	All active commands inhibited.
Remedy	Enter the RDC program correctly in the file RD_HWINF.INI.

266 Over temperature feedback resistor <power module number> or fan

Cause	The ballast resistor in question is too hot. For example: The robot is accelerated and braked in the motion program in too short a space of time.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Enter wait times in the motion program. Reduce acceleration/braking.

267 Watchdog power module <power module number>

Cause	Power module watchdog has dropped out. (Triggered by DSE after delay of 0.125 ms)
Effect	Maximum braking. All active commands inhibited.
Remedy	Check DSE. Check power module.

268 Memory test error <DSE number>

Cause	The memory test on the DP-RAM of the DSE was incorrect.
Effect	Maximum braking. All active commands inhibited.
Remedy	Exchange DSE or MFC.

269 DSE <DSE number> not available

Cause	The bit on the MFC which indicates whether a DSE is present is not set although axes are connected to the DSE.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check DSE. Check MFC.

270 Incorrect power module setting <axis number>

Cause	$PMCHANNEL assigned twice or incorrect channel.
Effect	Maximum braking. All active commands inhibited. Machine data loader is aborted.
Remedy	Correct $PMCHANNEL.

271 Robot no. <robot serial number (RDC)> does not correspond to calibration file <number of calibration file>

Cause	The calibration file is not compatible with the robot serial number.
Remedy	Load the correct calibration file.

272 No robot number programmed

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

273 More than one calibration file available

Cause	There are several calibration files available.
Remedy	Assign the correct calibration file.

274 Check robot number

Cause	No calibration file present.
Remedy	Assign calibration file.

275 Set robot number - program robot name

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

276 Wrong machine data for this robot type

Cause	The machine data loaded into the controller do not correspond to the robot type.
Effect	The robot must not be moved! **Caution!** Because the machine data do not match the robot, moving the robot could overload and damage it. If the robot is nonetheless operated with incorrect machine data, this nullifies any warranty claims against the manufacturer!
Remedy	Load the correct machine data.

277 Automatic repositioning

Cause	$MOT_STOP_OPT = TRUE. The robot is not on the programmed path. In EXTERN, $MOT_STOP (flag that the robot is not on path) has been set by the user (via the GUI) to FALSE, so that the robot automatically moves on path at process velocity.
Effect	Only a message that the robot is moving on the path in EXTERN.
Remedy	The message is automatically deleted as soon as BCO is reached.

278 Error Power Relay K1

Cause	The contact in drives contactor K1 is stuck.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Change power module.

279 Feedback switch too long on <KPS number> while charging

Effect	Maximum braking. All active commands inhibited.
Remedy	Check hardware.

280 Overvoltage <KPS number> while charging

Effect	Maximum braking. All active commands inhibited.
Remedy	Check hardware.

281 Check accumulator <KPS number>

Cause	The battery can no longer be charged correctly. The battery is too old or defective.
Effect	Possible loss of mastering. Cold start. Active commands inhibited.
Remedy	Exchange battery.

282 Undervoltage <KPS number> while charging

Cause	Message comes directly from KPS. Intermediate circuit could not be charged correctly.
Effect	Dynamic braking. Active commands inhibited.
Remedy	Check KPS supply voltages for interference and failure (particularly AC power supply). If necessary, exchange KPS.

283 Brake error <KPS number> channel <brake channel>

Cause	A brake error has occurred.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Check corresponding hardware.

284 Accu-voltage at <KPS number> below <voltage level> during last buffering

Cause	The battery voltage was too low to buffer the cabinet last time it was shut down. The battery can no longer be charged correctly. The battery is too old or defective.
Effect	Possible loss of mastering. Cold start. Active commands inhibited.
Remedy	Exchange battery.

285 RIO configuration change: controller reboot necessary

Cause	In order for the RIO configuration change to take effect, it is necessary to restart the system.
Remedy	Restart the controller.

286 Warning: PC fan below nominal speed

Cause	The PC fan has fallen below the nominal speed.
Effect	Components may overheat.
Remedy	Check PC fan and exchange if necessary.

287 PC fan error

Cause	The PC fan is defective.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Exchange PC fan.

288 Over temperature feedback resistor <KPS number>

Cause	The ballast resistor has got too hot, because the robot is accelerated and braked too often in the motion program.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reduce acceleration. Introduce wait times.

289 Over temperature fan <power module number>

Cause	One of the fans in the cabinet is defective.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Replace defective fan.

290 Please close cabinet door, otherwise warranty invalid

Cause	The control cabinet door was open for more than 30 minutes.
Effect	Risk of fouling.
Remedy	Close cabinet door.

291 Cabinet door open

Cause	The control cabinet door is open.
Remedy	Close door.

292 I/O-linking: multiple assignments of output <output number>

Cause	Multiple assignment of the specified output.
Effect	All active commands inhibited.
Remedy	Alter the program accordingly.

293 I/O-linking: more than <number of links> links not configurable

Cause	More than the specified number of links have been configured.
Effect	All active commands inhibited.
Remedy	Reduce the number of I/O links accordingly.

294 <Output/input> parameter out of range <max. I/O>

Cause	The specified parameter is outside the range.
Effect	All active commands inhibited.
Remedy	Modify the parameters accordingly.

295 I/O-linking: output <output number> is used by a system variable

Cause	The specified output is a system output.
Effect	All active commands inhibited.
Remedy	Alter the program accordingly.

300 Operating mode change

Cause	The mode selector switch is in an invalid position.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Move the mode selector switch into a valid position.

301 Stop while measurement active - movement will be handled as test

Cause	The Start key or enabling switch was released during load data determination.
Effect	The measurement run will be regarded as a test run.
Remedy	The measurement run must be restarted.

302 <Command name> active

Cause	An OBJH command is being executed.
Effect	None.
Remedy	Wait until OBJH is free again.

303 Limit <signal name>

Cause	The value for the corresponding analog output is outside the permissible range.
Effect	The value of the analog output in question is set to the maximum or minimum limit value.
Remedy	The message remains active until the value of the corresponding analog output is within the permissible range and limitation is thus no longer required.

304 Start up

Cause	The Setup menu has been selected.
Effect	Program execution is not possible.
Remedy	Exit the Setup menu by pressing the RECALL key.

305 Complete compilation active

Cause	The compiler is carrying out a complete compilation.
Remedy	Wait until the complete compilation has been completed.

306 Selection active

Cause	Before a new selection can be made, the previous selection must be cancelled or the linking procedure must be terminated.
Effect	None.
Remedy	Wait until the linking process has been completed.

307 Errors at complete compilation - ERR-files exist

Cause	Errors were detected during the complete compilation and error files have been created.
Effect	Files containing errors cannot be executed.
Remedy	Alter the programs. Observe the information given in the error files.

308 Palletizing mode: Move axis <axis number> <motion direction> into position

Cause	Axis 4 or 5 is not in the expected position in palletizing mode ($PAL_MODE = TRUE), i.e. axis 4 = 0 degrees and axis 5 = 90 degrees.
Effect	None.
Remedy	Move the axis in the direction indicated.

309 Block Select: BCO reaching in T1/T2 required

Cause	A block selection has been made in a faulty program.
Effect	The program is not executed.
Remedy	A BCO run must be carried out in order to bring the robot back onto the programmed path. **Warning - Danger of crash!** During the BCO run, the robot moves on an unprogrammed path. Check the jog override first and ensure that the robot will not start moving at too high a velocity. Set the operating mode to T1 or T2 and press the Start key.

310 Drive disabled (extern)

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

313 Internal error (file: <file name>, line: <line number>, value: <return value>)

Cause	See 1574 (system error)
Effect	See 1574 (system error)
Remedy	See 1574 (system error)

314 Encoder battery fault <axis>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

315 Cabinet fan failure

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

316 File <file name> must be signed for ROBOCOASTER system

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

317 RoboCoaster Error. Program selection not possible

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

318 File <file name> must not be signed for Non-RoboCoaster system

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

319 Wait for clock synchronization

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

320 Axes are simulated <bit mask of simulated axes>

Cause	The value of the variable $Simulated_Axis is not zero.
Effect	The simulated axes are not moved during program execution.
Remedy	Simulation can be deactivated by setting $Simulated_Axis = 0.

321 MDR: Time monitoring in <Task>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

322 Single brake module <axis number> not available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

323 DSE-IBS-C<C32 or C33> necessary

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

324 Wrong firmware version KSD <axis number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

325 **Drive disabled, brake closed <axis number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

326 **Communication error with CAN-RDC <axis number>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

327 **Area move active!**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

328 **KCP: connection error <TIMEOUT or DATA_ERROR>**

Remedy	None.

330 **No scene file present. Collision avoidance is disabled**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

331 **Maximum number of robots exceeded (<maximum number of robots>). Collision Avoidance is disabled**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

332 Robot <robot name> is not known. Excluded from Collision Avoidance checking

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

333 Scene file could not be loaded. Collision Avoidance is disabled

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

334 Robot <robot name> lost mastering. Excluded from Collision Avoidance checking

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

335 Motion pause issued by Interrupt of <name/IP of originator>

Cause	If a BRAKE command or a motion is executed in an interrupt of a dependent controller (i.e. dependent because of an LK() assignment), the independent controller remains stopped for as long as the BRAKE command is active.
Effect	The motion stops until the dependent controller leaves the interrupt program.

336 Motion Cooperation package not installed.

Cause	A Motion Cooperation function has been started, but the software package is not installed.
Remedy	Please install the Motion Cooperation package.

337 Short circuit DC link <power module number>

Cause	Current to be supplied by the KPS is too high.
Effect	KPS shuts down to protect itself.

338 Peak current too high <power module number>

Cause	Peak current to be supplied by the KPS is too high.
Effect	KPS shuts down to protect itself.
Remedy	Reteach the robot path with slower motions.

339 RMS current too high <power module number>

Cause	RMS current to be supplied by the KPS is too high.
Effect	KPS shuts down to protect itself.
Remedy	Reteach the robot path with slower motions.

340 Phase loss <power module number>

Cause	One phase of the AC power supply has failed.
Effect	The KPS can no longer supply the required power.
Remedy	Check for a loose contact or defective cable.

341 Fan error. Change module <axis number, KPS number> as soon as possible for avoiding breakdown

Cause	The fan on the drive module of a Cobra controller is defective.
Effect	Drive module is no longer sufficiently cooled.
Remedy	Check that the fan is free to rotate, exchange the fan.

342 Deviation in absolute position value DSE - RDC axis <axis number>

Cause	The value for the absolute position calculated on the DSE deviates from the value on the RDC by more than 1/4 revolution of the resolver.
Effect	Ramp-down braking. Active commands inhibited.

343 Error <internal error code> reading configuration file <file name>

Cause	An error occurred when reading the configuration file in the MADA directory for a force-controlled axis. Error code: 1: File could not be opened. 2: Missing entry. 3: Inconsistent data.
Effect	Force control is not activated.
Remedy	Eliminate the error in the configuration file. Explicitly deactivate force control ($LOOP_TYPE <> 6).

344 No multiplex feature for DSE-channel <channel number>

Cause	Force mode is activated, but the RDC has no plug-on card for multiplex operation.
Effect	Force mode is not activated.
Remedy	Connect RDC plug-on card. Explicitly deactivate force mode.

345 <Status name> <optional parameter> <optional parameter>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

346 Slaves not ready (before INTERPOLATION) <name/IP of originator>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

347 Slaves not ready (after remote BRAKE) <name/IP of originator>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

348 **Master not ready <name/IP of originator>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

349 **Time slaves missing <name/IP of originator>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

350 **Clock State: <master/slave>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

351 **Clock State: <master/slave> - not synchronized**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

352 **Clock State: <master/slave> - No MASTER tick**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

353 **Clock State: invalid state**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

354 Master waiting for Slaves to start interpolation <name/IP of originator>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

355 Version conflict with external module: version <version of module> and version <required version>

Cause	The version of an external module does not match the version supported by the kernel system.
Effect	Ramp-down braking. Active commands inhibited.
Remedy	The required version of the external module must be installed or the external module must not be loaded.

356 Encoder cable failure ext. posinput <axis number>

Cause	Encoder cable for external position input defective. Loose connection. Supply voltage missing. Encoder defective.
Effect	Dynamic braking. Output “$ALARM_STOP” has signal level 0. All active commands inhibited.
Remedy	Check encoder cable. Check connections. Check supply voltage. Check encoder and exchange if necessary.

357 Circular link detected

Cause	The local machine reacts as both master and slave to a remote machine.
Effect	Unpredictable motion possible.
Remedy	Modify the program to avoid the circular link.

358 Force controller error <axis number> No.: <error type>

Cause	Force sensor signal does not match motion. Error type no. 1: Actual force changes and position remains constant. Error type no. 2: Position changes and actual force remains constant. Error type no. 3: The gun opens further than the position corresponding FORCE_LIM. These monitoring functions are only active during force control.
Effect	Dynamic braking. Active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Check force sensor. Check force sensor cable. Check RDC plug-on card.

359 Drives disabled <power module number>

Cause	KPSi of the Cobra controller reports no drive enable signal received.
Effect	The robot stops.
Remedy	Rectify fault in KPSi.

360 Clock State: Initialization failure

Cause	The clock synchronization required by the motion cooperation and collision avoidance could not be initialized correctly.
Effect	Motion cooperation not permissible.
Remedy	Check the clock synchronization connections and restart the controller.

361 Multiple masters detected on the clock synchronization network

Cause	Two or more controllers in the clock synchronization network have been configured as “master”.
Effect	The controller causing the problem is forced into a “slave” state.
Remedy	Configure one controller in the clock synchronization network as “master”.

362 Ackn. breakchannel not opened <axis number>

Cause	The brake for this axis is now open or the axis is no longer under servo-control.
Effect	None.
Remedy	Control all axes in a brake channel together or use individual brake control.

363 Master-Slave maximum position exceeded <axis number>

Cause	The maximum permissible position of the slave in increments (8000000) has been exceeded.
Effect	The scaling factors (float) result in errors calculating the actual velocity, following error and position deviation.
Remedy	Adapt workspace so that it is within the range +- 8000000 increments.

364 Unknown Operation Mode (?)

Cause	Invalid operating mode detected.
Effect	Drives locked.
Remedy	Exchange KCP.

365 Error during loading <module name>

Cause	A fatal error occurred during loading of a predefined object (compiled data are overwritten).
Effect	Machine data are inconsistent.

366 Unable to synchronize with <machine list>

Cause	An attempt was made to establish program synchronization or motion synchronization. No communication channel could be established with the relevant controller, however.
Effect	Synchronization is not possible all the while no connection can be established.
Remedy	Check that the network cable is connected correctly and that the relevant IP addresses are correctly configured.

367

Accu missing DSE <DSE number> KPS <KPS number>. Please save mastering before switching off.

Cause	Three possible causes: Back-up not available, e.g. the battery is not connected or the polarity has been reversed. The “DC UPS module 15” option is not available for every KPS, but battery monitoring has been activated via $EXT_ACCU_MON=TRUE in $OPTION.DAT. No DSE-IBS-C33 is installed.
Effect	If the battery is not connected or the polarity has been reversed, mastering and data may be lost when the system is shut down or in the event of a power failure.
Remedy	Before shutting the system down, back up the mastering to prevent loss of mastering. If the robot is then moved again before the system is shut down, then the mastering must be backed up again. If the DC-UPS module_15 option is present, check the battery connection. If several KPS modules are connected to the controller and $EXT_ACCU_MON=TRUE, but there is not a DC-UPS module_15 connected for every KPS, then input X114/pin 6 must be connected to 24 V for each KPS that does not have battery monitoring connected, as the non-connected input otherwise results in the generation of this message. If no DC-UPS module_15 is present, set the value of $EXT_ACCU_MON to FALSE. If no DSE-IBS-C33 is present, exchange the DSE for a DSE-IBS-C33 or set the value of $EXT_ACCU_MON to FALSE.

368

Accu defective DSE <DSE number> KPS <KPS number>. Please save mastering before switching off.

Cause	Battery is insufficient for reliable back-up operation.
Effect	Mastering and data may be lost when the system is shut down or in the event of a power failure.
Remedy	Install new batteries. In the case of several batteries, but only one DC-UPS15 hardware option, KUKA recommends exchanging all (i.e. also the non-monitored ones). Before the system is shut down, the mastering must be backed up to prevent loss of mastering. If the robot is then moved again before the system is shut down, then the mastering must be backed up again.

369 Change of program run mode not yet active

Cause	When switching the program run mode from “#GO/#PSTEP” to “#xSTEP”, an implicit block selection to the current main run block must be made in order to reject any planned advance run and to be able to continue motion in Step mode. This block selection is not possible if the main run is still in a subprogram, but the interpreter (advance run) has already left it. In this case, motion is continued to the end of the subprogram in “#GO/#PSTEP” and the switch to “#xSTEP” does not take effect until the subprogram has been executed.
Effect	Despite switching the program run mode to “#xSTEP”, the robot continues to move in “#GO” until the subprogram has been left.
Remedy	The message is no longer displayed once the switch has taken effect.

370 Phase voltage missing DSE <DSE number> KPS <KPS number>

Cause	One phase of the voltage supplied by the KPS is missing. This may even be upstream of the cabinet connection. It is also possible that the corresponding cabinet wiring is missing.
Effect	The robot stops after approx. one minute if the problem is not resolved. Only the time in which the robot is actually moving counts.
Remedy	Check the power supply of all three phases. Check the required cabinet wiring: X110/pin 2 must be connected to 24 V and X110/pin 3 must be connected to GND.

372 Common KSD-Error <axis number>

Cause	The KSD of the affected axis signals a general error state. More detailed information about this KSD error state is provided by the follow-up messages displayed subsequently. If the message is displayed without any follow-up messages, this means that the error was present for such a short time in the KSD that the DSE could not read the error number in the KSD before the error state had already gone again. If this happens, the error memory in the affected KSD must be read. To do so, the DSERDW tool must be opened and the code positions for the relevant KSDs must be exported to a log file. Detailed information about the error history is supplied by code positions 162, 163 and 164. Code position 161 contains the current error.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Contact the KUKA Service Team.

373 MDR reconfiguration started, please wait

Cause	An MDR Reload command has been initiated via the GUI.
Effect	Path-maintaining braking. Active commands disabled.
Remedy	The problem goes away by itself once the reconfiguration has been completed.

374 Hardware failure DSE No. <DSE number> (<fault type>)

Cause	A hardware defect in the DSE card has been detected.
Effect	The system is stopped for safety reasons.
Remedy	Exchange DSE.

375 Warm-up active

Cause	The robot has not reached its operating temperature. “$WARMUP_RED_VEL” is TRUE. PTP block is executed and at least one motor current exceeds “$WARMUP_CURR_LIMIT”.
Effect	Robot velocity is reduced.

376 Allowed maximum force exceeded <axis>

Cause	The force sensor signal after activation of force control “($Force[Axis] > FORCE_LIM)” exceeds “FORCE_MAX + UPPER_LIMIT_TOL”.
Effect	Dynamic braking. Active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Check the force sensor value “$Force_act[Axis]” using the menu function “Monitor - Variable - Single” and correct it if necessary. Check force sensor and cable. Check the trace recording of the test group “force control” for excessive servo overshoot.

381 Wrong message configuration: <configuration file> line: <line containing errors>

Cause	A non-existent message has been configured in the “ext_conf.ini” file. A notification message has been configured in the “ext_conf.ini” file. A status message has been configured in the “ext_conf.ini” file.
Effect	Active commands inhibited.
Remedy	Modify the “ext_conf.ini” file accordingly and cold start the controller.

1000  User-memory deleted ...

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1001  Internal error (Default message)

Cause	Internal; the message data have not been set correctly.

1002  Reboot after powerfail

Cause	Controller is switched back on. Supply voltage is present again.

1003  Level overflow < IP, PCP >

Cause	Computing time overload of CPU. Cyclic.
Effect	Dynamic braking. Output “$ALARM_STOP” has signal level “0”. All active commands inhibited.
Remedy	Increase basic cycle. Increase interpolation cycle or position control cycle (depending on the indicated parameter).

1004 CAN controller <...> failure

Cause	The CAN controller is defective.
Effect	The CAN bus system is not functional.
Remedy	Check controller.

1005 No more system memory available

Cause	There is insufficient system memory to execute the commands “SHOW VAR” or “SET INFO”.
Effect	Command is not executed.
Remedy	Save programs that are not required to disk in order to free up memory capacity.

1006 No more user memory available

Cause	Insufficient memory capacity for copying objects.
Effect	Command is not executed.
Remedy	Delete objects that are not required in order to free up memory capacity.

1007 Channel <channel name> cannot be assigned

Cause	The selected channel cannot be assigned.
Effect	Command is not executed.
Remedy	Free channel at another point.

1008 Controller booted

Cause	Controller is booted for the first time (not reboot after power failure).
Effect	None.

1009  Point conversion impossible without absolute accuracy model

Cause	Conversion impossible without model if $ABS_ACCUR = FALSE and $ABS_CONVERT = TRUE.
Effect	The point coordinates cannot be converted in the absolutely accurate robot model. **Important**: Following point conversion, $ABS_CONVERT must be set to FALSE again.

1010  Internal error <system error number> (<task ID>, <status>)

Cause	Internal test of KRC software.
Effect	RC-READY canceled during processing and warm restart triggered.
Remedy	Acknowledge message.

1011  Syntax error in file <filename> in row <contents of the line>

Cause	Syntax error when interpreting the parameter file (absolutely accurate robot).
Effect	Command is not executed.
Remedy	Load file, boot controller.

1012  General error: <error no.> <function> <additional info>

Cause	Unknown feedback from a function in the object during command execution.
Effect	None.
Remedy	Please inform the KUKA customer service department.

1013 File <file name> not found

Cause	Parameter file for absolutely accurate robot not found.
Effect	Command is not executed.
Remedy	Load file. Reboot the controller.

1014 Unknown compiler error: <error class>

Cause	The compiler software has detected an error.
Effect	None.
Remedy	Please contact your KUKA customer service department.

1015 OBJH - error: <localization>

Cause	Internal error in OBJH.
Effect	None.
Remedy	Please contact your KUKA customer service department.

1016 Hardware limit switch / +24V missing

Cause	The interface module monitoring function has detected that a common input for hardware limit switches has been set.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Move robot off limit switch. Acknowledge message. **CAUTION!** Particular care is required when moving the robot off the limit switch. No axis-specific interlocks are set.

1017  Absolute accuracy robot: Point conversion only possible in T1 mode

Cause	$ABS_CONVERT = TRUE, but no T1 mode.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Set variable “$ABS_CONVERT” in the “$CUSTOM.DAT” file to FALSE or select T1 mode. Acknowledge message.

1018  Error occurred while reading IDF file

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1019   Palletize mode not possible with this robot type

Cause	If $ROBROOT A or B < > 0, palletizing is not possible. Palletizing is only possible with floor and ceiling-mounted robots.
Effect	Maximum braking.
Remedy	Enter $ROBROOT correctly or set $PAL_MODE = FALSE.

1020  Internal error <error number> (<task ID>, <return status>)

Cause	Internal software error.
Remedy	Please contact your KUKA customer service department.

1021  Internal error when accessing <object name>

Cause	An internal error has occurred when accessing an object.
Effect	The action is not carried out correctly.

1022  Communication <operator control device> - KRC interrupted

Cause	The communication between the active operator control device and the KRC controller was interrupted during a motion in test mode.
Effect	Dynamic braking.
Remedy	Restore connection.

1023  Input buffer overflow

Cause	The input buffer is full.
Effect	The controller no longer accepts telegrams.
Remedy	Read telegram using CREAD. Increase the number of input buffers in the file SERIAL.INI.

1024  Error during reading of INI file ...

Cause	The INI file read contains errors.
Effect	All commands inhibited.
Remedy	Correct INI files accordingly.

1025  Configuration error I/O driver <driver name>

Cause	Error in the file “IOSYS.INI” (directory “...\KRCROBOTER\INIT”).
Effect	The application belonging to this driver is not functional.
Remedy	Check file “IOSYS.INI” and modify accordingly.

1026  Error digital input reading port ...

Cause	Error in the I/O hardware.
Effect	Path-maintaining braking.
Remedy	Check the corresponding I/O components.

1027  Error write digital outputs port: ...

Cause	Error in the I/O hardware.
Effect	Path-maintaining braking.
Remedy	Check the corresponding I/O hardware.

1028  Error restart I/O <bus/driver name>

Cause	Field bus error is still present.
Effect	Bus inputs and outputs not available.
Remedy	Eliminate error in field bus hardware.

1029  SEN: <sensor data 1> <sensor data 2> <sensor data 3>

Cause	Notification message from a sensor that does not require a stop.

1030  SEN: <sensor data 1> <sensor data 2> <sensor data 3>

Cause	Sensor error that requires ramp-down braking.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Sensor-specific.

1031  SEN: <sensor data 1> <sensor data 2> <sensor data 3>

Cause	Sensor error that requires maximum braking.
Effect	Maximum braking. All active commands inhibited.
Remedy	Sensor-specific.

1032  SEN: <sensor data 1> <sensor data 2> <sensor data 3>

Cause	Sensor error that requires path-maintaining braking.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Sensor-specific.

1033  Error on reading, driver: <driver number> <0>

Effect	Path-maintaining braking.

1034  Error on writing, driver: <driver number> <0>

Effect	Path-maintaining braking.

1035  Singularity-less motion: max. orientation error

Cause	Max. orientation error has been reached.
Effect	Path-maintaining braking.
Remedy	Alter path accordingly. Modify orientation error default in frame $SINGUL_ERR_JOG (for jog mode) or $SINGUL_ERR_PRO (for program mode).

1036  Ackn. Check safety logic. Drives off timeout during EMERGENCY STOP

Cause	The time specified for drop-out of the contactor has been exceeded.
Effect	All active commands inhibited.
Remedy	Check safety logic.

1037 Local Emergency Stop button pressed

Cause	Local Emergency Stop triggered.
Effect	Path-maintaining braking. All active commands inhibited.

1038 Invalid operating mode

Cause	“Start backwards” was pressed in AUT or EXT mode.
Effect	Invalid operating mode. Only T1 and T2 are permissible.
Remedy	Switch to T1 or T2 mode.

1039 Reverse motion execution not possible: Trace empty

Cause	The recorded motions have already been processed.
Effect	It is not possible to move the robot back down the path.
Remedy	Forward traversing with the Start key

1040 Reverse motion execution not possible: No Trace

Cause	No points were executed and recorded in the forwards direction, or the trace was rejected.
Effect	It is not possible to move the robot back down the path.
Remedy	Forward traversing with the Start key

1041 SoftPLC: <variable text parameter>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1042  Ackn. K1 contact fail to open <power module number>

Cause	Follow-up message to “K1 contact fail to open <KPS number>”.
Remedy	Acknowledge message.

1043  Ackn. Bus voltage charging unit is defective <power module number>

Cause	Follow-up message to “Bus voltage charging unit is defective <KPS number>”.
Remedy	Acknowledge message.

1044  Ackn. brake defective <axis>

Cause	Follow up message to “Brake defective <axis>”. Wear on brakes. Brake defective.
Remedy	Acknowledge message. Exchange the corresponding motor.

1045  Robot simulation active

Cause	The variable $SERVO_SIM is set to TRUE.
Effect	Programs are executed without robot motions.
Remedy	In order to end robot simulation, set the variable $SERVO_SIM to FALSE.

1046  Blocking of outputs in AUT/EXT is enabled

Cause	The variable “$BLK_IO_AUT” is set to TRUE. An attempt was made to set the outputs manually.
Effect	None.
Remedy	Set variable “$BLK_IO_AUT” to FALSE.

1047 Servo independent command execution only possible at testing mode

Cause	Robot simulation not possible in operating modes “#AUT” or “#EXT”.
Effect	All active commands inhibited.
Remedy	Change operating mode.

1048 Ackn. Monitoring 600V power supply <KPS number>

Cause	Follow-up message to “Monitoring 600V Power supply: ...”.
Effect	Path-maintaining braking. Active commands inhibited.
Remedy	Acknowledge message.

1049 Profibus master is in AUTOCLEAR state. Execute reset command

Cause	Bus error in Profibus. Option AUTOCLEAR is set. A bus reset is necessary.
Effect	Indication that a bus reset is necessary, since the bus does not start again automatically (the corresponding option is not set).
Remedy	Rectify bus error and carry out RESET via the menu.

1050 PROFIBUS: error in master line <> <>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1051 Profibus: error in slave line

Remedy	Eliminate error in slave ring.

1052 STOP KCP: CAN bus error

Cause	Transmission error in CAN bus teach pendant task.
Effect	Path-maintaining braking.
Remedy	Acknowledge message.

1053 CP-Vel. reduction point <point name> <dummy> by <reduction in %>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1054 STOP Ackn. DN CH <...> Too many module errors <...>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1055 STOP Trace buffer empty, start with backward scan

Cause	Empty trace for backward motion. switching to SCAN method.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1056 STOP Ackn. Servobus DSE-No. <DSE no.> participant No. <IBS participant> unknown

Cause	Follow-up message to status message: “Servobus DSE-No. <DSE no.> participant No. <IBS participant> unknown”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1057  Ackn. Failure of motor phase <axis number>

Cause	Backup battery voltage too low.
Effect	Maximum braking. All active commands inhibited.
Remedy	Exchange battery. Acknowledge message.

1058  BCO motion: Press Start Plus

Cause	An attempt was made to carry out a BCO motion with the backwards start key (-).
Effect	The robot does not start.
Remedy	Use the Start key (+). Make the following entry in the file BACKWARD.INI: Implicit_BCO= TRUE.

1059  Finished subroutine: Skip motions

Cause	During backward motion, the interpreter encountered a subprogram which had already been completely executed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1060  $BWDSTART not in FOLD. No Tool and Base information found

Cause	Backward motion with SCAN method: a $BWDSTART assignment must be programmed as the first instruction in a motion fold. From this line onwards, all following instructions up to the motion are executed before backward motion is carried out.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct program or insert the following line in BACKWARD.INI: BACKWARDSTART = FALSE. In this case, BASE and TOOL changes carried out during backward motion are not taken into consideration.

1061 Fast emergency stop with fixed ramps

Cause	In the event of EMERGENCY STOP with dynamic model, a defined braking ramp strategy is used as this brakes the robot significantly more quickly.
Effect	In the event of EMERGENCY STOP, the robot is braked more quickly than with the strategy based on the dynamic model.
Remedy	Check torque limits for EMERGENCY STOP. Verify load data.

1062 Ackn. second motorcable not connected

Cause	Follow-up message to status message: “Second motorcable not connected”
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1063 Over temperature feedback resistor <power module number>

Cause	Follow-up message to status message: “Over temperature feedback resistor <...>”
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1064 Ackn. Over temperature fan <power module number>

Cause	Follow-up message to status message: “Over temperature fan <...>”
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1065  Ackn. mainboard overtemperature

Cause	Follow-up message to status message: “Mainboard overtemperature <...>”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1066  Mainboard temperature reached warning level

Cause	Control cabinet temperature too high. Ambient temperature too high.
Remedy	Check fan. Exchange fan filter.

1067  Mainboard temperature check not available

Cause	Control cabinet temperature too high. Motherboard does not support temperature monitoring.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Switch temperature monitoring off. Exchange motherboard.

1068  INTERBUS: Watchdog Time expired!

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1069 STOP Ackn. Slip exceeded <axis number>

Cause	Follow-up message to status message: “Slip exceeded <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1070 STOP Ackn. Brake cool down time <axis>

Cause	Follow-up message to status message: “Brake cool down time <cooling time>”.
Remedy	Acknowledge message.

1072 STOP Brake holding torque <axis number> exceeded

Cause	The brake holding torque of the axis is not sufficient to keep the robot arm permanently stopped at any given point in space.
Effect	Interpreter stop.
Remedy	Verify load data. Reduce load. Acknowledge message.

1073 STOP Commanded gear torque <axis number>

Cause	The permissible gear torque has been exceeded.
Effect	Path-maintaining braking. All active commands inhibited. Output “$Alarm_STOP” is set to signal level 0.
Remedy	Verify load data. Reduce load if necessary. Reduce programmed acceleration. Reduce programmed velocity. Acknowledge message.

1074  Commanded motor torque <axis number>

Cause	The permissible gear torque has been exceeded (dependent on dynamic data $DYN_DAT(), cyclic).
Effect	Path-maintaining braking. All active commands inhibited. Output “$Alarm_STOP” is set to signal level 0.
Remedy	Verify load data. Reduce load if necessary. Reduce programmed acceleration. Reduce programmed velocity. Acknowledge message.

1075  Maximum kinetic energy <axis number>

Cause	Permissible kinetic energy for crash exceeded.
Effect	Path-maintaining braking. All active commands inhibited. Output “$Alarm_STOP” is set to signal level 0.
Remedy	Verify load data. Reduce load if necessary. Reduce programmed velocity. Acknowledge message.

1076  Ackn. Module <axis number> KSD-<maximum current of the KSD> required

Cause	Follow-up message to the status message: “Module <...> KSD <...> required”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1077 STOP Ackn. Too many participants within drive bus DSE <DSE number>

Cause	Follow-up message to status message: “Too many participants within drive bus DSE <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1078 STOP Ackn. Drive bus DSE <DSE number> participant no. <IBS participant number> does not exist

Cause	Follow-up message to status message: “Drivebus DSE <...> participant no. <...> does not exist”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1079 STOP Ackn. Drive bus DSE <DSE number> participant no. <IBS participant number> not configured

Cause	Follow-up message to status message: “Drivebus DSE <...> participant no. <...> not configured”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1080 STOP Ackn. configuration of drive bus DSE <DSE number> too long

Cause	Follow-up message to status message: “Configuration of drive bus DSE <...> too long”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1081 STOP Ackn. Temperature warning <drive number>

Cause	Follow-up message to status message: “Temperature warning <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1082 STOP Ackn. POST Error: Motor Enable on during power up <drive number>

Cause	Follow-up message to status message: “POST Error: Motor Enable on during power up <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1083 STOP Ackn. POST Error: Parameter table checksum fault <drive number>

Cause	Follow-up message to status message: “POST Error: Parameter table checksum fault <....>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1084 STOP Ackn. POST Error: Encoder FPGA loopback fault <drive number>

Cause	Follow-up message to status message: “POST Error: Encoder FPGA loopback fault <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1085 STOP Ackn. POST Error: Power board FPGA fault <drive number>

Cause	Follow-up message to status message: “Power board FPGA fault <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1086 STOP Ackn. POST Error: A/D fault <drive number>

Cause	Follow-up message to status message: “POST Error: A/D fault <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1087 STOP Ackn. POST Error: A/D offset fault <drive number>

Cause	Follow-up message to status message: “<:gt>POST Error: A/D offset fault <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1088 STOP Ackn. POST Error: Invalid parameter fault <drive number>

Cause	Follow-up message to status message: “POST Error: Invalid parameter fault <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1089 STOP Ackn. POST Error: Fatal system error <drive number>

Cause	Follow-up message to status message: “POST Error: Fatal system error <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1090 STOP Ackn. Error: A/D timeout fault <drive number>

Cause	Follow-up message to status message: “Error: A/D timeout fault <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1091 STOP Ackn. Command timeout <drive number>

Cause	Follow-up message to status message: “Command timeout <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1092 STOP Ackn. Invalid parameter A <axis number>

Cause	Follow-up message to status message: “Invalid parameter <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1093 STOP Ackn. Commutation mastering error: Servo is on <axis number>

Cause	Follow-up message to status message: “Commutation mastering error: Servo is on <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1094 STOP Ackn. Firmware version mismatch <drive number>

Cause	Follow-up message to status message: “Firmware version mismatch <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1095 STOP Ackn. Commutation mastering error: motor not powered <axis number>

Cause	Follow-up message to status message: “Commutation mastering error: motor not powered <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1096 STOP Ackn. Warning: axis too far from mastering position <axis number>

Cause	Follow-up message to status message: “Warning: axis too far from mastering position <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1097 STOP Ackn. Invalid motor rating <drive number>

Cause	Follow-up message to status message: “Invalid motor rating <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1098 STOP Ackn. Commutation fault <axis number>

Cause	Follow-up message to status message: “Commutation fault <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1099 STOP Ackn. Invalid command <drive number>

Cause	Follow-up message to status message: “Invalid command <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1100 STOP Stopped <axis number>

Cause	Axis has been moved out of the standstill position according to the machine data: - “$FOL_ERR_MA” (following error limit value) and - “$TL_FOL_ERR” (tolerance time following error limit value).
Effect	Dynamic braking. Output “$ALARM_STOP” has signal level 0. All active commands inhibited.
Remedy	Increase following error limit value. Increase tolerance time following error limit value. Check motor brake output stage. Acknowledge message.

1101 STOP Command acceleration exceeded <axis number>

Cause	Permissible acceleration exceeded; dependent on machine data: – “$ACC_ACT_MA” (command acceleration limit value) and – “$TL_ACC” (command acceleration tolerance time).
Effect	Path-maintaining braking. Output “$ALARM_STOP” has signal level 0. All active commands inhibited.
Remedy	Check program for alpha5 transitions. Increase command acceleration time tolerance. Reduce position control gain. Check output stage. Acknowledge message.

1102 STOP Command velocity exceeded <axis number>

Cause	Permissible velocity exceeded; dependent on machine data: – “$VEL_ACT_MA” (command velocity limit value) and – “$TL_VEL” (command velocity tolerance time).
Effect	Path-maintaining braking. Output “$ALARM_STOP” has signal level 0. All active commands inhibited.
Remedy	Increase command velocity tolerance time. Check output stage. Acknowledge message.

1103 STOP Data exchange with TEPRO missing

Cause	SBC sends cyclical data too late (TEPRO = technological process).
Effect	Ramp-down braking. SBC interface interrupted.
Remedy	Re-initialize SBC program. Eliminate the error in the SBC program. Acknowledge message.

1104  Ackn. regulator limit exceeded <axis number>

Cause	Follow-up message to status message “Regulator limit exceeded <axis number>”. Following error too great. The axis does not follow the command value. If the acknowledgement message appears without being preceded by the corresponding status message, only the following error monitoring has affected the kernel system.
Effect	Maximum braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Acknowledge message. Check the machine data: - $IN_POS_MA (axis positioning window), - $FOL_ERR_MA (factor for following error monitoring) and - $VEL_DSE_MA (velocity monitoring). Check power converter. Check manipulator and motor. Check the control parameters and the gear ratios of the axis.

1105  Positioning monitor <axis number>

Cause	The positioning window “$IN_POS_MA” was not reached within the set positioning time “$TIME_POS”.
Effect	Maximum braking. All active commands inhibited. Once the message has been acknowledged, the axis state is: “Position reached”.
Remedy	Increase value for positioning window “$IN_POS_MA”. Increase value for positioning time “$TIME_POS”. Carry out drift compensation. Check control loop gain. Check manipulator. Acknowledge message.

1106  Tool weight not yet learnt

Cause	During EMT mastering a check run was carried out for a tool whose weight has not yet been learnt.
Remedy	“Learn” tool weight.

1107  Working envelope surveillance can only be overridden in T1 mode

Cause	An attempt was made, in T2, AUT or EXT mode, to change the value of the variable “$WBOXDISABLE”.
Remedy	Switch to T1 mode.

1108  Dynamic braking error <axis number>

Cause	Actual value does not decrease although braking ramp is predefined.
Effect	Maximum braking. Output “$ALARM_STOP” has signal level 0. All active commands inhibited.
Remedy	Check measuring circuit module. Check manipulated variable encoder.

1109  Communication with TEPRO faulty

Cause	SBC fetches cyclical data too late (TEPRO = technological process).
Effect	Ramp-down braking. SBC interface interrupted.
Remedy	Re-initialize SBC program. Acknowledge message.

1110  Sensor location run for <axis number>

Cause	During the sensor location run, the sensor switching point was detected.

1111  DRIFT completed

Cause	DRIFT is completed.

1112  Perform sensor location search <axis number>!

Cause	Sensor location run has not been carried out. File “$ROBCOR.DAT” not present.
Effect	All active commands inhibited.
Remedy	Please contact the KUKA customer service department.

1113  Sensor location search invalid <axis number>

Cause	The axis was not mastered at the time of the command “Sensor location search”. Last type of mastering was sensor mastering (with “ADJUST SENSOR” command).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Master axis with EMT or dial gauge. Exit menu via Recall. Acknowledge message.

1114  Invalid mastering sequence

Cause	The predefined mastering sequence was not observed (defined in machine datum “$SEQ_CAL”).
Remedy	Carry out mastering procedure observing the defined sequence.

1115  Servo parameters not transferred

Cause	Servo parameters were not sent to DSE (when defining the structure $SERVOPARA).
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Define the structure “$SERVOPARA” correctly.

1116 STOP Sensor adjustment invalid <axis number>

Cause	The axis selected for sensor mastering has an incremental or absolute encoder.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Master axis with EMT or dial gauge.

1117 STOP Acyclic data not released by TEPRO

Cause	Semaphore is inhibiting access to acyclic data (TEPRO = technological process).
Effect	Ramp-down braking. SBC interface interrupted.
Remedy	Eliminate the error in the SBC program.

1118 STOP Cyclic data not released by TEPRO

Cause	Semaphore is inhibiting access to cyclic data (TEPRO = technological process).
Effect	Ramp-down braking. SBC interface interrupted.
Remedy	Eliminate the error in the SBC program.

1119 STOP Invalid data type from TEPRO

Cause	SBC cyclically sends invalid data (TEPRO = technological process).
Effect	Ramp-down braking. SBC interface interrupted.
Remedy	Eliminate the error in the SBC program.

1120 Incomplete instruction

Cause	The SBC interface is not initialized.
Effect	None.
Remedy	Initialize SBC interface.

1121 Data exchange

Cause	The SBC stops data exchange because of an error.
Effect	Ramp-down braking. SBC interface interrupted.
Remedy	Eliminate the error in the SBC program.

1122 Analog output : delay reduction

Cause	The memory provided internally for the output function with a delay is not adequate for the programmed delay.
Effect	The programmed “Delay” is automatically reduced accordingly.
Remedy	Program a smaller value for “Delay”.

1123 Approximation not possible

Cause	Approximate positioning is not possible for computing time reasons. (On reaching approximate positioning criterion in interpolation cycle)
Effect	None.
Remedy	Program value for “$ADVANCE” > 0. Deactivate axis simulation.

1124  Wrong start position

Cause	EMT mastering begins in the notch instead of before it. Cable for EMT mastering connected during “sensor location run” or “sensor mastering”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Move the axis to be mastered into the correct start position. If the cable for EMT mastering has been connected incorrectly, it must be removed.

1125  EMT sensor faulty

Cause	Sensor supplies a zero signal.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check screwed connection on sensor. Check EMT connection on robot. Check A3/DSE module.

1126  Stop command ignored

Cause	Axis was not brought to a standstill within a defined time following a Stop instruction.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Repeat the measurement. Acknowledge message.

1127  Mastering performed <axis number>

Cause	An attempt was made to master an axis that has already been mastered.
Effect	Ramp-down braking.
Remedy	Cancel via RECALL.

1128 STOP Stop, approximation not possible

Cause	Approximation not possible for reasons of path planning or time.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reduce the velocity and/or acceleration in the instruction until approximation is possible.

1129 STOP Too many ASYPTP commands

Cause	Occurs during program execution of ASYPTP commands.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reduce number of ASYPTP commands.

1130 STOP Ackn. motor temperature <axis number>

Cause	The motor temperature of the axis indicated in the message was too high.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message.

1131 STOP Ackn. collision detection axis <axis number>

Cause	The motor torque was not located in the specified monitoring range.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Verify load data. Increase torque monitoring tunnel. Acknowledge message.

1132  REFPO determines axis <axis number>

Cause	This message is generated once the reference points for the individual axes have been calculated.
Effect	None.

1133  Gear torque exceeded axis <axis number>

Cause	There are various possible causes of this message, e.g.: The calculated gear torque is greater than the maximum permissible gear torque. The command current of the DSE speed controller does not match that of the kernel system. The programmed robot position cannot be reached. Position encoder or RDC defective. Use of incorrect load data or crash.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reteach points in order to reduce torque. Check position encoder/RDC and exchange if necessary. Verify load data and correct if necessary.

1134  Acknowledge error 6SC620 <axis number>

Cause	Malfunction/error in drive module or in Simodrive 6SC620 processor module acknowledged.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message.

1135 STOP Torque mode velocity limit exceeded <axis number>

Cause	The permissible velocity was exceeded in torque mode.
Effect	Maximum braking. All active commands inhibited.
Remedy	Reduce velocity accordingly.

1136 STOP Ackn. heatsink temperature <axis number>

Cause	Heat sink temperature too high.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message.

1137 STOP EMT mastering distance exceeded

Cause	Notch not found. Axis position not before notch prior to start.
Effect	Ramp-down braking.
Remedy	Move to mastering position (see Operating Handbook). Check EMT. Check reference notch on axis.

1138 STOP Dynamic braking cancelled

Cause	If during an activated Emergency Stop a fault occurs that permits only maximum braking, this message is additionally displayed.
Effect	Maximum braking.
Remedy	Acknowledge message.

1139 SYNACT not possible <line number>

Cause	The programming of synchronous actions with the variables “$M_TIME” or “$M_TIME_APO” causes this message to be generated when the program is resumed after ramp-down braking, a path-maintaining EMERGENCY STOP ramp or dynamic braking.

1140 Block change at STOP

Cause	In the event of dynamic braking or path-maintaining braking during a block change, it is not possible to calculate “$POS_RET” and the system time. “$POS_RET” and the system time are detemined by the start of the new block.
Effect	Ramp-down braking. Program execution is stopped.
Remedy	Modify operation in such a way that the stop does not occur at the same time as the block change.

1141 TTS not existing

Cause	The X axis of the tool coordinate system and the path tangent are parallel. (TTS = tool-based technological system)
Effect	Maximum braking. All active commands inhibited.
Remedy	Reprogram motion. Carry out point correction.

1142 Deviation at target point

Cause	A deviation has arisen when addressing an exact positioning point.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct “SCALE_IN” value.

1143  Reference point offset invalid

Cause	It is not possible to carry out mastering by transferring the reference point offset as this is not valid in “$ROBCOR.DAT”.

1144  V-Groove has wrong profile

Cause	The mastering notch for EMT mastering does not have a V or U profile.
Effect	Ramp-down braking. Mastering procedure is aborted. All active commands inhibited.
Remedy	Clean EMT. Replace EMT notch.

1145   STOP due to value out of range overflow <motion direction><axis number>

Cause	Overflow of the actual value of an endless axis.
Effect	Maximum braking.
Remedy	Remastering of the corresponding axis.

1146  Ackn. motor blocked <axis number>

Cause	“I2t” monitoring has been signaled by a DSE.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1147 STOP Perform initial mastering <axis number>

Cause	An attempt was made to carry out a sensor location run for an axis for which initial mastering has not yet been performed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Perform initial mastering (dial gauge or EMT mastering) for the corresponding axis.

1148 STOP Invalid axis coupling ratio <axis number>

Cause	An attempt was made to carry out “Extended sensor mastering” for an axis, but the coupling axes were not in the same position as was reported in the data transfer.
Effect	Ramp-down braking. All active commands inhibited. The function “Extended sensor mastering” is not carried out.
Remedy	Move coupling axes to the same position as in the data transfer.

1149 STOP Adjustment procedure not possible <axis number>

Cause	An attempt has been made to carry out sensor adjustment or the axis is not equipped with a KTL encoder and DSE.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Cancel via “RECALL” or master axis with EMT/dial gauge.

1150 STOP Data transfer invalid <axis number>

Cause	An attempt was made to carry out a sensor location run for an axis which is not equipped with a KTL encoder and DSE.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Cancel via RECALL.

1151  Perform data transfer <axis number>

Cause	An attempt has been made to carry out sensor mastering for an axis for which a sensor location run has not yet been performed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Perform sensor location run for the corresponding axis.

1152  Data transfer performed <axis number>

Cause	The sensor location run has been carried out correctly.
Effect	None.

1153  Deviation in the start point

Cause	Execution of a PTP motion with a sensor correction value.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	The sensor offset must be eliminated before executing a PTP block.

1154  SBC error: <Watchd.,Transf.,Corr>

Cause	Communication error between SBC and KRC32.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check SBC hardware and software.

1155 Approximation not possible, torque too high

Cause	The approximate positioning range is not sufficiently large. The permissible torques have been exceeded. In order to execute the approximation block the velocity must first be reduced in the previous block.
Effect	Interpreter.
Remedy	Increase the length of the individual block by decreasing the approximate positioning radius at the end point of the current motion block, or – if the start point is approximated – by decreasing this approximate positioning radius. Reduce the velocity and acceleration of the preceding block.

1156 Error <error number> in PTP motion planning, perhaps no approximation

Cause	Internal error when planning the approximation block. In order to execute the approximation block the velocity must first be reduced in the previous block.
Effect	Depending on the error number, approximation may not be carried out. “Exact positioning” takes place. If, on the other hand, approximation is carried out, no further effects.
Remedy	Modify the profile data (velocity, acceleration, approximate positioning radius) accordingly. If necessary, consult KUKA in order to refine the numeric algorithms.

1157 Overload of gear torque <axis number> by <% value>

Cause	The max. permissible gear torque of the specified axis is statically exceeded by the percentage indicated.
Effect	Interpreter stop.
Remedy	Verify load data: - Mass - Center of gravity - Moments of inertia

1158  Static motor torque overload <axis number> by <percentage value>

Cause	The max. permissible motor torque of the specified axis is statically exceeded by the percentage indicated.
Effect	Interpreter stop.
Remedy	Verify load data: - Mass - Center of gravity - Moments of inertia

1159  Internal error in PTP motion planning <number>

Cause	Error in the planning of the PTP motion profile.
Effect	Interpreter stop.
Remedy	Modify the profile data (rounding factor, velocity, acceleration).

1160  Trace: recording time is too long

Cause	The recording time configured in “TRACE.DEF” is too long. There is not enough memory available for recording.
Effect	TRACE is not recorded.
Remedy	Reduce the TRACE recording time accordingly. Reduce the number of channels to be recorded.

1161  Ackn. monitoring of the actual velocity <axis>

Cause	Follow-up message to status message “Monitoring of the actual velocity <axis>”.
Remedy	Acknowledge message.

1162  Separate brake control of auxiliary axis not enabled

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1163 Axis coupling not possible (-> DSE/PM-Channel assignment)

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1164 Couple process active

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1165 Error on axis coupling

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1166 Error on axis decoupling

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1167 <Axis number> decoupled auxiliary axis, AJOG not allowed

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1168 <Axis number> decoupled auxiliary axis, MOVE not permitted

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1169  <Axis number> decoupled auxiliary axis, MASTERING not allowed

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1170  ASYPTP command includes decoupled auxiliary axis

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1171  Value of $ASYNC_AXIS contains decoupled auxiliary axes

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1172  Value cannot be changed, program is selected

Cause	The value cannot be modified if a program is selected.
Remedy	Cancel program.

1173  Ackn. deviation warning master-slave <axis number>

Cause	Follow-up message to status message: “Deviation warning master-slave <...>”.
Effect	None.
Remedy	Acknowledge message.

1174  Ackn. deviation alarm master-slave <axis number>

Cause	Follow-up message to status message: “Deviation alarm master-slave <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1175  Ackn. deviation critical master-slave <axis number>

Cause	Follow-up message to status message: “Deviation critical master-slave <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1176  Ackn. speed deviation master-slave <axis number>

Cause	Follow-up message to status message: “Speed deviation master-slave <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1177  IBS <...> Master: Periphery failure segment <...>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1178  IBS <...> Master: Bus error segment <...> (<>)

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1179 **IBS <...> Master: Bus error (<>)**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1180 **IBS <...> Master: Configuration error segment <...> (<>)**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1181 **IBS <...> Master: Configuration error (<>)**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1182 **IBS <...> Master: Error open file <...>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1183 **IBS <...> Master: Bit <...> is Local Master OK Bit**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1184 **IBS <...> Master: The watchdog is expired**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1185 **IBS <...>: Too many input bytes in IOSYS.INI projected**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1186 **IBS <...>: Too many output bytes in IOSYS.INI projected**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1187 **IBS <...>: Bus is still active. Reset not possible**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1188 **IBS <...> Master: Error switching on segment <...> (<>)**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1189 **IBS <...> Master: Error switching off segment <...> (<>)**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1190 **IBS <...> Slave: The slave of the IBS-Card couldn't be activated**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1191  <> <> <>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1192   I/O-linking: output <output number> write-protected

Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct linking.

1193   I/O-linking: output <output number> write-protected in module <module name> line <line number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1194  Trace buffer empty, start with backward scan

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1200  Confirm EMERGENCY STOP

Cause	Follow-up message to status message “EMERGENCY STOP”.
Effect	All active commands inhibited.
Remedy	Acknowledge message.

1201  Ackn. Buffer battery voltage low <Power module number>

Cause	The battery has been exchanged.
Remedy	Acknowledge message by means of the softkey “Ackn.”.

1202 STOP Ackn. RDW <RDC number> boot up failure

Cause	Follow-up message to status message “RDW <axis number> boot up failure”.
Remedy	Acknowledge message.

1203 STOP Ackn. DSE <DSE number> boot up failure

Cause	Follow-up message to status message “DSE <DSE number> boot up failure”. The kernel system has not received the checkback signal DSEREADY following the start of the DSE program.
Effect	All active commands inhibited.
Remedy	Acknowledge message. Check that the DSE is correctly connected. Exchange DSE.

1204 STOP Ackn. encoder cable failure <axis number>

Cause	Follow-up message to status message: “Encoder cable failure”.
Effect	Path-maintaining braking. Output “$ALARM_STOP” 0 signal All active commands inhibited.
Remedy	Acknowledge message.

1205 STOP Ackn. watchdog interpolation cycle <axis number>

Cause	Follow-up message to status message “Watchdog interpolation cycle <axis number>”. DSE has received no feed from the kernel system for this axis.
Effect	Path-maintaining braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Acknowledge message. Check the connections between the DSE and the MFC and between the MFC and the motherboard (loose connection). If this does not improve the situation, exchange the DSE or MFC.

1206 STOP Ackn. synchronization error with DSE <axis number>

Cause	Follow-up message to status message “Synchronization error with DSE <axis number>”. Message from kernel system: The kernel system has not set the Watchdog timer for monitoring the communication with the DSE, or the DSE has not reset the Watchdog timer.
Effect	Maximum braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Acknowledge message. Check the contacts in the connections between the DSE and the MFC and between the MFC and the motherboard (loose contact). If this does not improve the situation, exchange the DSE or MFC. Investigate whether the servo bus or the ISA bus on the motherboard is affected by interference (EMC).

1207 STOP Ackn. transmission error <DSE number> DSE - RDW

Cause	Follow-up message to the status message “Transmission error <DSE number>DSE-RDW”. Damaged cable or connector between DSE and RDC. Cable not connected or connected incorrectly. Error in data transmission between DSE and RDC.
Effect	Dynamic braking. All active commands inhibited. Output “$ALARM_STOP” has signal level 0.
Remedy	Acknowledge message. Check DSE and RDC power supply (LEDs). Check cable (including shield) and connections. Check DSE - RDC serial interface. Check the ground connection of the robot and cabinet.

1208 STOP Ackn. Mastering performed <axis number>

Cause	Follow-up message to status message: “Perform mastering”
Effect	All active commands inhibited.
Remedy	Carry out mastering. Acknowledge message.

1209 STOP Ackn. general servo enable

Cause	Input “$SERVO_RDY” had 0 signal.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message.

1210  Ackn. general motion enable

Cause	$MOVE_ENABLE input has 0 signal.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1211   STOP due to software limit switch <motion direction> <axis number>

Cause	A sofware limit switch command value has been exceeded.
Effect	Maximum braking.
Remedy	Acknowledge message. Move the robot in the opposite direction.

1212  Ackn. operator safety

Cause	The interface unit input “$USER_SAF” has the signal state “0” in AUTOMATIC or EXTERNAL mode.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1213  Ackn. passive STOP <RCP or teach pendant>

Cause	Triggered by passive stop.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1214   Power failure

Cause	Supply voltage for the control cabinet has been disconnected. Voltage dip in the mains supply.
Effect	Path-maintaining braking. Mastering data are backed up. Data backup on hard drive. All active commands inhibited.
Remedy	If voltage was not disconnected manually and there was no power failure: check mains voltage.

1215  <Command name> <action>

Cause	OBJH – command execution completed.

1216  Ackn. drives error <axis number> No. <error number>

Cause	Follow-up message to status message “Drives error <axis number> No. <...>”.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message. Once the message has been acknowledged, the robot can be moved until the next message.

1217  Ackn. SBX-HPU connected input

Cause	Safety box signals a fault in signal input “teach pendant plugged in”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1218 STOP Ackn. SBX-HPU deposited input

Cause	Safety box signals a fault in the input unit of the permanently installed input.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1219 STOP Ackn. SBX-HPU connected

Cause	While evaluating the signal “Teach pendant plugged in”, the software has detected that the two channels (MPC interface and safety box) have different statuses.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1220 STOP Ackn. EMERGENCY STOP due to dial mastering

Cause	Softkeys for dial mastering pressed.
Effect	Path-maintaining braking. All active commands inhibited. Output “$ALARM_STOP” receives 0 signal.
Remedy	Press the Recall key twice.

1221 STOP Ackn. power module axis <axis number> not /or incorrectly connected

Cause	Follow-up message to status message “Power module axis <axis number> not or wrongly plugged”.
Remedy	Acknowledge message.

1222 STOP Ackn. brake error <axis number>

Cause	Follow-up message to status message “Brake error <axis number>”.
Remedy	Acknowledge message.

1223 STOP Ackn. under voltage <power module number>

Cause	Follow-up message to status message “Under voltage <power module>”.
Remedy	Acknowledge message.

1224 STOP Ackn. over voltage <power module number>

Cause	Follow-up message to status message “Over voltage <power module>”.
Remedy	Acknowledge message.

1225 STOP Ackn. over current <axis number>

Cause	Follow-up message to status message “Over current <axis number>”.
Remedy	Acknowledge message.

1226 STOP Ackn. E <2 or 7> switch closed

Cause	Follow-up message to status message “E <2 or 7> switch closed”.
Remedy	Acknowledge message.

1227 STOP Ackn. E <2 or 7> switch open

Cause	Follow-up message to status message “E <2 or 7> switch open”.
Remedy	Acknowledge message.

1228 STOP Ackn. ballast switch energized for too long <axis number>

Cause	Energy of the braked axis was above the limit.
Effect	Maximum braking. All active commands inhibited.
Remedy	Check power module ballast resistor and exchange if necessary. Set braking ramp less steep. Acknowledge message.

1229 STOP Ackn. watchdog power module <power module number>

Cause	Power module watchdog has dropped out (triggered by DSE after delay of 0.125 ms).
Effect	Maximum braking. All active commands inhibited.
Remedy	Check DSE. Check power module. Acknowledge message.

1230 STOP Ackn. over temperature feedback resistor <power module number> or fan

Cause	Follow-up message to status message “Over temperature feedback resistor...”.
Remedy	Acknowledge message.

1231 STOP Ackn. cabinet over temperature <power module number>

Cause	Follow-up message to status message: “Cabinet temperature too high”.
Remedy	Acknowledge message.

1232 STOP Ackn. motor cable <axis number>

Cause	Follow-up message to status message “MOTOR CABLE”.
Remedy	Acknowledge message.

1233 STOP Ackn. Failure of heat sink temperature sensor <axis number>

Cause	Follow-up message to status message “FAILURE OF HEAT SINK TEMPERATURE SENSOR”.
Remedy	Acknowledge message.

1234 STOP Ackn. Ambient temperature sensor failure <axis number>

Cause	Follow-up message to status message “FAILURE OF AMBIENT TEMPERATURE SENSOR”.
Remedy	Acknowledge message.

1235 STOP Ackn. drives parameter data <axis number> invalid

Cause	Follow-up message to status message “DRIVES PARAMETER DATA INVALID”.
Remedy	Acknowledge message.

1236 STOP Ackn. Failure of motor temperature sensor <axis number>

Cause	Follow-up message to status message “FAILURE OF MOTOR TEMPERATURE SENSOR”.
Remedy	Acknowledge message.

1237 STOP Ackn. Wrong drives parameter <axis number> <parameter set no.>

Cause	Follow-up message to status message “WRONG DRIVES PARAMETER”.
Remedy	Acknowledge message.

1238 STOP Ackn. Error sync. input drive <axis number>

Cause	Follow-up message to status message “ERROR SYNC. INPUT DRIVE”.
Remedy	Acknowledge message.

1239 STOP Ackn. Synchronisation error drive <axis number>

Cause	Follow-up message to status message “SYNCHRONISATION ERROR DRIVE”.
Remedy	Acknowledge message.

1240 STOP Ackn. <axis number> without power

Cause	Follow-up message to status message “... WITHOUT POWER”.
Remedy	Acknowledge message.

1241  Ackn. i*i-t mon., current limit of the motor cable <axis number> after <time>s exceeded 100%

Cause	Follow-up message to status message “i*i-t monitoring, current limit of the motor cable ...”.
Remedy	Acknowledge message.

1242  Ackn. i*i-t mon., current limit of the motor cable <axis number> after <time>s exceeded 95%

Cause	Follow-up message to status message “i*i-t monitoring, current limit of the motor cable ... 95%”.
Remedy	Acknowledge message.

1243  Line <line number> in <module name> too long. Line was cut off

Cause	An excessively long program line was cut off in order to avoid the rest of the program content being lost.
Effect	The line is cut off. The program file is retained.
Remedy	Modify the incorrect line accordingly in expert mode.

1244  Success loading <“normal” or “configuration”> servo parameters <axis number>

Cause	Reading of the parameters completed successfully.
Effect	None.
Remedy	Acknowledge message.

1245  Quit Servo bus disturbance DSE <DSE number>

Cause	Follow-up message to status message “Servo bus disturbance DSE ...”.
Effect	Servo bus runs again.
Remedy	Acknowledge message.

1246 STOP Ackn. Servo bus disturbance DSE <DSE number>, no buffering and automatic data storage possible

Cause	Follow-up message to status message “Servo bus disturbance DSE ..., no buffering and automatic data storage possible”.
Remedy	Acknowledge message.

1247 STOP Quit servo bus disturbance <axis number>

Cause	Follow-up message to status message “Servo bus disturbance ...”.
Remedy	Acknowledge message.

1248 STOP Ackn. servo bus disturbance <KPS number>

Cause	Follow-up message to status message “Servo bus disturbance ...”.
Remedy	Acknowledge message.

1249 STOP Ackn. feedback switch too long on <KPS number> while charging

Cause	Follow-up message to status message “Feedback switch too long on ... while charging”.
Remedy	Acknowledge message.

1250 STOP Ackn. overvoltage <KPS number> while charging

Cause	Follow-up message to status message “Overvoltage <...> while charging”.
Effect	Maximum braking. Active commands inhibited.
Remedy	Acknowledge message.

1251  Ackn. check accumulator <KPS number>

Cause	Follow-up message to status message “Check accumulator <...>”.
Effect	None.
Remedy	Acknowledge message.

1252  Ackn. undervoltage <KPS number> while charging

Cause	Follow-up message to status message “Undervoltage <...> while charging”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1253  Ackn. brake error <KPS number> channel <brake channel>

Cause	Follow-up message to status message “Brake error <...> channel <...>”.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message.

1254  Ackn. PC fan error

Cause	Follow-up message to status message “PC fan error”.
Effect	None.
Remedy	Acknowledge message.

1255 STOP Ackn. Ixt servo drive <axis number> exceed value of <I^2t value>%

Cause	Follow-up message to status message “Ixt servo drive <axis number> exceed value of <value>%”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1256 STOP Ackn. Please close cabinet door

Cause	Follow-up message to status message “Please close cabinet door”.
Effect	None.
Remedy	Acknowledge message.

1257 STOP Ackn. POST Error: FPGA Fault <drive number>

Cause	Follow-up message to status message “POST Error: FPGA Fault <power module>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1258 STOP Ackn. output state mismatch <power module number>

Cause	Follow-up message to status message “Output state mismatch <...>”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1259  Ackn. Wrong model number <power module number>

Cause	Follow-up message to status message “Wrong model number”.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1300  Parity error

Cause	Parity set incorrectly.
Remedy	Check and correct the parity setting in the controller and operator control device (PC).

1301  Procedure error

Cause	Transmission error in LSV2 procedure which was not recognized by the parity monitoring.
Remedy	Repeat the transmission. Increase procedure repetition counter. Check cable.

1302  Channel not available

Cause	Procedure monitoring time has elapsed.
Remedy	Increase procedure monitoring time.

1303  SCC overflow

Cause	Baud rate set too high (SCC = serial communication controller).
Remedy	Reduce baud rate.

1304 Referencing axis <axis number> inadmissible

Cause	Attempt to reference a non-incremental axis.
Effect	The selected axis is not referenced.
Remedy	Master the axis.

1305 RCP Switch position inadmissible

Cause	Too many transmission processes have been started. A maximum of 4 transmission processes can be started.
Remedy	Wait until a process is finished. Stop a process that is running.

1306 Device not ready

Cause	Connecting cable defective or not plugged in. Device (e.g. printer) switched off or defective.
Remedy	Check connection cable and device.

1307 Format error

Cause	Hardware error in the I-CPU interface.
Remedy	If the error recurs, exchange the module (I-CPU interface).

1308 Channel inadmissible in command

Cause	The command does not support channels.
Effect	The command is not executed.
Remedy	None.

1309 Object not found

Cause	Objects which are not available in the KRC cannot be addressed.
Effect	Command is not executed.
Remedy	Select correct object.

1310 Too many objects are selected

Cause	Too many objects have been selected. Permissible number of selected objects: approx. 150.
Effect	Command is not executed.
Remedy	Reduce the number of objects to the maximum permissible number.

1311 <Object name> is not correctly copied. Error in line <number>

Cause	Errors have been detected in the line analysis.
Effect	Error token in the object.
Remedy	Correct object accordingly.

1312 <Object name> assigned

Cause	The object has already been assigned and can thus not be edited. The module cannot be linked since at least one of the objects in this module is assigned.
Effect	Command is not executed.
Remedy	None.

1313 Invalid statement

Cause	The source and target specifications for the “COPY” command are incompatible.
Effect	Command is not executed.
Remedy	Enter source and target specification correctly.

1314 Data inadmissible

Cause	Extension not compatible. The command “COPY *.*” was used. The command “COPY *.*” is only permitted with a directory.
Effect	Command is not executed.
Remedy	Enter extension correctly.

1315 <Module name> is not a module

Cause	The specified name represents a catalog.
Effect	Command is not executed.
Remedy	Use module name.

1316 Runtime values for Trigger in subroutines inadmissible

Cause	In a subroutine a trigger is defined which is possibly not activated until the main program. If runtime values are used in trigger assignment, they are not valid at the time of activation.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Use global variables. Acknowledge message.

1317 Deleting of system files is inadmissible

Cause	An attempt was made to delete a system file.

1318 File description cannot be processed

Cause	Module information that cannot be evaluated has been received in a COPY operation from an external source.
Effect	Command is not executed.
Remedy	Check interface software.

1319 <Object name> cannot be corrected

Cause	An incorrect object extension has been entered. Only the extension “DAT” is permissible for objects.
Effect	Command is not executed.
Remedy	Select data list. Set INIT switch on the I-CPU to position 3.

1320 Extension inadmissible

Cause	An extension has been specified in a command where it is not allowed (e.g. “analyse otto.src”).
Effect	Command is not executed.
Remedy	Correct command accordingly.

1321 <Path> is not a directory

Cause	Command contains a subdirectory. Specification of a subdirectory, e.g. “dir /R1/otto/abc”, is not permissible.
Effect	Command is not executed.
Remedy	Correct command accordingly.

1322 <Module> not linked

Cause	“UNLINK” has been applied to an object that is not a program.
Effect	Command is not executed.
Remedy	None.

1323  <Path> Invalid data module name or extension

Cause	An incorrect path, module name or extension has been specified.
Effect	Command is not executed.
Remedy	Correct command accordingly.

1324  <Object> not available

Cause	An unavailable object was addressed.
Effect	Command is not executed.
Remedy	Correct command accordingly. Create object.

1325  <Object> Cannot be processed

Cause	An object was addressed that has already been assigned.
Effect	Command is not executed.
Remedy	Enable assignment (/R1/CONFIG.DAT).

1326  <Object> : <number of errors> compilation error

Cause	The indicated number of errors has been detected in the indicated object during total compilation.
Effect	Command is not executed.
Remedy	Correct errors.

1327  <Module> linking error

Cause	One or more errors have been detected in the indicated module during linking.
Effect	Command is not executed.
Remedy	Using the error list, correct the error(s).

1328 Faulty file

Cause	The object is not correct for TTS calculation.
Effect	None.
Remedy	Correct object accordingly.

1329 Access to imported variable is not possible

Cause	The search path has not been extended to the external data list.
Effect	Command is not executed.
Remedy	Extend the search path accordingly.

1330 Source and target object are identical

Cause	The source and target specifications define the same object.
Effect	Command is not executed.
Remedy	Change target object.

1331 <Module> not correct

Cause	An incorrect module has been selected in a linking operation.
Effect	Command is not executed.
Remedy	Correct the error in the indicated module.

1332 Line selection not possible: too many Interrupts

Cause	Block selection in an interrupt program.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Carry out reset.

1333 <Object> cannot be deleted

Cause	This object cannot be deleted as it is write-protected.
Effect	Command is not executed.
Remedy	None.

1334  More than 16 interrupts are defined

Cause	More than 16 interrupts have been defined. The program instruction “INTERRUPT ON” cannot activate more than 16 defined interrupts.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reduce number of active interrupts.

1335  <Module> selected

Cause	Program cannot be unlinked; module is selected with “RUN”.
Effect	Command is not executed.
Remedy	Terminate program execution (CANCEL).

1336  COR are for data lists only

Cause	The command “COR” was used, but no data list is selected. “COR” is allowed for data lists only.
Effect	Command is not executed.
Remedy	Select corresponding data list.

1337  Expression too complex

Cause	Copying from one channel to another. This is not allowed in SWP1.
Effect	Command is not executed.

1338  Block cannot be corrected

Cause	TTS or BASE calculation cannot be carried out. TTS = tool-based technological system.
Effect	None.

1339  Unknown external message <external message number>

Cause	It was not possible to convert an external message (e.g. from the interface CPU, PSX) into an RCX message.
Remedy	Acknowledge message.

1340  Inadmissible reference system

Cause	The manual traversing reference system is not permissible for this kinematic system. Monitoring is carried out when the Start and traversing keys are pressed.
Remedy	Change reference system (TRANSSYS).

1341  Incomplete reference system definition

Cause	At least one frame required for calculating the reference matrix has not yet been assigned.
Remedy	Carry out the corresponding assignment.

1342  Work envelope exceeded

Cause	The working zone limit has been exceeded.
Effect	Maximum braking. All active commands inhibited.
Remedy	Acknowledge message.

1343  SYNC()-Call not programmed

Cause	In IRSTOPMESS, the user has failed to respond to $Power-Fail by calling the SYNC() function. Monitoring is carried out in the event of a power failure.
Effect	None.
Remedy	Correct the application program accordingly.

1344   Robot system is not available

Cause	There is no second robot system activated in the machine data (command: $HOME = '/R2'). Monitoring is carried out during command and program execution.
Effect	During command execution: command is not executed. During program execution: ramp-down braking. All active commands inhibited.
Remedy	Modify the machine data accordingly. Acknowledge message.

1345  Change reference direction <axis number>

Cause	During single-axis referencing the wrong jog key was pressed; defined in machine datum "$DIR_CAL".
Effect	Axis cannot be referenced in this direction.
Remedy	Carry out referencing in the other direction.

1346  Inadmissible mastering sequence

Cause	The mastering sequence was not adhered to; defined in machine datum "$SEQ_CAL".
Effect	Axis cannot be mastered.
Remedy	Observe mastering sequence.

1347   Robot not mastered

Cause	Selection of a program without the robot being mastered. Start of a program without the robot being mastered. Monitoring is carried out during command and program execution.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Master the robot. Acknowledge message.

1348  <Axis number> axis synchronized

Cause	In single-axis referencing, an attempt has been made to reference an axis which has already been referenced.
Effect	The axis is not referenced.
Remedy	Select the next axis which has not been referenced.

1349  Robot mastered

Cause	All axes are mastered. During the mastering procedure, the system monitors whether of not the axes have been mastered.
Effect	Switch robot to synchronous mode. Monitor: cyclically.
Remedy	If it is necessary to remaster axes, they must first be unmastered.

1350  Programmed path reached (BCO)

Cause	Programmed path reached. After repositioning ($POS_RET, $AXIS_RET, $POS_FOR, $AXIS_FOR, etc.).
Effect	System signals that BCO run has been carried out. Program execution can then be started from the position to which the robot has been moved.

1351  Drift Compensation aborted

Cause	The drift compensation was interrupted by a stop (Stop key pressed, message triggering a stop).
Effect	Drift compensation failed. Dynamic braking.
Remedy	Repeat drift compensation.

1352  <Axis number> axis inhibited

Cause	An attempt has been made to move an axis in the inhibited direction (inhibited by software limit switch).
Effect	Command is not executed.
Remedy	Move axis off limit switch in the other direction.

1353  Key combination <KCP> inadmissible

Cause	Simultaneous pressing of more than one key on the KCP.
Effect	KCP operation is briefly interrupted.
Remedy	Release keys on the KCP.

1354  More than one key <teach pendant>

Cause	Simultaneous pressing of more than one key on the KCP.
Effect	KCP operation is briefly interrupted.
Remedy	Release keys on the KCP.

1355  Deadman switch required

Cause	The enabling switch has not been pressed. Simultaneous pressing of more than one key on the KCP. When pressing the Start keys or a jog key (forwards [+] or backwards [–]) in T1 or T2 mode, one of the enabling switches on the back of the KCP must also be pressed.
Effect	Command is not executed.
Remedy	Press enabling switch.

1356 Start key required

Cause	Execution of the command requires the Start key to be pressed. The “Start” command has been entered as text.
Effect	Robot is stationary.
Remedy	Press the Start key. In the case of an external computer: check job identification.

1357 Reset required

Cause	RUN has been applied to a process in the end state. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Reset program by means of RESET. If the message is generated during program execution, it must be acknowledged.

1358 Selection required

Cause	Start key pressed although no program is selected. “RUN” with no path specification and no program selected.
Effect	Command is not executed.
Remedy	Select program.

1359 TTS cannot be determined

Cause	Termination of search for the path direction point. TTS = tool-based technological system.
Effect	None.

1360 Selection inadmissible

Cause	Block not found in program.
Effect	Command is not executed.
Remedy	Select correct block number.

1361 Stop due to node switchover

Cause	The “Home” setting was changed while a jog key was being pressed or the program was being executed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1362 STOP due to operating mode change

Cause	Operating mode has been changed. All active processes are stopped if the operating mode is changed.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message.

1363 Operator control unit disabled

Cause	Command cannot be executed because the KCP settings do not fulfil the conditions. “AUT” mode required for RCP and fixed KCP. “T1” or “T2” mode required for non-fixed KCP. “EXT” mode is required for host computers.
Effect	Command is not executed.
Remedy	Fulfill the “active” conditions.

1364 STOP OUT parameters inadmissible

Cause	Trigger with subprogram call where reference parameters are transferred.
Remedy	Correct program. Acknowledge message.

1365 STOP Path trigger with PTP motion inadmissible

Cause	Path trigger with PTP motion. Path triggers are inadmissible with PTP motions.
Effect	All active commands inhibited.
Remedy	Correct program. Acknowledge message. Restart program.

1366 STOP Cartesian target not possible

Cause	A PTP motion has been programmed with a Cartesian end point specified. When using a 5-axis robot ($DEF_A4FIX = TRUE) with palletizing mode deactivated ($PALMODE = FALSE), only PTP motions with an axis-specific target may be carried out.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Correct program. Acknowledge message.

1367 ! ACTIVE status required

Cause	The command entered may only be issued by the active operator control device (T1, T2, AUT mode).
Effect	Command is not executed.
Remedy	Activate operator control device.

1368  <Operator control device> is active

Cause	Indicated operator control device is active.
Effect	Command is not executed.
Remedy	Deactivate indicated operator control device.

1369  ACTIVE allowed in <mode> only

Cause	Incorrect operating mode set. “AUT” mode is required for RCP and fixed KCP. “T1” or “T2” mode is required for non-fixed KCP. “EXT” mode is required for host computers.
Effect	Command is not executed.
Remedy	Set correct operating mode.

1370  Passive STOP

Cause	Passive device stop. This message is only displayed if an active process has been stopped.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message. **NOTE:** This message can only be acknowledged on the device which generated it, even in passive status.

1371  STOP due to unit passive

Cause	The operator control unit has been deactivated during actuation of the Start key or a jog key in mode T1 or T2, or during the BCO run.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Activate operator control device. Acknowledge message.

1372  Process active

Cause	An attempt has been made to start an active command during an active process. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Wait for end of execution. Stop the active execution. If the message is generated during program execution, it must be acknowledged.

1373  Process busy

Cause	Program is already selected. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Cancel selected program. If the message is generated during program execution, it must be acknowledged.

1374  Process disabled

Cause	All selected processes have the program run mode “BLOCKED” or a non-disabled process has been terminated.
Effect	Command is not executed.
Remedy	Change program execution mode.

1375 Command inadmissible

Cause	Impermissible or unknown command.
Effect	None.
Remedy	Enter command correctly.

1376 Active commands inhibited

Cause	A message is present which inhibits active commands.
Effect	Command is not executed.
Remedy	Acknowledge active messages in the message window.

1377 Command execution not possible

Cause	A preceding command is still being executed.
Effect	Command is not executed.
Remedy	Abort command. Wait until the end of the preceding command.

1378 Command not being processed

Cause	The command to be aborted has already been executed.
Effect	None.

1379 Command aborted

Cause	The command has been aborted. During editing, “Abort” has been selected by the editor kernel before the command concerned (ERASE,GET,FIND) is called.

1380 Background process busy with <operator control device>

Cause	The background process is exclusively occupied with a different operator control device.
Effect	Background cannot be exclusively assigned.
Remedy	Cancel exclusive assignment of the device indicated. Complete the specifications in the file “$OPTION.DAT”.

1381 Background occupied

Cause	A command is already being executed in the background.
Effect	Command is not executed.
Remedy	Abort command. Wait until command has been executed.

1382 Aborted

Cause	“BREAK” repeated.
Effect	None.

1383 ... is not a memory dump

Cause	When writing a data block (a file received from the controller or a temporary file created by the server), it has been discovered that there is not enough space available on the storage medium (hard disk).
Effect	The file currently being processed is deleted.
Remedy	Create space on the storage medium (delete files that are no longer required).

1384 Parameter not processed

Cause	A RUN command with parameters has been executed for a program that is already selected.
Effect	The parameters are not processed.
Remedy	Cancel program and reselect.

1385  Protocol error

Cause	Error in the protocol software of the operator control device or output device.
Effect	Command is aborted.
Remedy	Check protocol software.

1386  Interrupt-UP: max. 10 arguments admissible

Cause	More than 10 arguments have been specified.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reduce the number of arguments to the maximum permissible number.

1387  Variable too large

Cause	The variable specified in “SHOW VAR” or “SET INFO” is too complex or too large (e.g. box is larger than the display).
Effect	Command is not executed.
Remedy	Subdivide the request into several sections.

1388  <Name> variable write protected in module <file name> line <line number>

Cause	In a program module an attempt was made to change a write-protected variable.
Effect	Ramp-down braking. All active commands inhibited.

1389  Option <option name> missing

Cause	The option has not been entered.
Effect	Command is not executed.
Remedy	Enter option.

1390 CIRC angle not accepted

Effect	None.

1391 Access to component inadmissible

Cause	Illegal access to an advance run/main run trace component (e.g. SHOW VAR $PRO_TRACE[5].NAME[2]).
Effect	Ramp-down braking. Command is not executed.

1392 Write protection due to process status

Cause	Write access to a “$” variable with an inadmissible process status (active, not active, RC ready).
Effect	Command is not executed.
Remedy	Set permissible process status.

1393 Write protection due to operator control unit status

Cause	An attempt has been made to write a “$” variable with the operator control unit status set incorrectly.
Effect	Command is not executed.
Remedy	Set the status of the operator control unit to “active”.

1394 Read protection due to process status

Cause	Reading of a “$” variable with an inadmissible process status (active, not active, RC ready).
Effect	Command is not executed.
Remedy	Set permissible process status.

1395  Read protection due to operator control unit status

Cause	An attempt has been made to read a “$” variable with the operator control unit status set incorrectly.
Effect	Command is not executed.
Remedy	Set the status of the operator control unit to “active”.

1396  Program not linked

Cause	Selection of an unlinked program.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Link program. **NOTE:** If the message is generated during program execution, it must be acknowledged.

1397  Memory request for parameter list too large

Cause	The transfer parameters of the program require too much memory.
Effect	Maximum braking.
Remedy	Acknowledge message. Correct the parameters accordingly. Reselect program.

1398  Check RCP selector switch

Cause	The selector switch on the RCP is not set to “RUN” in the case of selection or start from another operator control unit.
Effect	Command is not executed.
Remedy	Move the selector switch on the RCP to the “RUN” position.

1399  Message cannot be acknowledged

Cause	Acknowledgement of a status message.
Effect	Command is not executed.
Remedy	None. Read the message.

1400  Message not available

Cause	Attempted textual acknowledgement of a message that is not available.
Effect	Command cannot be executed.
Remedy	None.

1401  Control structure next block <block number>

Cause	Selection into a control structure.
Effect	Ramp-down braking. All active commands inhibited. Control structure is exited when the end is identified.
Remedy	Acknowledge message.

1402  Select startup

Cause	A command has been entered that is only allowed in startup mode.
Effect	Command is not executed.
Remedy	Select startup mode. Acknowledge message.

1403  Interrupt instruction aborted

Cause	Motion instruction in an interrupt program which is executed after an error-induced stop. The interrupt module called after an error-induced stop may not contain motion instructions.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reprogram the interrupt module accordingly. Acknowledge message.

1404  Edit commands now allowed

Cause	You are in the mode “Editing without implicit block selection”, and after completion of the current motion block have received an editor enable.
Effect	It is possible to edit again.

1405  <Object name> is write protected

Cause	The object is write-protected.
Effect	Command is not executed.
Remedy	Check object status; e.g. unlink or deselect object.

1406  Error in path

Cause	Error in path (e.g. /R5).
Effect	Command is not executed.
Remedy	Check and correct path specification.

1407 Edit commands inadmissible, finish movement first

Cause	You have attempted to edit a program while in mode “Editing without implicit block selection”. The program is still in a motion block.
Effect	Editing is not possible.
Remedy	Press the Start key again until the message “Edit commands now allowed” appears. Editing is then possible.

1408 Line compilation or de-compilation error

Cause	Message about to be deleted.
Effect	None.

1409 No trigger allowed in ISR or *.SUB

Cause	Trigger was programmed in interrupt or SUB module.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct program. Acknowledge message.

1410 Program line does not exist

Cause	The selected program line does not exist.

1411  Line selection beyond buffer: Next start deletes buffer

Cause	Line selection is outside the trace.
Effect	When the Start key is pressed, the buffer for backward motion is deleted.
Remedy	Before pressing the Start key, make another line selection within the buffer. After that the backward motion can be carried out.

1412  Axis <axis number> acceleration not programmed

Cause	No value has been assigned to the program datum “$ACC_AXIS”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1413  Axis <axis number> velocity not programmed

Cause	No value has been assigned to the program datum “$VEL_AXIS”. This error occurs when a motion command is positioned before the INI folder.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1414  Path acceleration not programmed

Cause	No value has been assigned to the program datum “$ACC.CP”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1415 STOP Path velocity not programmed

Cause	No value has been assigned to the program datum “$VEL.CP”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1416 STOP Orientation acceleration not programmed

Cause	No value has been assigned to the program data “$ACC.ORI1” and “$ACC.ORI2”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1417 STOP Orientation velocity not programmed

Cause	No value has been assigned to the program data “$VEL.ORI1” and “$VEL.ORI2”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1418   <X,Y,Z,A,B,C> BASE not programmed

Cause	No value has been assigned to the program datum “$BASE”: – in an application program. – after an overall reset of the controller for a Cartesian command. Monitoring is carried out in the event of Cartesian motions.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	During command execution: Assign a value to “$BASE”. During program execution: Alter the program accordingly. Acknowledge message.

1419   <X,Y,Z,A,B,C> TOOL not programmed

Cause	No value has been assigned to the program datum “$TOOL”: – in an application program. – after an overall reset of the controller for a Cartesian command. Monitoring is carried out in the event of Cartesian motions.
Effect	During command execution: All active commands inhibited. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	During command execution: Assign a value to “$TOOL”. During program execution: Alter the program accordingly. Acknowledge message.

1420  Approximation not programmed <approx. positioning criterion>

Cause	No value has been assigned to the program data “$APO.VEL”, “$APO.ROB”, “$APO.DIS” and/or “$APO.ORI”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1421  <Object name> : <errors number> Compilation error

Cause	Compilation error due to unrecognized data type can occur in the case of global self-defined data types and ENUMs. This means that the GUI must initiate a second download.
Effect	When this error is caused by global types, it can be corrected by downloading the files twice.
Remedy	The GUI filters out the error number and initiates the double download for the file in question.

1422  <$Variable> invalid value

Cause	Read access to a variable that has not been initialized or has an invalid value, e.g. “$POS_INT” read outside an interrupt program. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program. Acknowledge message.

1423  Overflow

Cause	Value is not compatible with the specified data type, e.g. value assignment of a number >255 to the data type “char”. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. If the message is generated during program execution, acknowledge message.

1424   Program stack overflow

Cause	The nesting depth for subprograms and functions has been exceeded. It also occurs if subprograms repeatedly call one another in an endless loop.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1425   Instruction inadmissible

Cause	Program instruction that is not admissible as a command; Program instruction that is only admissible in an interrupt program. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. If the message is generated during program execution, acknowledge message.

1426  Variable stack depth exceeded

Cause	The nesting depth of the variable has been exceeded.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the variable accordingly. Acknowledge message.

1427  $OUT_C[N] is not allowed in interrupt programs

Cause	$OUT_C(N) used in interrupt program.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Alter the interrupt program accordingly. Acknowledge message.

1428  Function value not defined

Cause	RETURN instruction missing in the function module.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Insert a RETURN instruction

1429  String too long

Cause	In a value assignment to arrays, the string consists of more characters than the existing array. **Example:** CHAR c[3] c[]="abcde" Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. **Example:** CHAR c[3] c[]="abc" – Acknowledge message.

1430   <Interrupt> not defined.

Cause	An interrupt or trigger that has not been defined has been manipulated. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Declare interrupt. Acknowledge message.

1431  Selection not possible

Cause	Editor selection not possible.
Remedy	Check whether the file exists (e.g. if when attempting to open a file in the view mode) or has the attribute “hidden”.

1432   Max. no. of interrupts defined

Cause	More than 32 interrupts have been defined. No more than 32 interrupts may be defined. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1433   Max. no. of interrupts on

Cause	More than 8 interrupts have been activated. No more than 8 interrupts may be activated. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1434  Target point not reached

Cause	The contour cannot be determined when selecting a CIRC block with a circular angle. A LIN motion to the programmed end point is executed when the robot is started.
Effect	The next motion is also a BCO run.
Remedy	None.

1435   Read protection

Cause	An “$” variable that is not admissible for the selected interpreter type has been read. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	If the message is generated during program execution, it must be acknowledged.

1436  Disk write protected

Cause	The write protection of the floppy disk is activated.
Effect	It is not possible to save data on the floppy disk.
Remedy	Remove the write protection.

1437  Reposition

Cause	BCO not achieved when returning from the interrupt program. The robot must be repositioned to the interrupt point before the end of the interrupt program, e.g. with LIN $POS_RET.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1438  Data storage device not ready: ...

Cause	Floppy disk missing or disk drive defective.
Effect	It is not possible to save to floppy disk.
Remedy	Insert floppy disk into the disk drive. Check disk drive.

1439   <Variable name> argument inadmissible

Cause	At least one argument in the function is inadmissible, e.g. SQRT (negative value). Monitoring is carried out during interpretation of C functions.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1440  Mailbox identification inadmissible

Cause	An incorrect “MBX_ID” has been specified in the C function “MBX_REC”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1441  Interrupt priority inadmissible

Cause	Interrupt priority greater than 128 or less than 1.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message. Alter the program accordingly.

1442  Approximation inadmissible for instructions (module <module name>, line <motion line number>)

Cause	“DRIFT”, “$TOOL” or “$FILTER” has been programmed between two motion blocks that are supposed to be approximated.
Effect	Motion blocks are not approximated.
Remedy	Alter the program accordingly.

1443  Start movement inadmissible

Cause	The first motion block in the program is relative. The first motion block in the program is not programmed completely, e.g. PTP [33.33].
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program. Acknowledge message.

1444   Array index inadmissible

Cause	Attempted access to an array element that does not exist. **Example**: INT Hugo[3,3] Hugo[7,3]=9 Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1445  Angle status inadmissible

Cause	Following repositioning with a LIN motion, the angle status does not agree with the status of the programmed block.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message. Perform repositioning with a PTP motion.

1446   Value assignment inadmissible

Cause	Inadmissible value assignment to predefined variables, e.g. $SPEED.ORI1 <= 0.0 or > $SPEED_MA.ORI1. Alternatively, inadmissible $Base or $Tool assigned to the kinematic system. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly. Acknowledge message.

1447 STOP Software limit <motion direction><axis number> out of range

Cause	End point cannot be reached because of a software limit switch. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program. Acknowledge message.

1448 <Name> ambiguous

Cause	The specified memory dump name contained wildcards. Expansion of these wildcards results in more than one valid file name. This, however, is not allowed.
Effect	Data transfer is not carried out.
Remedy	Enter an unambiguous name.

1449 STOP <$Variable> variable write protected

Cause	Write access to write-protected variable, e.g. “$POS_ACT”. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program. Acknowledge message.

1450 STOP Transformation not configured

Cause	$BASE or $TOOL has been assigned although no transformation is configured. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Alter the program. Acknowledge message.

1451 Division by 0

Cause	A value is to be divided by “0”. Monitoring is carried out during command and program execution.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.
Remedy	Correct program. Acknowledge message.

1452 Backward motions not active

Cause	Backward motion is deactivated ($VW_BACKWARD = FALSE).
Effect	The backwards motion command is rejected when the “Start backwards” key is pressed.
Remedy	Set the variable “$VW_BACKWARD” to TRUE.

1454 Start continue not possible

Cause	BSTEP.
Effect	None.

1455 Inadmissible in this edit mode

Cause	A command that would alter the object has been entered in the listing mode of the editor. An attempt has been made in data correction mode to delete or copy a group of blocks or to delete a block consisting of only one line.
Effect	The attempted action is not executed.
Remedy	Edit in full editor mode.

1456  Start point equal to end point

Cause	Distance between start point and end point is too small.
Effect	Ramp-down braking. Active commands inhibited.
Remedy	Reprogram start point and/or end point. Acknowledge message.

1457  Start point equal to mid point

Cause	Distance between start point and midpoint is too small.
Effect	Ramp-down braking. Active commands inhibited.
Remedy	Reprogram midpoint and/or start point. Acknowledge message.

1458  Mid point equal to end point

Cause	Distance between midpoint and end point is too small.
Effect	Ramp-down braking. Active commands inhibited.
Remedy	Reprogram end point and/or midpoint. Acknowledge message.

1459  Backward motions not possible: finished subroutine

Cause	An attempt was made to carry out backward a motion located inside a subprogram which has already been executed. It is not possible in this subprogram to switch to forwards motion. Backward motion is thus also disabled.
Effect	Command is not executed.
Remedy	Forward motion.

1460  Deleting Trace: no backward motions possible

Cause	Editing was carried out or a block selection was made causing the trace to be deleted.
Effect	Backward motion is not possible.
Remedy	Forward motion.

1462  Command syntax error

Cause	The command contains a syntax error.
Effect	Command is not executed.
Remedy	Correct command.

1463  Object not ready

Cause	The editor cannot edit the program.
Effect	Command is not executed.
Remedy	Open program by selecting “Edit”.

1464  $OUT_C[n] is not allowed in a Submit Program

Cause	$OUT_C(N) has been used in a submit program.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Alter the submit program.

1465  Only 8 $OUT_C[n] Assignments are allowed per Motion

Cause	More than 8 $OUT_C(N) assignments have been used.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Alter the program.

1466  Ackn. SIGNAL has wrong data assignment

Cause	Output assignment of a SIGNAL is not entirely in a data object (OUTB, OUTW or OUTDW in iosys.ini) with SIGNAL assignment and option $DATA_INTEGRITY=TRUE.
Effect	SIGNAL is not written.
Remedy	SIGNAL must be located in a correspondingly long data object.

1467  Attention! Maximum speed could be programmed

Cause	Mode change to T2 or AUT.
Effect	Current commands inhibited.
Remedy	Acknowledge message.

1468  Key not assigned

Cause	An unassigned softkey or function key has been pressed during prompted operation.
Effect	None.

1469  Entry in hw_inf.ini for DSE <DSE number>:<Entry in hw_inf.ini> ignored. Loaded <Loaded file>

Cause	The automatic servo hardware detection has discovered an entry in HW_INF.INI that cannot match the DSE type present or the DSE file situation on the hard drive. The DSE code is loaded from a different source.
Effect	Information for the user!
Remedy	Modify the entries in HW_INF.INI or copy DSE files into the corresponding directory.

1470  Controller-Type can not be identified. Loaded Default-File <Default DSE file> to DSE<DSE number>

Cause	The automatic servo hardware detection was able to detect the DSE type, but could not identify the controller type. The KR C2 is loaded by default.
Effect	Under certain circumstances, the wrong DSE file may be loaded and the controller will not run.
Remedy	“Automatic” must be entered in HW_INF.INI, or the correct DSE file must be entered directly.

1472  Key inadmissible

Cause	Impermissible key (e.g. softkey) pressed in textual operation.
Effect	The entry is not processed.

1474  Change of direction not possible

Cause	During command execution.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message

1477  Main process not available

Cause	Main run display selected, but no main run block interpreted yet.
Effect	None.
Remedy	Start program.

1478 Pre process not available

Cause	Advance run display selected, but no program in STOP or END state.
Effect	None.
Remedy	Start program.

1481 No runtime data access

Cause	Access to an invalid or non-existent object value memory or runtime data area via the hierarchy table (search path).
Effect	None.
Remedy	Set the search path to the current interpreter environment.

1482 Volume too small

Cause	The dispensed volume monitoring has responded. Insufficient adhesive has been dispensed. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check the adhesive application hardware and purge it if necessary.

1483 Excessive volume

Cause	The dispensed volume monitoring has responded. Too much adhesive has been dispensed. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check the adhesive application hardware and purge it if necessary.

1484 STOP Wrong adhesive pressure

Cause	The output pressure of the adhesive is continuously monitored by the PLC during dispensing. A pressure value outside the permissible tolerance range has been detected. It may be that there are bubbles in the adhesive supply line or that the outlet nozzle is clogged. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check the adhesive application hardware and purge it if necessary.

1485 STOP Oil filter dirty

Cause	The hydraulic pressure is no longer sufficient because the hydraulic oil filter is dirty. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Clean or exchange oil filter.

1486 STOP Max. oil temperature exceeded

Cause	The maximum permissible hydraulic oil temperature has been exceeded. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Wait until the hydraulic oil has cooled down. If this situation occurs frequently, check the hydraulic unit.

1487 STOP General system air pressure

Cause	There is insufficient pressure in the air inlet for the pneumatic valves. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Ensure that the air pressure is sufficient.

1488 STOP Vacuum error

Cause	Vacuum missing or insufficient Monitoring is carried out from the PCL application program (adhesive bonding technology). In the application of adhesive to glass, the glass is held in position by a vacuum. If this vacuum is not available, the glass cannot be held in position after it has been centered.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check vacuum pump.

1489 STOP Centering error

Cause	The workpiece is not correctly positioned or clamped. There is possibly a fault in the feed equipment, or the fixture is defective. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check clamping fixture and feed equipment. Check position of the workpiece.

1490  Component check error

Cause	Component damaged or no longer clamped to the fixture. Monitoring is carried out from the PCL application program (adhesive bonding technology). In the application of adhesive to glass, the adhesive nozzle is pressed onto the glass. If this pressure is absent during adhesive bonding, the glass has come loose in the clamping fixture or it may be damaged. In this case, the robot motion must be stopped at once and the application of adhesive must be aborted!
Effect	Maximum braking. All active commands inhibited. Emergency Stop.
Remedy	Check component.

1491  CP/PTP approximation not feasible

Cause	In the CP block the traversing distance of an axis is greater than 180 degrees. Status change in the CP block. Software limit switch violated in travel along “shortest path”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reduce the angle in the CP block. Insert an intermediate point. Acknowledge message.

1492  Channel not compatible with protocol

Cause	PLC protocol is set and channel declaration is not set to SER1.
Remedy	Alter the channel declaration protocol.

1493  Channel assigned to PLC

Cause	An attempt has been made to access a channel that has already been parameterized for the PLC link.
Remedy	Reparameterize the channel. Close the channel and open it again.

1495  Timeout during filling

Cause	The maximum time for filling the dispenser with adhesive has been exceeded. Monitoring is carried out from the PCL application program (adhesive bonding technology). The time taken for filling the dispenser with adhesive is monitored by the PLC. If the maximum time is exceeded, there is a fault in the adhesive application hardware.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Check the adhesive application hardware.

1496  Adhesive level

Cause	The adhesive drum is empty. Monitoring is carried out from the PCL application program (adhesive bonding technology).
Effect	None.
Remedy	Prepare a new adhesive drum or switch over to a filled drum.

1497   All analog functions assigned

Cause	More than 2 cyclical analog outputs have been activated.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Set ANOUT OFF or cancel the instruction.

1498   <Signal name> not an analog output

Cause	Non-existent analog output signal or incorrect signal index accessed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1499   Analog output already assigned

Cause	A cyclical analog output is assigned a second time in the program, for example: - SIGNAL SIG1 $ANOUT[1] - SIGNAL SIG2 $ANOUT[1] - ANOUT ON SIG1 = ... - ANOUT ON SIG2 = ...
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Deactivate cyclical analog output: ANOUT OFF SIGNALNAME.

1504  Invalid SYNACT variable <variable name> <block number>

Cause	In logical comparison of value assignments during cyclic Synact monitoring, an error occurred when accessing a variable, e.g. variable write-protected.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Data or program correction. Acknowledge message.

1505  Combination of variables inadmissible <block number>

Cause	In a Synact instruction, variables for individual blocks and approximate positioning blocks are combined in the logic comparison or value assignment.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Program Synact instruction differently. Acknowledge message.

1506  CIRC parameter inadmissible

Cause	Distance between start point and/or midpoint and/or end point is too small, or all points lie on a straight line. Formation of a circle is not possible.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Program midpoint and/or end point correctly. Acknowledge message.

1507  Hydraulic level

Cause	The oil level in the hydraulic system has fallen below the minimum limit. Monitoring is carried out during PLC program execution.
Effect	None.
Remedy	Top up hydraulic oil and check hydraulic system for leaks.

1508  No file available

Cause	No file is available that meets the search criteria specified in the DIR command.
Effect	None.
Remedy	Check specifications and spelling in the DIR command.

1509  Program exec. mode inadmissible

Cause	The selected program execution mode is not permissible.
Effect	None.
Remedy	Change program execution mode.

1510   Error at format selection no. <incorrect format selection number>

Cause	Parameter inconsistent with format specification, or incorrect format specification in CWRITE instruction. Monitoring is carried out during program execution in S_INT function CWRITE.
Effect	Program execution is stopped.
Remedy	Program correct format specification.

1511  Access denied

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1513   Range for <path> <axis number> exceeded

Cause	32-bit word exceeded.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly.

1514  Insert another disk

Cause	Request for next floppy disk.
Remedy	Insert floppy disk in the disk drive.

1515  <Object> copy refused (-S!)

Cause	System file has been transferred via an interface without the option "-S" being set. "-S" is the code for the download command.
Effect	The file is not transferred.
Remedy	Set option "-S".

1516  Reference system not programmed

Cause	“$BASE” is programmed incompletely or not at all.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Program “$BASE” correctly.

1517  BCO move to aux. point required

Effect	Ramp-down braking. All active commands inhibited.
Remedy	Carry out BCO run to end point.

1518  Default parameter

Cause	A default parameter or no parameter has been transferred to a predefined C function.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Call the C function with a parameter.

1519  Pressure sensor cable failure

Cause	The current flow of the analog input channel for pressure sensing has fallen below the minimum limit (4 – 20 mA interface). Possible reasons for the current flow falling below the minimum limit: – loose cable connection (connector). – conductor in cable snapped. – defective power source. – defective sensor.
Effect	Ramp-down braking.
Remedy	Check the cables and connectors. Check the power source. Check the sensor.

1520  Volume actual value cable failure

Cause	The current flow of the analog input channel for pressure sensing has fallen below the minimum limit (4 – 20 mA interface). Possible reasons for the current flow falling below the minimum limit: – loose cable connection (connector). – conductor in cable snapped. – defective power source. – defective sensor.
Effect	Ramp-down braking.
Remedy	Check the cables and connectors. Check the power source. Check the sensor.

1521  Change of segment is erroneous

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1522  Selected axis is not adjustable

Cause	The axis selected for mastering is inactive.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Only master an active axis.

1523   EXTFCTP instruction inadmissible

Cause	An EXTP or EXTFCTP instruction has been used in the program.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Delete the EXTP or EXTFCTP instruction from the program.

1524 STOP Max. active triggers reached

Cause	Too many Trigger commands programmed in a block.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Reduce number of active Trigger commands in the program.

1525 STOP Invalid trigger-'PRIO'

Cause	An inadmissible value was entered for Trigger-PRIO.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct the value.

1526 STOP Max. triggers(50) defined

Cause	The maximum number of Trigger commands has been defined.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program.

1527 STOP Sensor mastering inadmissible

Cause	No sensor location run has been performed for the axis.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Perform sensor location run for the axis.

1528  Brakes open during mastering selection

Cause	A brake is still open from the preceding motion.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Wait until all brakes are closed and the servos are disabled.

1529  Segment exchange successful

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1530  Reduced velocity during sensor location search

Cause	The velocity defined by the user for the sensor location run in “$RED_JUS_UEB” is greater than the possible maximum at which the sensor can be detected. The controller automatically reduces the velocity to allow the sensor to be detected.
Remedy	Reduce the permissible velocity for manual traversing in the machine data.

1531  Adjustment possible only in mode T1

Cause	Controller is not switched to T1 mode.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Set operating mode to T1. Carry out mastering again. Acknowledge message.

1532  CIRC is executed as LIN

Cause	An attempt has been made to execute a CIRC motion as a BCO run.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message. After the start the CIRC block is executed as a LIN motion.

1533  Program line changed

Cause	Message that the program line has been corrected.

1534  COR.dat check sum error

Cause	The correction data have been changed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Perform sensor location search/mastering. Save correction data.

1535  Delay <block number> inadmissible

Cause	A negative delay in the synact instruction has not been used in combination with one of the 4 position trigger variables (M_SC_F, M_SC_B, M_SCAPO_F, M_SCAPO_B).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Change the logic condition of the synact instruction.

1536 STOP Array parameter inadmissible

Cause	Undefined array parameter or complete “call-by-value” array in the list of current parameters when function is called.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Do not use undefined array parameters and transfer complete arrays as current parameters only on a “call-by-reference” basis.

1537 STOP Stop due to loading new custom data

Cause	Loader for the file “$CUSTOM.DAT” has been called during an active process. No process may be active when editing “$CUSTOM.DAT” as the system is fully occupied with the loader.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message; Do not edit “$CUSTOM.DAT” during an “active process”.

1538 STOP Invalid DISTANCE value

Cause	The value for “DISTANCE” is not permissible.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message. Specify valid value.

1539 STOP Invalid DELAY value

Cause	The value for “DELAY” is not permissible.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message. Specify valid value.

1540  Interrupt expression complexity exceeded

Cause	In total more than 16 “slow” variables have been used in the logical expressions of the INTERRUPT DECL instructions on the control and robot levels.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Use fewer predefined variables. If necessary, group logic expressions together using cyclical flags.

1541  Machine data error

Cause	The machine data have not yet been checked.
Effect	None.
Remedy	Copy correct machine data or option data file to the controller.

1542  Error in UPCALL token

Effect	Ramp-down braking. All active commands inhibited.

1543  No more dynamic analog inputs available

Cause	A third cyclical analog input has been activated in the program.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Deactivate a cyclical analog input.

1544  Digital input already assigned

Cause	A digital input has been cyclically activated in the program for a second time.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Deactivate the cyclical digital input.

1545  All pulse outputs assigned

Cause	More than 16 pulse outputs have been activated.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program accordingly.

1546  Invalid pulse duration

Cause	The value specified for the pulse duration is outside the permissible range. The permissible range for the pulse duration is 0.05 to 3049.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Program values in the permissible range.

1547  Target variable must be of type REAL

Cause	Incorrect data type of a target variable or wrong format in a CREAD or SREAD instruction.
Remedy	Correct CREAD or SREAD instruction: - Change format specification or - Use variable of type REAL.

1548  <Name of displayed program> reselection not possible

Cause	Program that must be linked for reselection causes linking error.
Effect	All active commands inhibited.
Remedy	Eliminate the error using the error list containing the linking errors.

1549 Invalid handle

Cause	An invalid HANDLE has been programmed in CWRITE or CREAD.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Specify a valid HANDLE.

1550 No more data/variables available

Cause	With SREAD/CREAD there is no more text to be read or there are no variables available for storing the values.

1552 Channel already open

Cause	An attempt has been made to open a channel that is already open.

1553 Channel cannot be opened/closed

Cause	The operator has attempted to open a SINEC H1 channel by means of the OPEN command or to close it by means of the CLOSE command.
Effect	None.
Remedy	None; SINEC H1 channels are opened and closed automatically.

1554 Wrong type of parameter variable

Cause	The parameter variable for the channel is of the wrong type.
Effect	None.
Remedy	Correct CHANNEL declaration for the channel.

1555  Channel parameters faulty or incomplete

Cause	At least one channel parameter in the parameter variable of the channel in “$CUSTOM.DAT” is faulty or not initialized.
Effect	None.
Remedy	Correct or initialize parameter variable.

1556  SINEC L2 bus channel not opened

Cause	An attempt has been made to open a SINEC L2 connection without the SINEC L2 bus channel being open.
Effect	None.
Remedy	Open SINEC L2 bus channel.

1557  Channel already fully assigned

Cause	The maximum number of jobs have already been assigned to the channel.
Effect	None.
Remedy	Wait until at least one job has been completed.

1558  Channel has to be opened/closed

Cause	The channel parameters used for assigning the channel do not correspond to the current channel parameters.
Effect	None.
Remedy	Close the channel before assigning it.

1559  Channel specification inadmissible

Cause	An attempt has been made to transmit a productive command via the SINEC L2 bus channel. An attempt has been made to output the listing or the message buffer through the SINEC H1 channel to a third station.
Effect	None.
Remedy	None.

1560  Channel already closed

Cause	An attempt has been made to close a channel that is already closed.
Effect	None.
Remedy	Abort command.

1561  SINEC L2 communication channels not closed

Cause	An attempt has been made to close the SINEC L2 bus channel without all the SINEC L2 communication channels being closed first.
Effect	None.
Remedy	Close all SINEC L2 communication channels.

1562  <SINEC L2, SINEC H1> board not available

Cause	An attempt has been made to access a SINEC L2 or SINEC H1 channel without the corresponding board being installed.
Effect	None.
Remedy	Install the corresponding board.

1564  Value range exceeded

Cause	The wait time in the WAIT_SEC command, expressed in basic clock rate cycles, exceeds the long range, i.e. is greater than 2147483647.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Enter shorter wait times.

1565  SINEC L2 configuration error

Cause	The opening or closing of a SINEC L2 channel is refused on account of a configuration error detected by the SINEC L2 module.
Remedy	Check and correct the channel parameters (e.g. baud rate).

1566  SINEC L2 transmission error <error no. SINEC L2-M>

Cause	Data transmission via SINEC L2 is not possible on account of an error detected by the SINEC L2 module.
Effect	None.
Remedy	Check the transmission link and rectify the error.

1567  No connection to SINEC L2 board

Cause	The connection of the IFC to the SINEC L2 board is faulty.
Effect	None.
Remedy	Carry out a warm restart. If fault recurs, exchange board (IFC with SINEC L2 board).

1568  Maximum no. of processes assigned to channel

Cause	Too many processes are running through the serial interface.
Remedy	Wait until a process is finished.

1569 Parameter change inadmissible, channel assigned

Cause	An attempt has been made to allocate parameters differing from the current ones to a channel that is already assigned.
Remedy	Correct the data used for the channel as required, or close the channel and re-open it with the appropriate parameters.

1570 Invalid parameter value

Cause	The maximum value of a channel parameter has been exceeded.
Remedy	Correct the channel parameter.

1571 Baud rate summation exceeded

Cause	The aggregate baud rate of both channels has been exceeded (the limit is 19200 bauds).
Remedy	Correct the baud rate.

1572 Protocol timeout

Cause	The defined protocol time has been exceeded.
Remedy	Check whether the physical connection to the periphery still exists. Increase the timeout setting appropriately if it is too low.

1573 IFC syntax error

Cause	During an attempt to open or close a channel, a syntax error has occurred in the CPU interface with regard to the command generated by the control.
Remedy	Close the channel and open it again.

1574 KRC system error <error number> <cause>

Cause	A KRC system error has occurred. The error has occurred in the kernel system and cannot be acknowledged. System task crash.
Effect	Maximum braking. All active commands inhibited.
Remedy	Start archiving. Send all log files to the Development Department. Describe operator actions. Restart the KRC controller. After rebooting, send the file C:\KRC\Bin\vxworks.debug to the Development Department (if this file is present).

1576 BASE change inadmissible

Cause	During conveyor operation an attempt has been made to change the BASE.
Effect	Maximum braking. All active commands inhibited.
Remedy	Correct program accordingly.

1577 <Name> already exists

Cause	A SUB module cannot be created in the editor if an SCR module of the same name already exists and vice versa.
Remedy	Change the name of the module.

1578 <Value> inadmissible

Cause	An inadmissible value has been entered.
Remedy	Specify valid value.

1579 APS system error

Cause	Internal error in APS detected by APS.
Remedy	Request confirmation from APS, reboot probably required.

1580 Tech. function $TECH[<parameters 1-3>].FCT inadmissible

Cause	The function parameters programmed in $TECH[i].FKT i=1..3, are incompatible with the function definition. The function parameters are checked by the interpreter in the advance run.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct the function parameters.

1581 Tech mode inadmissible

Cause	The “CYCLE” mode has been programmed for the technology category “VEL”. Monitoring is carried out in the interpreter when changing “CLASS” or “MODE”.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct program.

1582 Kinematic instruction inadmissible

Cause	A non-existent external kinematic system has been assigned to the system variable “$BASE” with the function EK.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct program.

1583  <SER_1> block size error

Cause	The received data block is too large.
Remedy	Alter the buffer length in the external data storage device to the control-internal size or smaller.

1584  Program structure for RESUME inadmissible

Cause	When the RESUME command was executed, the advance run indicator pointed to the level at which the interrupt was declared. RESUME may only be used with subprograms. The interrupt may only be triggered in the level at which the interrupt was declared.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Program reset. Alter the program accordingly. When RESUME is executed, $ADVANCE=0 is required.

1585  CA parameter out of range

Cause	Too large a value has been programmed for the parameter CA (complete angle) in the CIRC block.
Remedy	Correct the value of the CA appropriately.

1586  SINEC AP/TF error <SINEC AP/TF-Fhlcode>

Cause	See “SINEC AP Technological Functions, Part B” during command execution.
Remedy	See “SINEC AP Technological Functions, Part B”.

1587 Application comm. interrupted (File server)

Cause	The application communication with the file server has been interrupted or disconnected.
Remedy	Check the transmission link between the ACR and the file server.

1588 Path inadmissible

Cause	The path specification for copying via SINEC H1 contains “wildcards”.
Remedy	Copy just one file at a time.

1589 Closing channel inadmissible, channel active

Cause	The channel concerned cannot be closed during transmission.
Remedy	Wait for the transmission to finish or abort the transmission.

1590 ENUM not declared in $CONFIG

Cause	A SET INFO is being applied to an ENUM variable from a user data list. The search path extension has been altered. No access to ENUM type information.
Remedy	Enter ENUM declaration and variable declaration in the “$CONFIG.DAT” file.

1591 MINIMUM MUST BE LESS THAN MAXIMUM

Cause	A minimum value has been declared which is greater than the maximum value.
Effect	Maximum braking. All active commands inhibited.
Remedy	Correct the value.

1594 TECH_MAX value exceeded

Cause	The number of the programmed function generator is greater than the maximum number of function generators configured in the robot-specific machine data (TECH_MAX).
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Correct program.

1595 Load dependent acc. adaption not possible for PTP in line <block number>

Cause	The simulation calculation of the integrated dynamic model exceeds the given limit values of the continuous gear torque. Monitoring is carried out for each PTP preparation with activated load-dependent acceleration adaptation. See also user information.
Effect	No effect.
Remedy	If allowed: increase the max. permissible continuous gear torque. Lower the optimization limit “$OPTEXCLUDE”.

1596 Tacho balance only possible for one axis

Cause	An attempt has been made to carry out a DSE tacho balance for several axes at the same time. Monitoring is carried out in the event of value assignment to “$PROG_EEPOT”.
Effect	Value assignment is not carried out.
Remedy	Carry out tacho balance for one axis only.

1597 Not a DSE axis

Cause	An attempt has been made to carry out a tacho balance for an axis which is not present on the DSE board. Monitoring is carried out in the event of value assignment to “$TACH_CHANGE”.
Effect	Value assignment is not carried out.
Remedy	Carry out tacho balance for DSE axes only.

1598 LOAD not programmed

Cause	Acceleration adaptation is activated, but the load has not been completely programmed.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Program “$LOAD” correctly.

1599 No axis selected

Cause	An attempt has been made to carry out a tacho balance even though no axis has been selected. Monitoring is carried out in the event of value assignment to “$TACH_CHANGE”.
Effect	Value assignment is not carried out.
Remedy	First select an axis, then carry out tacho balance.

1600 CONTROL: <DEVCONTROL number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1601 No block coincidence, step mode first

Cause	No BCO run when switching to AUTO mode.
Remedy	Select SINGLE-STEP mode first.

1602 BCO run in step mode required

Remedy	A BCO run is required in Single Step mode.

1603 Safety fence open

Remedy	Close safety fence.

1604 Error in trace definition

Cause	The trace has been incorrectly defined in the “TRACE.DEF” file.
Remedy	Correct “TRACE.DEF”.

1605 Error reading TRACE.DEF

Cause	The “TRACE.DEF” file could not be read at the start of trace recording.
Effect	Trace recording is not carried out.
Remedy	Make “TRACE.DEF” available. Start or check FTP server.

1606 Interbus: bus error <segment, position>

Cause	Error or malfunction in data transmission on the Interbus.
Effect	Data transmission on the Interbus is stopped. Outputs are reset.
Remedy	Troubleshooting with CMD (Phoenix diagnostic tool).

1607 Interbus: bus warning <segment, position>

Cause	Malfunction in the specified bus module.
Effect	Outputs are reset.
Remedy	Eliminate the error in the specified module. Diagnosis using CMD software (Phoenix).

1608  Assignment of function value to $CYCFLAG inadmissible

Cause	Return value of a BOOL function has been assigned directly to a $CYCFLAG.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program. Acknowledge message.

1609  Assignment of runtime value to $CYCFLAG inadmissible

Cause	A $CYCFLAG has been assigned local runtime data.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program (use global variables only!). Acknowledge message.

1610  Error in configuration file

Cause	The configuration file contains errors.
Remedy	Correct configuration file.

1611  MAC-ID in use

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1612  Error during task start

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1613  Error during allocate device <MAC ID>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1614  Error during scan device ...

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

1615  PRIO 40-80 closed

Cause	A disabled priority between 40 and 80 has been used for a trigger command. This range is reserved for internal priority allocation.
Effect	Ramp-down braking. All active commands inhibited.
Remedy	Alter the program. Acknowledge message.

1616  Start locked <string>

Cause	Start is inhibited during insertion of a block in PROCOR.
Effect	Start cannot be executed.
Remedy	Complete insertion procedure.

1617  Interbus: bus error in slave ring

Cause	Bus error in the ring of the higher-level controller (PLC, etc.).
Effect	Automatic External interface deactivated.
Remedy	Rectify bus error in higher-level ring.

1618  Call only permissible in robot interpreter program

Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1619  External instruction <name of the external function> not loaded

Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

1620  <String for data type of the elements> Return array too small, number of elements = <Number of elements>

Effect	Ramp-down braking. All active commands inhibited.
Remedy	Acknowledge message.

2000  New block is not a declaration

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2001  Binary output signal expected

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2002 Incorrect initialization

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2003 Faulty initialization value

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2004 'DEFDAT' expected

Cause	The first line of a DAT files must begin with the keyword “DEFDAT”.
Effect	The corresponding SRC file cannot be executed.
Remedy	Alter DAT file.

2005 Variable not initialized

Cause	A variable has not been initialized.
Effect	The program cannot be executed.
Remedy	Initialize variable.

2006 CA expected

Cause	Keyword forgotten or written incorrectly.
Effect	The program cannot be compiled.
Remedy	Correct program.

2007 “DEF” or “DEFFCT” expected

Cause	The keyword “DEF” or “DEFFCT” has been omitted or written incorrectly.
Effect	The program cannot be compiled.
Remedy	Correct program.

2008 Block cannot be modified

Cause	An unauthorized block selection has been made.
Effect	Block selection is not carried out.
Remedy	Select a different block.

2009 Global SR/FCT cannot be renamed

Cause	Unauthorized change of name.
Remedy	Undo change of name.

2010 Data list cannot be renamed

Cause	An attempt has been made to rename a data list.
Effect	Change is rejected.
Remedy	Retain old name.

2011 Different types with change of initial value

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2012 SUB cannot be linked to SRC

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2013 Variable cannot be renamed

Cause	Impermissible change to the name of the variable.
Remedy	Undo change.

2014 Index cannot be changed

Cause	Impermissible change of index.
Remedy	Undo change.

2015 Not a system subroutine

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2016 Not a system function

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2017 Syntax error in P_Path

Cause	The syntax in the path is incorrect. **Example**: DEFDAT PROG_1 PUBLIC DECL INT Otto = 1 ENDDATDEF P() IMPORT INT Otto_2 IS R1/PROG_1..Otto END
Effect	The program cannot be executed.
Remedy	Correct the path. **Example**: DEFDAT PROG_1 PUBLIC DECL INT Otto = 1 ENDDAT DEF P() IMPORT INT Otto_2 IS /R1/PROG_1..Otto END

2018 Unused externally declared subroutine

Cause	A subroutine has been declared externally, but is not used.
Remedy	Correct program accordingly.

2019 Expected ext. subroutine, found function

Cause	A subroutine has been declared as external. A function of the same name has been found. **Example**: DEFFCT INT Test(x:IN) INT x ... ENDFCTDEF P() EXT Test(INT:IN) END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Test(x:IN) INT x ... END DEF P() EXT Test(INT:IN) END

2020 External function expected, subroutine found

Cause	A function has been declared as external. A subroutine of the same name has been found. **Example**: DEF Test(x:IN) INT x ... ENDDEF P() EXTFCT INT Test(INT:IN) END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEFFCT INT Test(x:IN) INT x ... ENDFCTDEF P() EXTFCT INT Test(INT:IN) END

2021 Data list not PUBLIC

Cause	Global variables from DAT files can only be used in differently named SRC files if the DAT file has been declared as “PUBLIC”. **Example**: DEFDAT P1 DECL GLOBAL INT a = 1 ENDAT DEF P2() a = 2 END
Effect	The program cannot be executed.
Remedy	Insert the keyword “PUBLIC” in the header of the DAT file. Under certain circumstances it will be necessary first to make the header visible using the menu command “CONFIGURE -> MISCELLANEOUS -> EDITOR -> DEF-line”. **Example**: DEFDAT P1 PUBLIC DECL GLOBAL INT a = 1 ENDAT DEF P2() a = 2 END

2022 Imported variable not declared in data list

Cause	The IMPORT instruction refers to a variable which does not exist in the specified data list.
Effect	The program cannot be executed.
Remedy	Check name. Check path. Declare variable.

2023 Imported variable not declared in data list

Cause	The IMPORT instruction refers to a variable which does not exist in the specified data list.
Effect	The program cannot be executed.
Remedy	Check name. Check path. Declare variable.

2024 Imported variable type/dimension conflict

Cause	Data type and/or dimension of the imported variable and the reference data list variable do not match. **Example**: DEFDAT PROG_1 PUBLIC DECL INT Hugo[2,2] Hugo[2.2]=1 ENDDATDEF P() IMPORT INT Hugo2IS /R1/PROG_1 .. Hugo END
Effect	The program cannot be executed.
Remedy	Check type and dimension of the imported variable. **Example**: DEFDAT PROG_1 PUBLIC DECL INT Hugo[2,2] Hugo[2.2]=1 ENDDATDEF P() IMPORT INT Hugo2[2,2]IS /R1/PROG_1..Hugo END

2025 External and SR/FCT declarations do not match

Cause	External declaration does not correspond to the SR/FCT declaration.
Effect	The program cannot be executed.
Remedy	Check external declarations.

2026 External and SR/FCT declarations do not match

Cause	External declaration does not correspond to the SR/FCT declaration.
Effect	The program cannot be executed.
Remedy	Check external declarations.

2027 Import interface not correct

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2028 EXT[FCT] and DEF[FCT] parameters are incompatible

Cause	The parameters specified in the EXT instruction do not correspond to those in the subprogram declaration. **Example**: DEF Test(x:IN) INT x ENDDEF P() EXT Test() END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Test(x:IN) INT x ENDDEF P() EXT Test(INT:IN) END

2029 Syntax error in module

Cause	The module contains a syntax error.
Effect	The program cannot be executed.
Remedy	Check the program code in the module.

2030 Module used by another process

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2031 Module package not available

Cause	A required module cannot be found, e.g. it has not been declared or has not been declared as global. **Example**: DEFDAT P PUBLIC DECL CONST INT Hugo = 1 ENDDAT DEF Up() IMPORT INT Hugo END
Effect	The program cannot be executed.
Remedy	Check path and name of module. Declare module or declare it as global. **Example**: DEFDAT P PUBLIC DECL GLOBALCONST INT Hugo = 1 ENDDAT DEF Up() IMPORT INT Hugo END

2032 Illegal command

Cause	The command is not permissible.
Remedy	Change the command accordingly.

2033 End of block or comment expected

Cause	The syntax has not been observed correctly or a comment has been entered without a preceding “;”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2034 Insert before first block inadmissible

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2035 Invalid block number

Cause	The block number is invalid.
Remedy	Correct block number accordingly.

2036 Only comment may be entered after ENDDAT

Cause	Illegal program code has been inserted after ’ENDDAT’.
Effect	The program cannot be executed.
Remedy	Remove program code after ’ENDDAT’ or separate it as a comment.

2037 Illegal or unknown block

Cause	Compiler cannot process the program line. e.g. assignment of two Enum constants: #Otto=#Emil or insertion of program code into the DAT file. The cause can also be a typing error.
Effect	The program cannot be executed.
Remedy	Alter the program.

2038 Declaration not in declaration section

Cause	A declaration is situated outside the declaration section.
Effect	The program cannot be executed.
Remedy	Move declaration to the declaration section.

2039 Instruction not in instruction section

Cause	An instruction is situated outside the instruction section.
Effect	The program cannot be executed.
Remedy	Move instruction to the instruction section.

2040 Initial value block not in initialization section

Cause	Initial value is not situated in the initialization section.
Remedy	Correct accordingly.

2041 Error in DEFDAT, insert not successful

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2042 DEFDAT inadmissible

Cause	“DEFDAT” has been inserted in an unauthorized position.
Effect	The program cannot be executed.
Remedy	Alter the program.

2043 Error in global DEF/DEFFCT

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2044 DEF/DEFFCT inadmissible

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2045 END/ENDFCT/ENDDAT inadmissible here

Cause	The “END”, “ENDFCT” or “ENDDAT” keyword has been inserted in an inadmissible position or the syntax has not been observed correctly.
Effect	The program cannot be executed.
Remedy	Alter the program.

2046 EXT/EXTFCT/IMPORT inadmissible here

Cause	An “EXT”, “EXTFCT” or “IMPORT” instruction has been placed in an inadmissible position.
Effect	The program cannot be executed.
Remedy	Alter the program.

2047 Object not found

Cause	An object has been requested that does not exist.
Effect	Object cannot be displayed.
Remedy	Correct or re-enter object name.

2048 Error on entering the data list

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2049 Initial value inadmissible here

Cause	The initial value is not admissible in this position.
Remedy	Alter the program accordingly.

2050 String constant as OUT parameter not permissible

Cause	A string constant has been used as an OUT parameter.
Effect	The program cannot be executed.
Remedy	Alter the program.

2051 Name in first line must be same as module name

Cause	Name in first line of the program does not match module name.
Effect	The program cannot be executed.
Remedy	Alter the program.

2052 Array name entered inadmissible here

Cause	An array name has been used in an unauthorized position.
Effect	The program cannot be executed.
Remedy	Alter the program.

2053 Initial value of index already exists

Cause	Index value has already been initialized.
Effect	The program cannot be executed.
Remedy	Alter the program.

2054 '=' expected

Cause	The "=" symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2055 Real constant expected

Cause	Constant used is not of type REAL.
Effect	The program cannot be executed.
Remedy	Alter the program.

2056 '{' expected

Cause	The "{" symbol is missing or incorrectly positioned in the program line.
Effect	The program cannot be executed.
Remedy	Alter the program.

2057 After decimal point only values in interval 0–7 permissible

Cause	Value range exceeded.
Effect	The program cannot be executed.
Remedy	Alter the program.

2058 Constant name not part of variable type

Remedy	Alter the program accordingly.

2059 String constant too long

Cause	The assigned string constant is too long for the variable in question. **Example**: STRUC Otto CHAR a DECL Otto Hugo = {a “abcde”}
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: STRUC Otto CHAR a DECL Otto Hugo = {a “a”}

2060 Array index entered inadmissible here

Cause	The specified array index is not admissible in this position.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2061 Aggregate component initialized more than once

Cause	Each component may only be contained once in an aggregate.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2062 Information loss possible on change of type

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2063 INTEGER, REAL or CHARACTER constant expected

Cause	Specification of an INTEGER or REAL value or a CHARACTER constant is missing. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo = { a , b}
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo = { a 1, b 2.2}

2064 CHARACTER or INTEGER constant expected

Cause	An individual character (no string) or integer constant is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2065 TRUE or FALSE expected

Cause	Only the assignments “TRUE” and “FALSE” are admissible.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2066 ENUM constant type does not match ENUM variable

Cause	An ENUM constant has been assigned to an ENUM variable of a different type.
Effect	The program cannot be executed.
Remedy	Alter the program.

2067 Component array spec. multidimensional

Cause	The component array specification is multidimensional.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2068 Array subscript missing

Cause	The array subscript is missing.
Remedy	Alter the program accordingly.

2069 Component is no array

Remedy	Alter the program accordingly.

2070 “#” or ENUM type name expected

Cause	Either the “#” symbol has been forgotten or no declared ENUM type name has been used. **Example**: ENUM Emma e1,e2,e3 STRUC Hugo Emma a DECL Hugo RealHugo = {a e1}
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ENUM Emma e1,e2,e3 STRUC Hugo Emma a DECL Hugo RealHugo = {a #e1}

2071 Structure type name expected

Remedy	Alter the program accordingly.

2072 Type name incompatible with context

Remedy	Alter the program accordingly.

2073 Component neither part of FRAME nor POS

Remedy	Alter the program accordingly.

2074 Ascending indices expected

Cause	A higher value was entered for the first index specification in the program line than for the second. **Example**: SIGNAL $DIGIN1 $IN[20] TO $IN[10]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: SIGNAL $DIGIN1 $IN[10] TO $IN[20]

2075 Number too low

Cause	The number is too small.
Remedy	Alter the program accordingly.

2076 IS expected

Cause	The keyword “IS” is missing or incorrectly positioned. **Example**: DEFDAT PROG_1 PUBLIC DECL INT Otto = 1 ENDDAT DEF P() IMPORT INT Otto_2 /R1/PROG_1 .. Otto END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEFDAT PROG_1 PUBLIC DECL INT Otto = 1 ENDDAT DEF P() IMPORT INT Otto_2 IS/R1/PROG_1..Otto END

2077 Integer constant expected

Cause	The constant is not an integer.
Remedy	Alter the program accordingly.

2078 Identical predefined signal names expected

Cause	Specification of signals was not restricted to just inputs or just outputs. **Example**: SIGNAL $DIGIN1 $OUT[20] TO $IN[29]
Effect	The program cannot be executed.
Remedy	Alter the program accordingly. **Example**: SIGNAL $DIGIN1 $IN[20] TO $IN[29]

2079 Component type unknown

Cause	The component type is not known.
Remedy	Alter the program accordingly.

2080 Protocol variable declared implicitly

Cause	The protocol variable has been declared implicitly.
Remedy	Alter the program accordingly.

2081 POS, FRAME, or AXIS expected

Remedy	Alter the program accordingly.

2082 Variable with structure type expected

Remedy	Alter the program accordingly.

2083 Predefined signal expected

Cause	A signal name that has been predefined in the system is expected; an unknown name has been found. **Example**: SIGNAL $DIGIN1 $xyz[20] TO $IN[29]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: SIGNAL $DIGIN1 $IN[20] TO $IN[29]

2084 Predefined channel name expected

Cause	Only the predefined interface names “SER_1” and “SER_2” are permissible.
Effect	The program cannot be executed.
Remedy	Alter the program.

2085 ’[’ expected

Cause	The “[” symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2086 Array limit missing

Cause	The array limit has not been specified. **Example**: REAL vb[]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: REAL vb[4]

2087 “,” expected

Cause	The “,” symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2088 Signal index too large

Cause	The signal index is outside the range of available inputs and outputs. **Example**: SIGNAL $DIGIN1 $IN[200] TO $IN[5000]
Effect	The program cannot be executed.
Remedy	Alter the program.

2089 '..' expected

Cause	The specified string ".." has been omitted or incorrectly positioned. **Example**: IMPORT INT Otto_2 IS /R1/PROG_1 Otto
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: IMPORT INT Otto_2 IS /R1/PROG_1..Otto

2090 One dimensional CHAR field expected

Remedy	Alter the program accordingly.

2091 IN or OUT expected

Cause	In a subprogram or function declaration, the transferred parameters have not been labeled as "IN" or "OUT" parameters, or a typing error has occurred. IN parameter: "Call byValue". Only a value is transferred; the value of the variable cannot be modified by the subprogram or function. OUT parameter: "Call by Reference". The address of the memory location of the variable is transferred; the variable can thus be defined by the subprogram or function. **Example**: DEF Prog(X:IN, Y:xx, Z:OUT) INT X,Y,Z ...
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Prog(X:IN, Y:OUT, Z:OUT) INT X,Y,Z ...

2092  Syntax error in array specification

Cause	The array specification does not have the correct syntax. **Example**: DEF Hb(a[9]:IN) INT a[]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Hb(a[]:IN) INT a[]

2093  Pos. integer , ’]’ or ’,’ expected

Cause	No positive integer has been entered or the range of values was exceeded or the characters “]” or “,” have been forgotten. Most often in index declarations. **Example**: DECL CHAR Otto[–3]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DECL CHAR Otto[3]

2094  No more than three dimensions allowed

Cause	The maximum 3 dimensions have been exceeded in an array declaration. **Example**: DECL INT Hugo[3,2,7,6]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DECL INT Hugo[3,2,7]

2095 Relative P_Path not compatible with node

Remedy	Alter the program accordingly.

2096 “]” or “,” expected

Cause	The “]” or “,” symbol is missing or incorrectly positioned. Most often in array declarations.
Effect	The program cannot be executed.
Remedy	Alter the program.

2097 Structure type variable inadmissible

Cause	A structure type variable is not admissible here.
Effect	The program cannot be executed.
Remedy	Alter the program.

2098 Variable not declared in data list

Remedy	Alter the program accordingly.

2099 Array index exceeds array limits

Cause	The specified array index exceeds the declared array limit.
Effect	The program cannot be executed.
Remedy	Alter the program.

2100 Positive integer expected

Cause	Only a positive integer can be specified, e.g. specification of the array size. **Example**: CHAR Hugo[0]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: CHAR Hugo[7]

2101 Array index not compatible with array dimension

Remedy	Alter the program accordingly.

2102 Array limit exceeded

Remedy	Alter the program accordingly.

2103 No variable exists with this name

Cause	A non-existent variable name has been specified.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2104 Parameter specification inadmissible in data list

Remedy	Alter the program accordingly.

2105 Local parameter type defined locally

Remedy	Alter the program accordingly.

2106 Block cannot be deleted

Cause	An inadmissible attempt was made to delete a block.

2108 ERROR token in I-code

Remedy	Alter the program.

2109 Corresponding 'END' block missing

Cause	A program section was not terminated with the keyword “END”.
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Sp ( ) ... END

2110 Incorrect end of control structure

Cause	A control structure has been terminated with the wrong keyword, e.g. “LOOP” with “ENDWHILE”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2111 Subroutine/function incorrectly completed

Cause	Incorrect final keyword used, e.g. “END” instead of “ENDFCT” or vice versa. **Example**: DEFFCT REAL Ida(x1:IN) ... END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEFFCT REAL Ida(x1:IN) ... ENDFCT

2112 Identifier not declared

Cause	No data type has been assigned to the identifier (i.e. the name of the transfer parameter) in the subprogram of function.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly. **Example**: DEF Prog(a:IN) REAL a ...

2113 Protocol variable must be of structure type

Cause	The protocol variable is not of structure type.
Remedy	Alter the program accordingly.

2114 Correct type entry unavailable

Cause	In a declaration, a data type is used which has been declared incorrectly. **Example**: ENUM Otto #Ottomotor DECL Otto Otto1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ENUM Otto Ottomotor DECL Otto Otto1

2115 Component type not defined or correctly defined

Cause	A component type has been entered which has not been declared or has not been declared correctly. **Example**: Enum Otto#Ottomotor STRUC Willi Ottoa
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: Enum Otto Ottomotor STRUC Willi Ottoa

2116 Type of a parameter is defined locally

Remedy	Alter the program accordingly.

2117 Corresponding 'ENDDAT' block missing

Cause	The keyword ENDDAT is missing at the end of a DAT file.
Effect	The corresponding SRC file cannot be executed.
Remedy	Alter the program.

2118 Type change for initial value not possible

Remedy	Alter the program accordingly.

2119 Compile loc. not compatible with call location

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2120 Object must be declared in data list or implicitly

Cause	Object has not been declared in data list or implicitly.
Remedy	Alter the program accordingly.

2121 Incorrect dimension

Cause	The specified array dimension does not correspond to the declared dimension. **Example**: DECL INT f[3] f[4,3]=1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DECL INT f[3] f[2]=1

2122 Name not declared as array

Cause	Variable has been specified with an index, but is not declared as an array. **Example**: INT Hugo Hugo[3]=7
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT Hugo Hugo=7

2123 Name not declared as function

Cause	An apparent function value is assigned to a variable. The apparent function is usually defined as a subprogram. **Example**: INT i i=Prog() ... DEF Prog() ... END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT i i=Prog() ... DEFFCT INT Prog() ... ENDFCT

2124 Variable not declared in data list

Cause	A variable is required which must be declared in the DAT file.
Effect	The program cannot be executed.
Remedy	Alter the program.

2125 Component not part of type

Cause	A component has been used that is not in the data type declaration. **Example**: STRUC Otto INT a, REAL b DECL Otto Emma Emma.ccc=1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: STRUC Otto INT a, REAL b DECL Otto Emma Emma.a=1

2126 No structure data type

Cause	The variable has no structure data type. **Example**: INT Hugo Hugo.a=1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT Hugo Hugo=1

2127 Formal parameter declaration missing

Cause	A formal parameter has not been declared.
Effect	The program cannot be executed.
Remedy	Alter the program.

2128 More actual than formal parameters specified

Cause	More current parameters have been specified in the subprogram or function call than there are formal parameters declared in the subprogram or function declaration. **Example**: Sp(3,5,9) ... DEF Sp(a:IN,b:IN) INT a,b ...
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: Sp(3,5) ... DEF Up(a:IN,b:IN) INT a,b ...

2129 Formal parameter not defined

Cause	No data type has been assigned to the formal parameters in the subprogram or function. **Example**: INT i i=1 Hb(i) ... DEF Hb(a:IN) END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT i i=1 Hb(i) ... DEF Hb(a:IN) INT a ... END

2130 Inadmissible expression after return instruction

Cause	The expression after the “RETURN” instruction is inadmissible. **Example**: DEF Sp ( ) ... RETURN (1) END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Sp ( ) ... RETURN END

2131 Expression after return instruction missing

Cause	In a function, a return value is expected after the RETURN instruction. **Example**: DEFFCT INT Otto() INT a ... RETURN ENDFCT
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEFFCT INT Otto() INT a ... RETURN(a) ENDFCT

2132 No interfaces permitted

Remedy	Alter the program accordingly.

2133 Type must be POS, FRAME or AXIS

Remedy	Alter the program accordingly.

2134 Object has invalid type

Remedy	Alter the program accordingly.

2135 Name not declared as subroutine

Cause	A subroutine has been called which does not exist, e.g. from an interrupt or trigger declaration. A function is being called as a subroutine.
Effect	The program cannot be executed.
Remedy	Alter the program.

2136 Local subroutine inadmissible in process commands

Remedy	Alter the program accordingly.

2137 Name not declared as simple variable

Cause	The name of the variable is correct, but the variable is not a simple variable, or the variable is being used in the wrong context. A subprogam name, for example, has been used instead of the name of a simple variable, or the variable is an array variable which has been used without an index. **Example 1**: DEF hhh() hhh=1 END **Example 2**: INT Hugo[3] Hugo=1
Effect	The program cannot be executed.
Remedy	Alter the program.

2138 Name invalid for this type of constant

Cause	A constant name has been specified which does not exist or is not valid for the data type. **Example**: ENUM Colors blue, yellow, red DECL Colors Single_color Single_color=#orange
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ENUM Colors blue, yellow, red, orange DECL Colors Single_color Single_color=#orange

2139 Specified type is not ENUM type

Cause	An attempt has been made to assign an ENUM constant to a variable which is not an ENUM variable. **Example**: INT i ENUM Erna e1,e2,e3 i=#e1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ENUM Erna e1,e2,e3 DECL Erna RealErna RealErna=#e1

2140 No ENUM type specified

Remedy	Alter the program accordingly.

2141 Indexing or [] inadmissible

Cause	A name, which has not been declared as an array, has been given an index or square brackets. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo = { a 1, b 2.2} Hugo.a[3]=7
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo = { a 1, b 2.2} Hugo.a=7

2142 Indexing or [] expected

Cause	An array variable name has been used without square brackets or index specification.
Effect	The program cannot be executed.
Remedy	Alter the program.

2143 End of control structure inadmissible here

Cause	The control structure syntax has been violated.
	Example:
	FOR i=1 TO 6
	...
	ELSE
	...
	ENDFOR

Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: FOR i=1 TO 6 ... ENDFOR

2144 Corresponding ENDLOOP missing

Cause	“LOOP” loop not terminated with “ENDLOOP”. **Example**: DEF Prog() LOOP ... END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Prog() LOOP ... ENDLOOP END

2145 Corresponding ENDWHILE missing

Cause	“WHILE” loop not terminated with “ENDWHILE”. **Example**: DEF Prog() INT i i=1 WHILE i<100 END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Prog() INT i i=1 WHILE i<100 ... ENDWHILE END

2146 Corresponding ENDFOR missing

Cause	“FOR” loop not terminated with “ENDFOR”. **Example**: DEF Prog() INT i i=1 FOR i=1 TO 6 ... END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Prog() INT i i=1 FOR i=1 TO 6 ... ENDFOR END

2147 Corresponding UNTIL missing

Cause	“REPEAT” loop not terminated with “UNTIL”. **Example**: DEF Prog() INT i i=1 REPEAT END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Prog() INT i i=1 REPEAT i=i+1 UNTIL i>100 END

2148 Corresponding ENDIF missing

Cause	“IF” loop not terminated with “ENDIF”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2149 Corresponding ENDSWITCH missing

Cause	“SWITCH” loop not terminated with “ENDSWITCH”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2150 SWITCH contains no CASE

Cause	“SWITCH” construction does not contain a “CASE” branch.
Effect	The program cannot be executed.
Remedy	Alter the program.

2151 No CASE after SWITCH

Cause	“SWITCH” construction does not contain a “CASE” branch.
Effect	The program cannot be executed.
Remedy	Alter the program.

2152 CASE/DEFAULT after DEFAULT

Cause	The “DEFAULT” branch contains a “CASE” or “DEFAULT” keyword.
Effect	The program cannot be executed.
Remedy	Alter the program.

2153 EXIT not in loop body

Cause	The keyword “EXIT” is outside a loop.
Effect	The program cannot be executed.
Remedy	Alter the program.

2154 Name not declared as channel

Cause	The name has not been declared as a channel.
Remedy	Alter the program accordingly.

2155 Name not declared as label

Cause	An attempt has been made to jump to an undefined label using the “GOTO” command.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2156 Jump destination not declared locally

Cause	The jump destination has not been declared locally, but may have been declared elsewhere. **Example:** DEF Prog() Label: END DEF Prog2() GOTO Label END In the example, both programs are in the same SRC file.
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Prog2() ... Label: ... GOTO Label END

2157 Jump destination not declared globally

Remedy	Alter the program accordingly.

2158 Jump to label inadmissible

Cause	The label is located in a program structure, e.g. a “SWITCH” branch, to which a jump is not possible.
Effect	The program cannot be executed.
Remedy	Alter the program.

2159 There exists an invalid jump to this label

Effect	The program cannot be executed.
Remedy	Alter the program.

2160 THEN expected

Cause	The “IF” instruction has not been entered completely; the keyword “THEN” is missing.
	Syntax:
	IF Boolean expression THEN
	Statements
	ENDIF

Effect	The program cannot be executed.
Remedy	Alter the program.

2161 DO expected

Cause	The keyword “DO” has been omitted in an INTERRUPT or TRIGGER instruction. **Syntax**: INTERRUPT DECL Priority WHEN Condition DO Subprogram_Name TRIGGER WHEN DISTANCE = Switching_Point DELAY = Time DO Statement PRIO = Priority
Effect	The program cannot be executed.
Remedy	Alter the program.

2162 Invalid input character

Cause	A character has been entered that is meaningless here. **Example**: $OUT[2b]=TRUE
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: $OUT[2]=TRUE

2163 Count exceeded

Cause	A variable has been assigned a number which exceeds the range of values.
Effect	The program cannot be executed.
Remedy	Alter the program.

2164 No “/” in P_Path

Cause	The character “/” has been omitted.
Remedy	Insert “/”.

2165 Wildcard inadmissible

Cause	An inadmissible wildcard has been used.
Effect	The program cannot be executed.
Remedy	Correct program accordingly.

2166 No file name

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2167 Name too long

Cause	The specified name contains too many characters.
Remedy	Reduce number of characters.

2168 Invalid extension

Cause	The specified extension is not permissible.
Remedy	Use a valid and permissible extension.

2169 Path incorrect

Cause	The path specification is incorrect.
Effect	Action is not executed.
Remedy	Correct the path.

2170 Blank character invalid

Cause	One or more spaces have been inserted; this is not permissible.
Remedy	Remove spaces.

2171 Extension inadmissible

Cause	An extension has been specified that is not admissible here.
Remedy	Remove extension.

2172 Channel handle expected

Cause	A channel handle is expected.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2173 Absolute path expected

Cause	The path specification is not absolute.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2174 TO expected

Cause	The keyword “TO” has been omitted.
Effect	The program cannot be executed.
Remedy	Alter the program.

2175 User, device or node type name expected

Effect	The program cannot be executed.
Remedy	Alter the program.

2176 OBJ, NODE, USER or PERI expected

Effect	The program cannot be executed.
Remedy	Alter the program.

2177 NODE, USER or PERI expected

Effect	The program cannot be executed.
Remedy	Alter the program.

2178 Value missing

Cause	No value has been specified.
Remedy	Specify value.

2179 NODE must follow

Effect	The program cannot be executed.
Remedy	Alter the program.

2180 CONST with several inadmissible variables

Cause	More than one variable has been entered in the constant declaration.
Effect	The program cannot be executed.
Remedy	Alter the program.

2181 DEV must follow

Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2182 Constant or variable expected

Cause	A constant or variable has not been entered. **Example**: ANOUT ON Wire = .5 * Factor + 1.0 DELAY =
Effect	The program cannot be executed.
Remedy	Alter the program.

2183 Option entered twice

Cause	An option has been entered twice.
Effect	The program cannot be executed.
Remedy	Alter the program.

2184 Option expected after minus sign

Cause	An option is missing after the minus sign.
Effect	The program cannot be executed.
Remedy	Alter the program.

2185 Block number expected

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2186 Block number must be positive

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2187 String expected

Cause	A string is expected in the program line.
Effect	The program cannot be executed.
Remedy	Alter the program.

2188 String expected

Cause	A string is expected in the program line.
Effect	The program cannot be executed.
Remedy	Alter the program.

2189 Initial block number > final block number

Cause	The initial block number is greater than the final block number.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2190 Attribute name must follow

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2191 Constant for key must follow

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2192 Extension missing

Cause	The extension has not been specified.
Remedy	Alter the program accordingly.

2193 Extension or ".*" invalid

Cause	An extension or the wildcard ".*" has been entered.
Remedy	Alter the program accordingly.

2194 WHEN expected

Cause	The keyword WHEN has been omitted in an interrupt or trigger declaration.
Effect	The program cannot be executed.
Remedy	Alter the program.

2195 Channel name expected

Cause	The channel name is missing.
Effect	The program cannot be executed.
Remedy	Alter the program.

2196 Absolute path after device/channel name expected

Cause	No absolute path after device/channel name.
Effect	The program cannot be executed.
Remedy	Alter the program.

2197 INFO expected

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2198 MESSAGE expected

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2199 Integer constant expected

Cause	An integer constant is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2200 Ki expected: 1<=i<=12

Effect	The program cannot be executed.
Remedy	Alter the program.

2201 “+” or “-” expected

Effect	The program cannot be executed.
Remedy	Alter the program.

2202 VAR expected

Effect	The program cannot be executed.
Remedy	Alter the program.

2203 Only “I”, “B”, “H”, “V” allowed as option only

Effect	The program cannot be executed.
Remedy	Alter the program.

2204 Error at end of block

Cause	There is an error at the end of the block.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2205 SEC, FOR or CLOCK expected

Cause	One of the keywords “SEC”, “FOR” oder “CLOCK” is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2206 Channel name missing

Cause	No channel name has been specified.
Effect	The program cannot be executed.
Remedy	Alter the program.

2207 Name not declared as channel

Cause	The name has not been declared as a channel.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2208 DEL must follow

Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2209 Too much memory required for dynamic variable

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2210 "," expected

Cause	The "," symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2211 Symbol is not at beginning of expr./value assignment

Effect	The program cannot be executed.
Remedy	Alter the program.

2212 Label not declared locally

Effect	The program cannot be executed.
Remedy	Alter the program.

2213 Local STRUC/ENUM not declared in global STRUC

Effect	The program cannot be executed.
Remedy	Alter the program.

2214 Array contains too many elements

Effect	The program cannot be executed.
Remedy	Alter the program.

2215 Type too large

Effect	The program cannot be executed.
Remedy	Alter the program.

2216 Entry in symbol table is not label

Effect	The program cannot be executed.
Remedy	Alter the program.

2217 USER, ACCESS or COMMENT expected

Effect	The program cannot be executed.
Remedy	Alter the program.

2218 Nesting depth exceeded

Cause	Too many control structures (e.g. IF or WHILE instructions) have been used inside identical control structures.
Effect	The program cannot be executed.
Remedy	Alter the program.

2219 Operand or expression expected

Cause	Either no operand or expression has been specified, or a character has been used which cannot be evaluated as an operand or expression. **Example**: $OUT[*]=TRUE
Effect	The program cannot be executed.
Remedy	Alter the program accordingly. **Example**: $OUT[3]=TRUE

2220 “)” expected

Cause	The “)” symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2221 Name of loop variable expected

Cause	The name of the loop variable is missing.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2222 Expression type not equal to STAT_T

Cause	The data type of the expression must be “STAT_T”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2223 Expression type not equal INT, REAL, CHAR, BOOL, ENUM

Cause	The data type of the expression must be INT, REAL, CHAR, BOOL or ENUM.
Effect	The program cannot be executed.
Remedy	Alter the program.

2224 Constant expected

Cause	The specification of a constant is missing in the program line, e.g. after the keyword “CASE”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2225 Positive integer constant expected

Cause	A positive integer constant is required.
Effect	The program cannot be executed.
Remedy	Alter the program.

2226 Invalid sign

Cause	No sign is permissible here.
Effect	The program cannot be executed.
Remedy	Alter the program.

2227 Left operand not equal to INT, REAL

Cause	Left operand is not of data type “INT” or “REAL”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2228 Right operand not equal to INT, REAL

Cause	Right operand is not of data type “INT” or “REAL”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2229 Both operands not equal to INT, REAL

Cause	Neither operand is of data type “INT” or “REAL”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2230 Left operand not equal to INT, CHAR

Cause	Left operand is not of data type “INT” or “CHAR”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2231 Right operand not equal to INT, CHAR

Cause	Right operand is not of data type “INT” or “CHAR”.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2232 Both operands not equal to INT, CHAR

Cause	Neither operand is of data type “INT” or “CHAR”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2233 Left operand not equal to BOOL

Cause	Left operand is not of data type “BOOL”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2234 Right operand not equal to BOOL

Cause	Right operand is not of data type “BOOL”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2235 Both operands not equal to BOOL

Cause	Neither operand is of data type “BOOL”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2236 Left operand not equal to INT, REAL, CHAR, ENUM

Cause	Left operand is not of data type “INT”, “REAL”, “CHAR” or “ENUM”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2237 Right operand not equal to INT, REAL, CHAR, ENUM

Cause	The data type of the right operand is not “INT”, “REAL”, “CHAR” or “ENUM”.
	Example:
	INT i
	i=7
	IF i<TRUE THEN
	...
	ENDIF

Effect	The program cannot be executed.

Remedy	Alter the program.
	Example:
	INT i
	i=7
	IF i<10 THEN
	...
	ENDIF

2238 Both operands not equal to INT, REAL, CHAR, ENUM

Cause	Neither operand is of data type “INT”, “REAL”, “CHAR” or “ENUM”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2239 Operand types not comparable

Cause	The specified operands are of different data types and cannot be compared.
Effect	The program cannot be executed.
Remedy	Alter the program.

2240 Left operand not equal to INT, REAL, BOOL, CHAR, ENUM

Cause	The data type of the left operand is not “INT”, “REAL”, “BOOL”, “CHAR” or “ENUM”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2241 Right operand not equal to INT, REAL, BOOL, CHAR, ENUM

Cause	The data type of the right operand is not “INT”, “REAL”, “BOOL”, “CHAR” or “ENUM”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2242 Operands not equal to INT, REAL, BOOL, CHAR, ENUM

Cause	The operands are not of data type “INT”, “REAL”, “BOOL”, “CHAR” or “ENUM”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2243 Operand types not comparable

Cause	The operands are of different data types and cannot be compared.
	Example:
	IF $IN[3]==1 THEN
	...
	ENDIF

Effect	The program cannot be executed.

Remedy	Alter the program.
	Example:
	IF $IN[3]==TRUE THEN
	...
	ENDIF

2244 Left operand not equal to POS, FRAME

Cause	The data type of the left operand is not “POS” or “FRAME”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2245 Right operand not equal to POS, FRAME

Cause	The data type of the right operand is not “POS” or “FRAME”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2246 Operands not equal to POS, FRAME

Cause	The operands are not of data type “POS” or “FRAME”.
Effect	The program cannot be executed.
Remedy	Alter the program.

2247 Both sides of the value assignment are not compatible

Cause	The data types of the elements on either side of the equals sign are incompatible. **Example**: $OUT[3]=1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: $OUT[3]=TRUE

2248 Expression not equal to INT, REAL

Cause	An expression of data type “INT” or “REAL” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2249 Expression not equal to INT

Cause	An expression of data type “INT” is expected. **Example**: INT i FOR i=1.3 TO 7 ... ENDFOR
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT i FOR i=1 TO 7 ... ENDFOR

2250 Expression not equal to BOOL

Cause	An expression of data type “BOOL” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2251 Expression not equal to POS, FRAME

Cause	An expression of data type “POS” or “FRAME” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2252 Expression not equal to POS, FRAME, AXIS

Cause	An expression of data type “POS”, “FRAME” or “AXIS” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2253 Variable or array element expected

Cause	An inadmissible expression is positioned where either a variable or an array element is expected. **Example**: ANOUT ON Wire = .5 * 1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ANOUT ON Wire = .5 * RFactor; “RFactor” represents a REAL variable from the corresponding DAT file.

2254 Selection invalid here

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2255 Expression not equal to CHAR, INT, ENUM

Cause	An expression of data type “CHAR”, “INT” or “ENUM” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2256 Operand not equal to INT, REAL

Cause	An operand of data type “INT” or “REAL” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2257 Operand not equal to INT, CHAR

Cause	An operand of data type “INT” or “CHAR” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2258 Operand not equal to BOOL

Cause	An operand of data type “BOOL” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2259 Left operand: array or path invalid

Cause	Left operand must not be an array or path. **Example**: INT x[9] x[2]=13 IF x[]== 7 THEN ...
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT x[9] x[2]=13 IF x[2]== 7 THEN ...

2260 Right operand: array invalid

Cause	The right operand must not be an array. **Example**: INT x[9] x[2]=13 IF 7 ==x[] THEN ...
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT x[9] x[2]=13 IF 7== x[2] THEN ...

2261 Right operand: array with dimension > 1 invalid

Cause	The dimension of the right-hand operand may not be greater than 1.
Effect	The program cannot be executed.
Remedy	Alter the program.

2262 Array as operand invalid

Cause	An array as an operand is not admissible here.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2263 Type of loop variable not equal to INT

Cause	Only the data type “INTEGER” is allowed for the loop variable. **Example**: DECLREALi FOR i = 1 TO 5 ... ENDFOR
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DECL INTi FOR i = 1 TO 5 ... ENDFOR

2264 Expression type not MODUS_T

Cause	The data type of the expression must be “MODUS_T”.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2265 “,” or “)” expected

Cause	A comma or “)” is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2266 Type component incompatible with type initial value

Effect	The program cannot be executed.
Remedy	Alter the program.

2267 Left side: Array invalid

Cause	It is not permissible to specify an array in the left-hand side of the expression, although an array element may be permissible. **Example**: $OUT[ ]=TRUE
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: $OUT[3]=TRUE

2268 Right side: array invalid

Cause	It is not permissible to specify an array in the right-hand side of the expression, although an array element may be permissible. **Example**: $OUT[3]=$IN[]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: $OUT[3]=$IN[5]

2269 Right string constant => left indexing

Effect	The program cannot be executed.
Remedy	Alter the program.

2270 Type of left and right hand side incompatible

Cause	The data types of the left and right operands are incompatible.
Effect	The program cannot be executed.
Remedy	Alter the program.

2271 Path expression required (array)

Effect	The program cannot be executed.
Remedy	Alter the program.

2272 Path expression invalid

Effect	The program cannot be executed.
Remedy	Alter the program.

2273 Array invalid

Cause	No array may be specified here.
Effect	The program cannot be executed.
Remedy	Alter the program.

2274 Type actual/formal parameter incompatible

Cause	The parameters in the subprogram or function call are not compatible with the subprogram or function declaration. **Example**: BOOLb b=TRUE sp(b) ... DEF sp(var:IN) INTvar END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INTb b=4 sp(b) ... DEF sp(var:IN) INT var END

2275 Type actual/formal parameter incompatible

Cause	The parameters in the subprogram or function call are not compatible with the subprogram or function declaration. **Example**: BOOLb b=TRUE sp(b) ... DEF sp(var:IN) INTvar END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INTb b=4 sp(b) ... DEF sp(var:IN) INT var END

2276 Dimension incompatible

Effect	The program cannot be executed.
Remedy	Alter the program.

2277 Array dimension greater than 1 inadmissible here

Effect	The program cannot be executed.
Remedy	Alter the program.

2278 Return value: string constant array invalid

Effect	The program cannot be executed.
Remedy	Alter the program.

2279 Type return value incompatible with type function

Cause	The return value of the function does not correspond to the function type. **Example**: DEFFCT BOOLalf() REALHugo Hugo=1 RETURN(Hugo) ENDFCT
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEFFCT REALalf() REAL Hugo Hugo=1 RETURN(Hugo) ENDFCT

2280 Right operand: parentheses invalid in path expressions

Cause	Parentheses inadmissible for right operand.
Effect	The program cannot be executed.
Remedy	Alter the program.

2281 Parentheses inadmissible for path expressions

Cause	Parentheses inadmissible for path expressions.
Effect	The program cannot be executed.
Remedy	Alter the program.

2282 First constant incompatible with this constant

Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2283 Constant type incompatible with expr. type in SWITCH

Effect	The program cannot be executed.
Remedy	Alter the program.

2284 No selection of entire arrays

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2285 Component name expected

Cause	A component name has not been specified, e.g. in the aggregate of a structure. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo ={ 1, b 2.2}
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo = { a1, b 2.2}

2286 Component specified twice

Cause	A component name has been specified twice, e.g. in the aggregate of a structure. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo = {a 1, b 2.2, a 4}
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: STRUC Otto INT a, REAL b DECL Otto Hugo = {a 1, b 2.2}

2287 “,” or “}” expected

Cause	One of the symbols “,” or “}” is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2288 “]” expected

Cause	The “]” symbol is missing or incorrectly positioned. **Example**: SIGNAL Hugo $OUT[2
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: SIGNAL Hugo $OUT[2]

2289 Range specified incorrectly

Effect	The program cannot be executed.
Remedy	Alter the program.

2290 Constant expected

Cause	Specification of a constant is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2291 Name of a structure data type expected

Effect	The program cannot be executed.
Remedy	Alter the program.

2292  No data type name: creation inadmissible

Effect	The program cannot be executed.
Remedy	Alter the program.

2293  Component not declared as array

Cause	The component was not declared as array.
Effect	The program cannot be executed.
Remedy	Alter the program.

2294  “#” expected

Cause	The “#” symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2295  Array components cannot be indexed

Cause	An attempt has been made to index an array component.
Effect	The program cannot be executed.
Remedy	Alter the program.

2296  Not a name of a constant of this type

Cause	The constant name is not compatible with the data type.
Effect	The program cannot be executed.
Remedy	Alter the program.

2297 Component Declared as array: indexing expected

Cause	The component is an array; indexing is required for unambiguous assignment.
Effect	The program cannot be executed.
Remedy	Alter the program.

2298 Aggregate type (POS) incompatible with context

Effect	The program cannot be executed.
Remedy	Alter the program.

2299 Expected constant type unknown

Effect	The program cannot be executed.
Remedy	Alter the program.

2300 Not a name of an ENUM data type

Cause	An enumeration data type name is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2301 Not an AXIS component

Cause	A component of data type “AXIS” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2302 Not a FRAME component

Cause	A component of data type “FRAME” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2303 Not a POS component

Cause	A component of data type “POS” is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2304 Incorrect end of parameter list

Cause	The parameter list was not completed correctly. **Example**: DEF Sp(x:IN) INT x END DEF Prog() INT Var Var= 1 Sp(Var;) END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Sp(x:IN) INT x END DEF Prog() INT Var Var= 1 Sp(Var) END

2305 Name of a subroutine expected

Cause	The name of a subroutine is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2306 Relative path invalid

Effect	The program cannot be executed.
Remedy	Alter the program.

2307 Analog input expected

Cause	An analog input signal is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2308 Digital input expected

Cause	A digital input is expected.
Effect	The program cannot be executed.
Remedy	Alter the program.

2309 “(” expected

Cause	The “(” symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2310 Digital input inadmissible here

Cause	A digital input is not admissible here.
Effect	The program cannot be executed.
Remedy	Alter the program.

2311 Type of formal parameter invalid

Cause	The type of the formal parameter is invalid.
Effect	The program cannot be executed.
Remedy	Alter the program.

2312 Program not available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2313 No error

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2314 No file name specified

Cause	No file name has been specified.
Effect	The program cannot be executed.
Remedy	Alter the program.

2315 File name too long

Effect	The program cannot be executed.
Remedy	Alter the program.

2316 File name may not contain “.”

Effect	The program cannot be executed.
Remedy	Alter the program.

2317 Hierarchy. No. not in search path

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2318 Parameters to be declared in module

Effect	The program cannot be executed.
Remedy	Alter the program.

2319 ON, OFF, ENABLE, DISABLE, DECL expected

Cause	One of the keywords “ON”, “OFF”, “ENABLE”, “DISABLE” or “DECL” is missing or incorrectly positioned. **Example**: INTERRUPT
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INTERRUPT ON

2320 Signal name cannot be changed

Cause	The signal name has been changed inadmissibly.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2321 Predefined signal cannot be changed

Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2322 Signal types are different

Effect	The program cannot be executed.
Remedy	Alter the program.

2323 Signal type cannot be changed

Effect	The program cannot be executed.
Remedy	Alter the program.

2324 Double declaration

Cause	The name used has already been given to a different object.
Effect	The program cannot be executed.
Remedy	Alter the program.

2325 Type unknown

Cause	In a declaration, a data type is used which has not been declared or which is unknown locally.
Effect	The program cannot be executed.
Remedy	Alter the program.

2326 Name expected

Cause	The specification of a name is missing in the expression, or the specification does not conform to the rules, e.g. just numbers in a variable name. **Example**: BOOL
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: BOOL Hugo

2327 Type expected

Cause	The specification of a data type is expected. **Example**: DEFFCT Ida(x1:IN) ... ENDFCT
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEFFCT REALIda(x1:IN) ... ENDFCT

2328 “:” expected

Cause	The “:” symbol is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2329 Combined analog signals inadmissible

Effect	The program cannot be executed.
Remedy	Alter the program.

2330 Name of a signal expected

Cause	The name of a signal is missing in the program line. **Example**: ANOUT OFF
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ANOUT OFF $ANOUT[2]

2331 Analog output expected

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2332 Array element/variable not type REAL

Cause	An array element or variable of data type “REAL” is expected in the program line.
Effect	The program cannot be executed.
Remedy	Alter the program.

2333 “*” expected

Cause	The “*” symbol is missing or incorrectly positioned. **Example**: ANOUT ON Wire = .5 Value
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ANOUT ON Wire = .5 * Value

2334 REAL constant, variable or array element expected

Cause	A REAL constant, variable or array element is required. **Example**: ANOUT ON Wire = .5 * Factor + 1
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ANOUT ON Wire = .5 * Factor + 1.0

2335 Combined signal more than 32 bits

Cause	A maximum of 32 inputs or outputs can be grouped together under one signal. **Example**: SIGNAL $DIGIN1 $IN[200] TO $IN[232] (corresponds to 33 inputs)
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: SIGNAL $DIGIN1 $IN[200] TO $IN[231]

2336 ON or OFF expected

Cause	The keyword “ON” or “OFF” is missing in the program line. **Example**: ANOUT $ANOUT[2]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: ANOUT OFF$ANOUT[2]

2337 Array limits invalid in parameter specification

Cause	Array limits have been entered in a parameter specification. **Example**: DEF Hb(a[]:IN) INT a[5]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Hb(a[]:IN) INT a[]

2338 Array limits invalid in parameter specification

Cause	Array limits have been entered in a parameter specification. **Example**: DEF Hb(a[]:IN) INT a[5]
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF Hb(a[]:IN) INT a[]

2339 Teach-in for type invalid

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2340 Recompile block

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2341  INT. constant not equal 0 expected

Cause	The specification of an integer constant not equal to 0 is missing. **Example**: INT i i=1 FOR i=1 TO 7 STEP ... ENDFOR
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INT i i=1 FOR i=1 TO 7 STEP2 ... ENDFOR

2342  Name more than 24 characters

Cause	The name may not be more than 24 characters long.
Effect	The program cannot be executed.
Remedy	Alter the program.

2343  No global procedure available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2344  DISTANCE or PATH expected

Cause	One of the keywords “DISTANCE” or “PATH” is missing or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2345 DELAY expected

Cause	The keyword “DELAY” has been omitted or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2346 PRIO expected

Cause	The keyword “PRIO” has been omitted or incorrectly positioned.
Effect	The program cannot be executed.
Remedy	Alter the program.

2347 Value for PRIO inadmissible

Cause	The value specified for the priority is outside the permissible range. **Example**: INTERRUPT ON 522
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: INTERRUPT ON 22

2348 DISTANCE: only 1 or 0 allowed

Cause	Only the values 1 and 0 may be assigned to the switching point “DISTANCE”.
Effect	The program cannot be executed.
Remedy	Alter the program accordingly.

2349 Assignment to constant not permissible

Cause	An attempt has been made to assign a value to a constant. **Example**: DAT file: DECL CONST INT Leave SRC file: Leave = 5
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DAT file: DECL CONST INT Leave = 5

2350 Runtime data of the main program cannot be used

Cause	The runtime variables of a main program may not be used in a subprogram, even if both programs have been declared in one SRC file. **Example**: DEF P() INT x x=1 END DEF P2() x=2 END
Effect	The program cannot be executed.
Remedy	Alter the program. **Example**: DEF P() INT x x=1 END DEF P2() INT x x=2 END

2351 Runtime data cannot be used

Cause	Runtime data may not be used. **Example**: DEF P() DECL INT xxx xxx = 1 INTERRUPT DECL 10 WHEN TRUE DO Sp(xxx) ... END
Effect	The program cannot be executed.
Remedy	Use permanent variables from the DAT file instead of runtime variables. **Example**: DEFDAT P DECL INT xxx = 1 ENDDATDEF P() INTERRUPT DECL 10 WHEN TRUE DO Sp(xxx) ... END

2352 $OUT_C(n) not allowed here

Cause	$OUT_C[n] may not be used in trigger or interrupt declarations or on the right-hand side of an assignment.
Effect	The program cannot be executed.
Remedy	Alter the program.

2353 Combined OUT_C signal inadmissible

Effect	The program cannot be executed.
Remedy	Alter the program.

2354 no matching endspline found

Cause	Endspline not found for spline.
Effect	The program is not syntactically correct.
Remedy	Alter the program accordingly.

2355 statement not allowed within spline block

Cause	An inadmissible statement has been used in a spline block.
Effect	Syntax error in program.
Remedy	Alter the program accordingly.

2356 Tool/Base Option not correct

Cause	The tool/base option of the LIN_REL command was not programmed correctly.
Effect	Syntax error in program is indicated.
Remedy	Alter the program accordingly.

2357 syntax error in with option

Cause	A syntax error has been detected in the WITH option.
Effect	The program is not syntactically correct.
Remedy	Alter the program accordingly.

2358 WITH option outside spline block is not allowed

Cause	A WITH option has been programmed outside a spline block.
Effect	Syntax error in module.
Remedy	Alter the program accordingly.

2359 The usage of this KRL statement is not allowed within a spline block

Cause	An impermissible KRL statement has been used in a spline block.
Effect	Syntax error in module.
Remedy	Alter the program accordingly.

2360 Blending options are not allowed within a splineblock

Cause	Blending parameters have been programmed in a spline block.
Effect	Syntax error in module.
Remedy	Alter the program accordingly.

2361 Importing global variables not allowed

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2362 all components of GLOBAL varibable / type must be also GLOBAL

Cause	GLOBAL type or GLOBAL variable has components that are not GLOBAL.
Effect	Error in program due to errors in symbol tables.

2700 <Object name> block not available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2701 <Object name> block too long

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2702 <Object name> block too long or incorrectly completed

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2703 **Too many elements in <object name> array**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2704 **<Object name> no dynamic memory available**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2705 **Block <object name> cannot be formatted**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2706 **Block <object name> cannot be decompiled**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2707 **<Object name> block not available**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2708 **Stacking depth <object name> exceeded**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2709  <Object name> link list cannot be extended

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2710  <Object name> too many local subroutines

Effect	The program cannot be executed.
Remedy	Alter the program.

2711  <Object name> has reached maximum size

Cause	When a module has reached the maximum size (65536 bytes), a message appears, e.g. “SRC HAS REACHED MAXIMUM SIZE AND CANNOT BE EXPANDED”.
Remedy	Reduce size accordingly.

2712  <Object name> not enough memory: file cannot be opened

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2713  <Object name> no physical memory available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2714  <Object name> no virtual memory available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2800  Internal compiler error <object name>

Cause	An error has occurred in the compiler.
Effect	The program cannot be executed.
Remedy	Reboot the controller. Alter the program if necessary.

2801  <Object name> error in memory manager <error number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2803  Undefined syntax error

Cause	An unknown syntax error has occurred.
Effect	The program cannot be executed.
Remedy	Alter the program.

2804  Internal error (file: <file name>, line: <line number>, value: <return value>)

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2805  Internal error (file: <file name>, line: <line number>, value: <return value>)

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2806  The workspace <ws name> was manually freed

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2807  **deadlock exists; local program is waiting for '<WorkspaceName>' owned by program '<RemoteProgram>' (<RemoteKrc>)**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2808  **The workspace <ws name> was taken out of sequence. This state can lead to deadlock**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2809  **The workspace <ws name> does not exist on <KRC name>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2810  **The workspace referenced has not been defined**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2811  **Unable to connect to <KRC name>. Check connection**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2812  **exitspace <ws name> failed - unable to connect to <KRC name>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2813  The workspace <ws name> is currently not owned by any program

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2814  The workspace <ws name> is currently owned by another program

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2815  The workspace definition has changed. The program must be updated

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2816  Mutual Exclusion Internal System Error

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2817  Ackn. Encoder battery fault <axis>

Cause	There is a battery fault in the encoder of the specified axis.
Remedy	Exchange battery.

2818  Ackn. cabinet fan failure

Cause	Fan in cabinet is defective.
Effect	Overheating of the hardware in the cabinet.
Remedy	Check fan and exchange if necessary.

2819  Line selection to subroutine already active

Cause	This message only appears if LINE_SEL_LOCAL_SUB is set to TRUE in progress.ini.

2820  Line selection to subroutine while <#BSTEP / Interrupt> not allowed

Cause	This message appears if LINE_SEL_LOCAL_SUB is set to TRUE in the file “progress.ini”. The user attempted to select the statement of a local subroutine that was not located in the Caller Stack while the program # BSTEP - Mode or an Interrupt was being executed. This is not permissible.
Remedy	Alter the program accordingly. Acknowledge message.

2821  $ORI_TYPE implicitly set to #VAR

Cause	$IPO_MODE is set to #TCP (external TCP) and $ORI_TYPE is set to #JOINT. This combination is not possible. This message is only generated in the modes T1 and T2.
Effect	$ORI_TYPE is implicitly set to #VAR.
Remedy	Either set $IPO_MODE to #BASE or set $ORI_TYPE to #VAR or #CONSTANT.

2822  Blending $ORI_TYPE=#VAR/#CONSTANT to $ORI_TYPE=#JOINT not possible

Cause	Inconsistent axis angle in CP-CP approximation from $ORI_TYPE=#VAR or #CONSTANT to $ORI_TYPE=#JOINT. This happens if one of the wrist axis angles turns too greatly during a non-OriJoint CP motion (see also message no. 1491).
Effect	Exact positioning is carried out.
Remedy	Avoid excessive rotation of the wrist axis angles during non-OriJoint motion.

2823 STOP The requested workspace is not managed by the selected remote manager

Cause	The manager configured for the workspace is incorrect.
Effect	ENTERSPACE failed. The program must be deselected.
Remedy	The correct manager for the workspace must be entered.

2824 The workspace '<WorkspaceName>' was manually freed at a remote controller (<KrcName>)

Cause	The workspace has been released manually by a remote controller.
Effect	The workspace has been released and will be assigned to the next controller that requests it.

2825 STOP A submit program is not able to execute Workspace Sharing commands

Cause	A workspace command has been executed in the submit interpreter. This is not permissible.
Remedy	The workspace command must be removed from the submit program.

2826 STOP Too many workspaces owned by local programs. 'Release All' will free workspaces

Cause	This controller has control of too many workspaces. The maximum is 32 workspaces.
Effect	This workspace cannot be assigned to the controller.
Remedy	The user must release unused workspaces.

2827 STOP The workspace <workspace> is managed by <manager name/ip address>

Cause	More than one controller has been entered as the manager (administrator) for this workspace.
Effect	Only one manager per workspace is permissible.
Remedy	A single manager must be configured for the workspace within the cell.

2828  The owner (<krc name>) of workspace '<Workspacename>' could not be reached - network error

Cause	The workspace assignment could not be carried out, as the new owner of the workspace could not be reached.
Effect	The owner of the workspace will wait at the workspace, as it does not receive the message that the workspace has been released.
Remedy	Check the network connection.

2829  OriJoint not possible: Configuration of start and target position differs

Cause	During an OriJoint motion, the "elbow configuration" (axes 2/3) at the end point of the motion differs from that at the start point of the motion. This means that the motion to the end point was not executed with the programmed orientation.
Effect	The motion cannot be executed with $ORI_TYPE=#JOINT.
Remedy	Set $ORI_TYPE=#VAR or #CONSTANT. Change the orientation of the end point.

2830  PTP motions are prohibited on moving frames

Cause	PTP motions relative to moving frames are not permissible.
Remedy	Teach the end point relative to a fixed frame, such as WORLD, or execute the motion as a Cartesian motion (e.g. LIN).

2832  Invalid name - The workspace name already exists

Cause	The workspace name already exists.
Remedy	The name cannot be used. Select a different unambiguous name.

2833  The workspace is in use - its definition cannot be changed

Effect	The workspace is in use - its definition cannot be changed.
Remedy	This workspace cannot be requested before the definition of the workspace has been changed.

2834  Line selection to local function not allowed

Cause	A line selection to a local function has been attempted.
Effect	Block selection is not carried out.
Remedy	Call the local function from the main program.

2835  Maximal Cartesian acceleration exceeded

Cause	The maximum Cartesian acceleration has been exceeded. $ACC_CAR_STOP=TRUE and $ACC_CAR_ACT exceeds $ACC_CAR_LIMIT.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Modify the program accordingly to stay within the permissible acceleration limits. Alternatively, the value for the acceleration ($ACC_CAR_LIMIT) can be increased or monitoring of the acceleration can be deactivated ($ACC_CAR_ACT=FALSE).

2836  Failed to notify other cell controllers of data change (<System variable name>).

Cause	An internal message handling problem prevents modification data from being sent to the other controllers in the cell.
Effect	The other controllers in the cell cannot react accordingly.
Remedy	Reboot the robot controller affected.

2837  RoboCoaster System. Download rejected

Cause	In ROBOCOASTER status, an attempt was made to load a machine data file although it is already entirely present.

2838  Normal stop requested by <Machine name / IP address>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2839  **E-Stop requested by <Machine name / IP address>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2840  **Linked jogging cannot be started**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2841  **Remote start received from non-master: <Machine name / IP address> (non-master)**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2842  **Connection lost with machine <IP address>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2843  **Version (<Message version number>) mismatch for message from <IP address>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2844  **Unable to maintain motion synchronization**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2845 STOP $FILTER mismatch: local=<Local machine $FILTER>; remote-synched=<Remote machine $FILTER>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2846 STOP Invalid value for $Simulated_Axis

Cause	Invalid value for “$Simulated_Axis”.
Effect	The impermissible value has been rejected and the previous value is being used.
Remedy	“$Simulated_Axis” is a bit mask based on the number of axes. The value for “$Simulated_Axis” must not be negative and must be equal to or less than 0x0FFF.

2847 STOP EB-Assignment not allowed

Cause	The EB instruction was not correctly used in a $BASE instruction.
Effect	Interpreter stop and robot stop.
Remedy	Correct the $BASE=EB(...) instruction.

2848 STOP MDR: Devicename unknown

Cause	A device name was used that is not in the device list.
Effect	Interpreter stop and robot stop.
Remedy	Use the correct name.

2849 STOP MDR: Device not of type <correct device type>

Cause	Device is not of the correct type.
Effect	Interpreter stop and robot stop.
Remedy	Use a device of the correct type.

2850 MDR: Status of device not active

Cause	An MDR / EB command has been called, but the device status was not ACTIVE.
Effect	Interpreter stop and robot stop.
Remedy	Set device status to ACTIVE.

2851 MDR: Motion driver base has moved

Cause	A motion relative to a moving base was interrupted.
Effect	Robot stops.
Remedy	Use a different base.

2852 MDR: PTP not allowed while motion driver base active

Cause	A PTP motion was programmed while motion driver base was active.
Effect	Interpreter stop and robot stop.
Remedy	Remove the PTP motion.

2853 MDR: State switch not allowed

Cause	The change of state with “MD_SETSTATE()” is not permissible.
Effect	Interpreter stop and robot stop.
Remedy	The following is permitted: INITIALIZED <-> ACTIVE If the INITIALIZED state is not possible, this means that an error occurred during initialization.

2854   MDR: Motion driver returns error <error number>

Cause	An error message was generated when the motion driver was called.
Effect	Interpreter stop and robot stop.

2855  Single brake module <axis number> not configured

Cause	The single brake module with the specified axis number has not been configured.
Effect	The brake is controlled via a different channel or not at all.
Remedy	Configure single brake module or modify machine data accordingly.

2856  MDR: Change of filter not allowed

Cause	Change of filter while MDR base active.
Effect	Interpreter stop and robot stop.
Remedy	Do not change filter while MDR base is active.

2857  System recovered from hibernate mode

Cause	The system has been restored following a power failure.
Effect	n/a.
Remedy	n/a.

2858  Acknowledge stop due to field bus error

Cause	Acknowledgement of a stop caused by a field bus error.
Effect	Commands inhibited and Drives OFF canceled.

2859 STOP Ackn. Communication error with CAN-RDC <axis number>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2860 STOP KCPDRV: Safety Flag Violation

Cause	Different safety status in teach pendant (KCP) and in driver.
Effect	The KCP is re-initialized.
Remedy	Acknowledge error message.

2861 KCPDRV: Watchdog Error

Cause	CAN bus error, CAN bus overflow and timeout of the Alive signal.
Effect	The KCP is re-initialized.
Remedy	Acknowledge message.

2862 KCPDRV: KCP Message Handler failed to start

Cause	CAN controller cannot be initialized.
Effect	Communication on the CAN bus is faulty.
Remedy	Acknowledge message, check cable connections to KCP.

2863 KCPDRV: Unknown error code<>

Cause	The KCP driver returned an unknown error message.
Remedy	Please contact KUKA Technical Support.

2864  Sync commands are simulated (<Simulated controllers>).

Cause	Global simulation of the sync commands has been activated for the specified controllers. Simulated controllers for program synchronization points and synchronous motions are not considered.
Effect	Local sync commands always act as if the controller concerned had reached the synchronization point first.
Remedy	Deactivate in the “Cell Map Simulation” dialog.

2865  Max. no. of enter/exit requests between motion statements reached

Cause	Too many enter/exit requests between two motion statements.
Effect	The program is stopped.
Remedy	Alter the program accordingly. Reduce the number of requests.

2866  Enter/exit requests cannot be issued with triggers

Cause	An enter/exit request with triggers has been generated.
Effect	The command is not executed.
Remedy	Alter the program accordingly.

2867  MDR: Motion in interrupt not possible when MDR base active

Cause	A motion has been executed in interrupt while MDR base was active
Effect	The robot stops.
Remedy	Alter the program accordingly.

2868 STOP PTP target position in singularity <Name of singularity>

Cause	The Cartesian target position of a PTP motion lies in the singularity. The corresponding axis position can therefore not be determined (it is normally implicitly set to 0 degrees).
Effect	If the switch STOP_AT_PTP_SINGULARITY is in the TRUE position, this motion cannot be executed, except in T1 and MSTEP. In MSTEP only the hint message (with no reaction) is displayed.
Remedy	Move to the point with MSTEP in T1 and change the target position so that it is no longer in the singularity.

2869 Line selection failed, Robot: <Remote robot>

Cause	Block selection on the remote controller failed. No program or incorrect program selected, or the programs are not identical.
Effect	Block selection is not executed.
Remedy	Select correct program.

2870 DSE - Boot finished

Cause	DSE boot procedure has finished.

2871 STOP Workspace request for '<ws_name>' failed

Cause	The workspace request via the KRL program failed. This can be due to a variety of causes (failed connection, unavailable workspace, etc.)
Effect	Program execution is stopped.
Remedy	Acknowledge message. Press the Start key to begin a new request.

2873 LTC: initialization failed (Reason: <Reason>)

Cause	The LTC task is not correctly initialized.
Effect	The LTC task collects and indicates no data to the Windows client.
Remedy	Copy the file "LTC_Para.ini" into the directory "\INIT". Configure robot with at least 6 axes. Activate dynamic model.

2874 STOP Skip number '<Missing skip number>' is missing

Cause	The interpreter runs to an undefined endskip symbol.
Effect	Program error is displayed.
Remedy	Correct program accordingly.

2875 STOP Endskip number '<Missing skip number at end>' is missing

Cause	A jump address does not end with the corresponding endskip number at the end of the program.
Effect	Program error is displayed.
Remedy	Correct program accordingly.

2876 STOP MDR: ORI_TYPE joint not allowed when MDR base active

Cause	Ori_Type JOINT is programmed and an MDR base ($BASE=EB(...)) is active. This is not permissible.
Effect	The robot is stopped.
Remedy	Use a different Ori_Type.

2877 STOP Skip statements mustn't be nested

Cause	Nested skip statements in the program
Remedy	Alter the program accordingly. See also the documentation.

2878 STOP Skip Nr '<skip number>' already in use

Cause	This skip number is already being used.
Remedy	Use a different number.

2879  <File format>: Record <record name> not available

Cause	The record is not available or was not found.
Effect	Command is not executed.
Remedy	Create or load a record.

2880  <File format>: Record <record name> busy

Cause	The record is currently being used in a different command.
Effect	Command is not executed.
Remedy	Wait until the other command has been completed.

2881  <File format>: Invalid configuration for <record name>

Cause	Format of the configuration file not permissible. Too many variables are configured for the recording.
Effect	Recording cannot be started
Remedy	Check the configuration. Reduce the number of variables for the recording.

2882  <File format>: No memory available for <record name>

Cause	There are too many records in the main memory.
Effect	The command is not executed.
Remedy	Remove some of the other records.

2883  <File format>: File <file name> cannot be opened

Cause	Read operation: File not present. Write operation: File or storage medium is write-protected or no free memory space.
Effect	The command is not executed.
Remedy	Read operation: Create the file. Write operation: Remove the write protection or increase the storage space available by deleting unrequired files.

2884 <File format>: Record <record name> exists

Cause	A record with the same name already exists.
Effect	The command is not executed.
Remedy	Delete the existing file.

2885 <File format>: Invalid file format <record name>

Cause	The file format is not valid.
Effect	The command is not executed.
Remedy	Correct the file format accordingly.

2886 <File format>: Unknown command

Cause	The command string is incorrect. The command is not known.
Effect	The robot is stopped.
Remedy	Use the correct command syntax.

2887 <File format>: Task for <record name> cannot be spawned

Cause	There are too many EMS commands active and running in different tasks.
Effect	The command is not executed.
Remedy	Wait until another command has been executed.

2888 <File format>: Maximum number of simultaneous recordings

Cause	Depending on the driver, the number of simultaneous recordings may be limited, with only one recording possible at any one time.
Effect	The recording is not started.
Remedy	Wait until another recording has been completed.

2889  <File format>: Change of <variable> not allowed during recording of <record name>

Cause	Depending on the EMS driver, the changing of system variables ($tool, $base, $ipo_mode and others) during a recording is not permitted.
Effect	The recording is stopped.
Remedy	Do not change system variables during a recording.

2890  <File format>: Unknown Error

Cause	An unknown error occurred with the EMI driver.
Effect	The robot is stopped.
Remedy	Contact the manufacturer of the driver.

2891  <File format>: Error when starting recording <record name>

Cause	An error occurred when starting the recording.
Effect	The recording is not started.
Remedy	Contact the KUKA Service department.

2892  <File format>: Error during recording of <record name>

Cause	A driver-specific error occurred during the recording.
Effect	The recording is stopped.
Remedy	Contact the KUKA Service department.

2893  <File format>: Error restoring variables for record <record name>

Cause	Error in I/O system.
Effect	The robot is stopped.
Remedy	Check the I/O system.

2894  <File format>: Current position and start position <record name> not identical

Cause	Robot is in the wrong position.
Effect	The robot is stopped.
Remedy	Move the robot to the start position for the recording.

2895  <File format>: Variable <variable> and value in <record name> differ

Cause	Incorrect value of a system variable, typically $tool, $base, $ipo_mode ...
Effect	The robot is stopped.
Remedy	Set a correct value for the system variable.

2896  <File format>: Error while executing motion <record name>

Cause	A driver-specific error occurred during execution of the motion.
Effect	The recording is stopped.
Remedy	Contact the KUKA Service department.

2897  <File format>: Maximum recording time exceeded for <record name>

Cause	Missing stop command or motion duration is too long.
Effect	Unusable recording.
Remedy	Call the stop command before reaching the maximum possible recording duration.

2898  <File format>: Record <record name> will be removed from memory

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2899 Start blocked (Controller: <controller>, Reason: <reason>)

Cause	Cooperating Robots: The start is blocked because one of the robots in the group has not met a precondition (for more details see Reason parameter).
Effect	The start is not executed until the incorrect state on the corresponding robot has been rectified.
Remedy	Remove the reason for the blocked start on the relevant controller.

2900 No more virtual memory available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2901 No more physical memory available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2902 <Object name> has been expanded. Module is ready

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2903 <Object name> has reached max limit size. Cancel required

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2904 <Object name> could not be expanded. No more virtual memory available

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2905  endspline is missing

Cause	KS not complete. Spline without endspline.

2906  <File format>: Error loading <record name>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2907  <File format>: Error saving <record name>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2908  <File format>: Error starting motion <record name>

Cause	The start position is incorrect. The output variable cannot be written.
Effect	The motion is not executed.
Remedy	Check the record files. Check the I/O system.

2909  <File format>: Command not possible for <record name>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2910  MDR: BCO motion not allowed if MDR-base invalid

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2911  **MDR: Moving MDR-base not allowed**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2912  **Imminent collision with robot <robot name>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2913  **Collision Avoidance: Unknown Load: <tool name>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2914  **Collision Avoidance: Unknown destination <destination name>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2915  **Collision Avoidance Version mismatch with robot <robot name>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2916  **Program Cooperation version (<Message version number>) mismatch for message from <Controller name or IP address>**

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2917  Can't activate new LK() - link in interrupt program

Cause	In an interrupt program, it is not permitted to execute a base assignment with "LK()" if the associated independent machine, specified by "LK()" in the IP parameter, has not already been assigned by "LK()" as the base in the motion that was interrupted.
Effect	Program is stopped.
Remedy	Alter the interrupt program accordingly (remove base assignments).

2918  Backward scan for cooperating robots not possible

Cause	The variable $SpreadAction has a value >1, and the trace buffer for the backward motion is empty.
Effect	A backward motion in Scan mode is not possible for a configured start group.
Remedy	Set variable $SpeadAction=0.

2921  Local clock not synchronized during motion cooperation

Cause	The local clock must be synchronized with the remote clock during common motion cooperation.
Effect	Program execution was stopped.
Remedy	Ensure that the clock synchronization has been installed and is working correctly.

2922  Clock on <Name or IP of remote machine> not synchronized.

Cause	The local clock must be synchronized with the remote clock during common motion cooperation.
Effect	Program execution was stopped.
Remedy	Ensure that the clock synchronization has been installed and is working correctly.

2923  Statement not allowed within spline block

Cause	Impermissible statement within a spline...end spline block.
Effect	Syntactically incorrect program.

2924  Tool / base option of statement not correct

Cause	Tool / base option of the lin_rel statement not correctly programmed.
Effect	Program syntax not correct.

2925  Ackn. short circuit DC link <power module number>

Cause	Current to be supplied by the KPS is too high.
Effect	KPS shuts down to protect itself.

2926  Ackn. peak current too high <power module number>

Cause	Peak current to be supplied by the KPS is too high.
Effect	KPS shuts down to protect itself.
Remedy	Reteach the robot path. Slower robot motion.

2927  Ackn. RMS current too high <power module number>

Cause	RMS current to be supplied by the KPS is too high.
Effect	KPS shuts down to protect itself.
Remedy	Reteach the robot path. Slower robot motion.

2928  Ackn. phase loss <power module number>

Cause	One phase of the AC power supply is defective.
Effect	The KPS cannot supply the desired power.
Remedy	Check for loose connection. Check for break in cable.

2929 STOP

Ackn. Fan error. Change module <axis number> as soon as possible for avoiding breakdown.

Cause	The fan on the drive module of a Cobra controller is defective.
Effect	Drive module is no longer sufficiently cooled.
Remedy	Check that the fan is free to rotate, exchange the fan.

2930 STOP

Cannot link to local machine

Cause	The local program has requested a link to the local controller.
Effect	Program execution was stopped.
Remedy	Change the program accordingly so that no link to the local controller is requested.

2931 STOP

The Program Cooperation option is not installed. Command cannot be executed.

Cause	A program cooperation command cannot be executed because the Cooperating Robots program is not installed or has not been correctly configured.
Effect	The command is not executed.
Remedy	Install or configure the Cooperating Robots program or remove the program cooperation commands from the KRL program.

2932 STOP

One or more controllers are sync simulated in Auto mode.

Cause	Global simulation of the sync commands has been activated for one or more controllers. Operating mode was switched from T1/T2 to AUT/EXT.
Effect	Local sync commands always act as if the controller concerned had reached the synchronization point first.
Remedy	Deactivate in the “Cell Map Simulation” dialog.

2933 STOP

Ackn. deviation in absolute position value DSE - RDC axis <axis number>

Cause	Follow-up message after the status message “Deviation in absolute position value DSE - RDC axis <axis number>”.
Remedy	Acknowledge message.

2934 STOP Cannot link to <Master name or IP address> without common shared pendant

Cause	Links are only allowed between controllers that have a shared KCP.
Effect	Program execution was stopped.
Remedy	Configure the shared KCP so that the independent and the dependent machine use the same shared KCP.

2935 STOP Cannot spread actions with <Controller name or IP address> without common shared KCP

Cause	An attempt has been made to link actions with other controllers that are not controlled by the same shared KCP.
Effect	Execution not possible.
Remedy	Configure the two controllers so that both use the same shared KCP.

2936 STOP $CP_STATMON: wrong axis value

Cause	An axis angle that has been reached differs from the programmed axis angle.
Effect	After block selection within a sequence of CP points, it can happen that an axis angle differing from the programmed one may result in a complete rotation of the robot wrist (risk of damage to the installed supply lines). The following block may also result in the robot hitting the software limit switch. In the case of a subsequent PTP block, there is a danger that the motion path may be completely changed compared with the original path.
Remedy	Teach this exact positioning point again. If necessary, repeat the BCO run with different axis angles.

2937 $CP_STATMON: approximation not possible

Cause	On the basis of the setting of the CP configuration monitoring, the program has established that one or more of the programmed axis angles do not correspond to the current axis angles.
Effect	The program cannot approximate this point and moves to the exact positioning point.
Remedy	If required, reprogram the exact positioning point.

2938 STOP Inconsistent sync list detected

Cause	The list of controllers participating in the synchronization is not consistent among the controllers.
Effect	Program execution is stopped.
Remedy	Ensure that the list of the controllers taking part in the synchronization is the same on all controllers.

2939 STOP LK master (<Master name or IP address>) missing in time sync list

Cause	A synchronous motion was programmed in which the LK() master does not take part.
Effect	Path stop.
Remedy	Synchronously program the LK() master.

2940 STOP Active cyclic flag limit is exceeded. Max 32

Cause	The number of 32 active cyclical flags has been exceeded.
Effect	During command execution: Command is not executed. During program execution: Ramp-down braking. All active commands inhibited.

2941 STOP IBGN end '<IBGN number>' is missing

Cause	An "IBGN" start has been programmed without a corresponding "IBGN" end.
Effect	Execution not possible.
Remedy	Alter the program accordingly.

2942 STOP IBGN statements must not be nested

Cause	Nested "IBGN" statements were programmed.
Effect	Execution not possible.
Remedy	Alter the program accordingly.

2944 STOP IBGN number '<IBGN number>' already in use

Cause	Duplicated use of an IBGN number.
Effect	Execution not possible.
Remedy	Alter the program accordingly.

2945 STOP Timeout switching off force control <axis number>

Cause	The force control on the DSE does not switch off within the specified time. A possible cause could be a missing sensor signal.
Effect	Maximum braking.
Remedy	Check the hardware (DSE, RDC and force sensor).

2946 STOP Ackn. encoder cable failure ext. posinput <axis number>

Cause	Follow-up message to status message: “Encoder cable failure ext. posinput”. Cyclic.
Effect	Path-maintaining braking. Output $ALARM_STOP 0 signal. All active commands inhibited.
Remedy	Acknowledge message.

2947 STOP MDR: IPO_MODE TCP not allowed

Cause	IPO_MODE TCP was set when “MDR base” was active.
Effect	The robot stops.
Remedy	Do not set IPO_MODE TCP when “MDR base” is active.

2948 STOP Ackn. force controller error <axis number> no.: <error type>

Cause	This is the follow-up message to the message “Force controller error”. Force sensor signal does not match motion. Error type no. 1: Actual force changes and position remains constant. Error type no. 2: Position changes and actual force remains constant. Error type no. 3: The gun opens further than the position corresponding FORCE_LIM. These monitoring functions are only active during force control.
Effect	Dynamic braking. Active commands inhibited. Output “ALARM_STOP” has signal level 0.
Remedy	Acknowledge message. Check force sensor. Check force sensor cable. Check RDC plug-on card. **Note**: Monitoring functions are only active during force control.

2949 STOP Time synched motion requires equal program run mode on all controls

Cause	At least two controllers are switched to different program run modes.
Effect	Path stop motion is rejected by the interpreter and, after acknowledgement of the message, motion is executed in asynchronous mode.
Remedy	Switch all controllers to the same program run mode and, if necessary, execute block selection to the previous motion instruction.

2950 STOP Duplicate active sync ID (<character string ID of the sync>).

Cause	The KRL program issued a program or motion synchronizing command with the same identification as that of a different program or motion synchronization. This can occur, for example, with the commands “NOWAIT”, “SYNCS”, ..., or while the robot program is waiting for a synchronization command and another synchronization command with the same identification is generated.
Effect	Command is not executed.
Remedy	Assign an unambiguous identification to every program or motion synchronization command.

2951 STOP Ackn. drives disabled <power module number>

Cause	Drive enable signal sent to KPSi of a Cobra controller.
Effect	None.
Remedy	Acknowledge message.

2952 STOP Ackn. connection lost during motion cooperation

Cause	Connection to remote controller interrupted.
Remedy	Acknowledge message.

2953 STOP Ackn. loss of clock synchronization

Cause	Connection to other controller interrupted. Clock not synchronized during motion cooperation.
Remedy	Acknowledge message.

2954 Invalid operation, clock master already exists

Cause	An attempt was made to configure this controller as clock master. The procedure failed because there is already a clock master in the cell.
Effect	The controller remains configured as the clock slave.
Remedy	If it is desired to configure this controller as clock master, the existing master must be set to clock slave.

2955 Clock Sync not initialized

Cause	An attempt was made to change the clock synchronization status before this module was initialized.
Effect	The desired change of the clock synchronization status cannot be carried out.
Remedy	Check that the clock synchronization has been installed as an active component of the tech package. If not, the clock synchronization will not be initialized. If it has been installed correctly, reboot the controller to attempt initialization once again.

2956 Brake channel not opened <axis number>

Cause	Brake was not opened because not all axes in this brake channel are under servo-control.
Effect	Error messages, for **example**: Regulator limit exceeded, or Motor blocked.
Remedy	Control all axes in a brake channel together or use individual brake control.

2957 No deadlocks found

Cause	The controller in which a deadlock search was triggered is not waiting for a locked workspace.

2958 Workspace Sharing version (<Message version number>) mismatch for message from <Controller name or IP address>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

2959 Hardware does not support phase voltage monitoring.

Cause	In the file “$OPTION.DAT”, the phase voltage monitoring is configured by “$PHASE_MONITORING=TRUE”, although either the KPS software version is lower than 11 or there is no “DSE-IBS-C33” available.
Effect	Phase voltage monitoring is not active.
Remedy	In the file “$OPTION.DAT”, set the phase voltage monitoring to “$PHASE_MONITORING=FALSE”, or satisfy the necessary hardware prerequisites (KPS software version 11 or higher and “DSE-IBS-C33”).

2960

Current mastering data is saved.

Cause	The operator has saved the current mastering data.
Effect	Even in the event of immediate loss of voltage (without backup), the robot does not lose its mastering, provided it is no longer moved.

2961

Current mastering data was NOT saved.

Cause	Saving of current mastering data failed, either because the robot was not at an absolute standstill (all brakes must be applied), or because the communication interface to the DSE was occupied.
Effect	The current mastering data were not saved.
Remedy	Stop robot, wait until the brakes are applied, and save the current mastering data again.

2962

Ackn. common KSD-Error <axis number>

Cause	Follow-up message to status message “Drives error <axis number> No. <...>”. The KSD of the affected axis signals a general error state. More detailed information about this KSD error state is provided by the follow-up messages displayed subsequently. If the message is displayed without any follow-up messages, this means that the error was present for such a short time in the KSD that the DSE could not read the error number in the KSD before the error state had already gone again. If this happens, the error memory in the affected KSD must be read. To do so, the DSERDW tool must be opened and the code positions for the relevant KSDs must be exported to a log file. Detailed information about the error history is supplied by code positions 162, 163 and 164. The code position 161 contains the current error.
Effect	Path-maintaining braking. All active commands inhibited.
Remedy	Acknowledge message. Inform KUKA Service.

2963

Interrupt with priority <current priority> currently active and defined in <SRC file name> <line number>

Cause	An interrupt declaration is attempting to overwrite an interrupt which is currently active. This would result in the deletion of the currently active interrupt. Although the interrupt to be declared has been defined, it cannot take effect because it has the same priority as the currently active interrupt. On exiting the current subprogram, the newly defined interrupt will be deleted.
Effect	Robot program is stopped. All active commands inhibited.
Remedy	Modify the program accordingly, e.g. select a different priority for the new interrupt. Acknowledge message.

2964 STOP

STOP because of missing phase voltage DSE <DSE number> KPS <KPS number>

Cause	One phase of the voltage supplied by the KPS is missing. This may even be upstream of the cabinet connection. It is also possible that the corresponding cabinet wiring is missing.
Effect	Robot is stopped. The external cabinet fan is switched off, if the hardware allows this.
Remedy	Check the power supply of all three phases. Check the required cabinet wiring: X110/pin 2 must be connected to 24 V and X110/pin 3 must be connected to GND.

2965

Incorrect servo parameter KPS <KPS number> line <line number>

Cause	The specified KPS servo parameter for the indicated KPS is not correct.
Effect	The specified KPS servo parameter for the indicated KPS is ignored.
Remedy	Correct the servo file specified for the indicated KPS in R1\MADA\$MACHINE.DAT, or specify a valid KPS servo file in R1\MADA\$MACHINE.DAT.

2966 STOP

Ackn. KCP connection error

Cause	Follow-up message to status message “KCP: connection error”. This message appears when the network connection to the KCP is restored. See also message number 328.
Effect	All active commands inhibited.
Remedy	Acknowledge message.

2967 STOP

Ackn. allowed maximum force exceeded <axis>

Cause	The force sensor signal after activation of force control ($Force[Axis] > FORCE_LIM) exceeds FORCE_MAX + UPPER_LIMIT_TOL.
Effect	Dynamic braking. Active commands inhibited.
Remedy	Check the force sensor value $Force_act[axis] using the variable correction function. Check force sensor and cable. Check the trace recording of the test group 11 for force control to establish if there is excessive servo overshoot.

4300  <Object name> compile (Y/N)?

Cause	Query asking whether or not the object should be compiled.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4301  <Object name> copy (Y/N)?

Cause	Query asking whether or not the object should be copied.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4302  <Object name> overwrite (Y/N)?

Cause	Query asking whether or not the object should be overwritten.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4303  <Object name> delete (Y/N)?

Cause	Query asking whether or not the object should be deleted.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4304  <Object name> link (Y/N)?

Cause	Query asking whether or not the object should be linked.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4305  <Object name> unlink (Y/N)?

Cause	Query asking whether or not the object should be unlinked.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4307  Delete complete procedure?

Cause	The axis was not mastered at the time of the command “Sensor location search”. Query asking whether or not the procedure should be deleted.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4308  Delete complete initialization?

Cause	Query asking whether or not the initialization should be deleted.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4309  Program <program name>, overwrite (Y/N)?

Cause	Query asking whether or not the object should be overwritten.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4310  <Object name> selected, overwrite (Y/N)?

Cause	Request for confirmation asking whether or not the object should be overwritten.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4311  <Object name> program, delete (Y/N)?

Cause	Confirmation request, asking whether the selected object should be deleted.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4312  <Object name> selected. Delete (Y/N)?

Cause	Confirmation request, asking whether the selected object should be deleted.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4314  Directory <object name> not found. Create (Y/N)?

Cause	Request for confirmation asking whether or not the target directory should be created.
Effect	The process awaits processing.
Remedy	Answer query accordingly.

4315  <Program name> active: stop process (Y/N)?

Cause	Reloading of machine data.
Effect	The process awaits processing.
Remedy	Stop process and restart the program once the machine data have been loaded.

6000  <ASCII string><ASCII string><ASCII string>

Remedy	No online help is currently available for this subject. Information can be found in the operating handbooks.

6500  Internal error (Default message)

Cause	The message data have not been set correctly.

6501  <Command name> <action>

Cause	OBJH – command execution completed. Command execution.
Effect	None.

6502  Error during reading of INI file <file name> <internal error>

Cause	INI file containing errors. Triggered on system start.
Effect	All commands inhibited.
Remedy	Correct INI file.

6503  Configuration error I/O driver <driver name>

Cause	Error in the INI file. Triggered on booting system.
Remedy	Check io_int.ini.

6504  Under voltage <axis number>

Cause	The internal operating voltage (+15 V) of the servo output stage is monitored. If the servo output stage is not ready, the intermediate circuit voltage may be too low. Cyclic.
Effect	Ramp-down braking. Program execution is stopped.
Remedy	Rectify fault. Reset by pressing the hardware acknowledgement button “ACK” on the DSE I module.

6505  CAN controller <number> failure

Cause	The CAN controller is defective.
Effect	The CAN bus system is not functional.
Remedy	Check controller.