

# Fault List Q-Logic 2

FAULT CODE	ERROR	POSSIBLE CAUSE	SUGGESTED REMEDY
1	SW Fault	Software error.	Update software.
2	SW Fault	Software error.	Update software.
3	SW Fault	Software error.	Update software.
4	SW Fault	Software error.	Update software.
5	SW Fault	Software error.	Update software.
6	SW Fault	Software error.	Update software.
7	SW Fault	Software error.	Update software.
8	SW Fault	Software error.	Update software.
9	SW Fault	Software error.	Update software.
10	SW Fault	Software error.	Update software.
11	SW Fault	Software error.	Update software.
12	SW Fault	Software error.	Update software.
13	SW Fault	Software error.	Update software.
14	SW Fault	Software error.	Update software.
15	SW Fault	Software error.	Update software.
16	SW Fault	Software error.	Update software.
17	SW Fault	Software error.	Update software.
19	Communication Fault: NM protocol fatal error	Communication to a module over system bus has failed.	Check bus cables. Check if a fatal error occurred on another module. If necessary, replace this module or update the software.
20	SW Fault: wrong profile version of remote device	Incompatible module connected.	Remove incompatible module or update the software.
21	SW Fault: CMM error, pool empty	Module out of resources.	Remove one or more modules.
22	SW Fault: A/D conversion timeout	Software error.	Replace module (see error history).
23	Communication Fault: more than 1 active power flip flop	Bus cable unplugged while driving; bus cable defective; or hardware failure.	Check bus cables. Unplug device after device from bus until fault is recovered.
24	SW Fault: CMM stopping not received	Communication to a module over system bus has failed; or a module (not the powerbase) created a critical failure.	Check bus cables. Check if a fatal error occurred on another module. If necessary, replace this module or update the software.
26–34	SW Fault	Software error.	Update software.
35	Joystick Center Fault	Joystick disconnected or defective.	Check if joystick is connected. Replace joystick Replace module.
36	Joystick Not Centered	Joystick out of center position for >5 sec after power up.	Release joystick or other input command. Cycle on/off switch.
37	Joystick Connection	Joystick disconnected or defective.	Check if joystick is connected. Replace joystick. Replace module.
38	Joystick Out of Range	Limiter plate changed; limiter plate defective; or joystick is badly calibrated.	Calibrate joystick. Replace joystick. Replace module
39	Joystick Signal Fault	Joystick disconnected or defective.	Check if joystick is connected. Replace joystick. Replace module.
40	Communication Fault: timeout for output DF	Bus cable unplugged while driving; bus cable defective; or hardware defective.	Check bus cables. Check if a fatal error occurred on another module. If necessary, replace this module or update the software. Unplug module after module from bus until fault is recovered.
41–43	SW Fault	Software error.	Update software.
44	Limit Sense Pots Open	Position feedback wiring open.	Check position feedback connector and wiring. Check position feedback devices.
45	Limit Sense Pots Shorted	Position feedback wiring shorted.	(Same as #44.)
46	High Battery Voltage	Battery voltage too high.	Disconnect charger.
47	Low Battery Voltage	Battery voltage too low.	Charge battery.
48	Temperature Out of Range	Temp. outside operating range.	Let system cool down (wait 15 minutes).

			Check motor brake connector. Check motor wiring. Check motor resistance and current. Decrease motor resistance: use a motor with a smaller resistance or add a parallel resistor. Replace motor.
49	Motor 1 Not Connected: resistance too high	Motor connector unplugged; motor wiring open; or defective motor.	
50	Motor 2 Not Connected: R too high	(Same as #49.)	(Same as #49.)
51	Motor 3 Not Connected: R too high	(Same as #49.)	(Same as #49.)
52	Motor 4 Not Connected: R too high	(Same as #49.)	(Same as #49.)
53	Motor 5 Not Connected: R too high	(Same as #49.)	(Same as #49.)
54	Motor Overcurrent	Motor overloaded or stalled; short in actuator or wiring; or defective motor.	Check motor wiring. Check motor resistance and current. Replace motor.
55	Motor Timeout	Motor operated in one direction longer than the programmed limit.	Increase the value of the Timeout parameter (this is an OEM parameter).
56	Sensor Reference Fault	Pressure sensor defective.	Replace device.
57	SW Fault: buffer empty or overflow	Module out of resources.	Update software.
58	EEPROM Fault: CRC of profile section is incorrect	Data in the nonvolatile memory is incorrect.	Replace module.
59	EEPROM Fault: CRC of calibration section is incorrect	Data in the nonvolatile memory is incorrect.	Replace module.
60	EEPROM Fault: CRC of calibration section is incorrect	Data in the nonvolatile memory is incorrect.	Download parameter file with the PCPS (Activate Advanced Cloning).
61	EEPROM Fault: CRC of critical section is incorrect	Data in the nonvolatile memory is incorrect.	Download parameter file with the PCPS (Activate Advanced Cloning).
62	EEPROM Fault: CRC of critical section is incorrect	Data in the nonvolatile memory is incorrect.	Download parameter file with the PCPS (Activate Advanced Cloning).
63	EEPROM Fault: E2PROM parameter disturbed	A parameter value is out of range.	Download parameter file with the PCPS (Activate Advanced Cloning).
64	EEPROM Fault: E2PROM parameter disturbed in critical section	A parameter value is out of range.	Download parameter file with the PCPS (Activate Advanced Cloning).
65	DMS Fault: inactive input device not centered	Inactive input device not centered; bus cable defective; or hardware failure.	Release inactive input device. Check bus cables Unplug device after device from bus until fault is recovered.
69	Bus Overload: bus B+ fuse has tripped	Bus supply is overloaded.	Check bus cables.
70	Hardware Fault: CRC of ROM incorrect	The continuous check of the program memory has detected an error.	Update software with the PCPS (Inhibit Application Start and download compatible software). Replace module.
73	Precharge Fault: H-bridge voltage does not reach battery voltage	The supervision of a module function has detected an error.	Replace powerbase.
74	Left Motor Disconnected: left motor current is too low	Motor connector unplugged; motor wiring open; or defective motor.	Check motor-brake connector. Check motor wiring. Check motor resistance and current. Replace motor.
75	Right Motor Disconnected	(Same as #74.)	(Same as #74.)
80	Main Relay Not Open	Main relay contact is welded.	Replace powerbase
81	Left Motor Shorted	Short in motor or wiring.	Check motor-brake connector. Check motor wiring. Check motor resistance and current.
82	Right Motor Shorted	Short in motor or wiring.	(Same as #81.)
83	Left Brake Disconnected: left brake current is too low	Motor connector unplugged; brake wiring open; brake defective; or brake voltage set too low.	Check motor-brake connector. Check brake wiring. Check brake resistance. Increase value of Brake Voltage parameter (this is an OEM parameter).
84	Right Brake Disconnected	(Same as #83.)	(Same as #83.)
85	Left Brake Overload: left brake current is too high	Brake wiring shorted; or brake defective.	Check motor-brake connector. Check brake wiring. Check brake resistance. Replace motor.
86	Right Brake Overload	(Same as #85.)	(Same as #85.)

87	<b>Left Brake Not Released: left brake voltage is too low</b>	Brake wiring open; brake defective; battery voltage below nominal operating range limit; or brake voltage is set too low.	Check motor-brake connector. Check brake wiring. Check brake resistance. Charge battery. Increase value of Brake Voltage parameter. Replace brake.
88	<b>Right Brake Not Released</b>	(Same as #87.)	(Same as #87.)
89	<b>Left Brake Fault: voltage too high</b>	Motor connector unplugged; brake wiring open or shorted; brake defective.	Check motor-brake connector. Check brake wiring. Check brake resistance. Replace brake.
90	<b>Right Brake Fault: voltage too high</b>	(Same as #89.)	(Same as #89.)
94	<b>Main Relay Not Closed</b>	Supervision of a module function has detected an error.	Replace Power Module
96	<b>Current Sense Fault: current sense measurement left out-of-range</b>	Supervision of a module function has detected an error.	Replace Power Module
97	<b>Current Sense Fault: current sense measurement right out-of-range</b>	Supervision of a module function has detected an error.	Replace Power Module
98	<b>Overtemperature: heatsink too hot</b>	Constant high load made the temperature reach the maximum limit; or excessive load on outputs	Let system cool down (wait 15 minutes). Check output currents
99	<b>High Motor Temperature</b>	Estimated motor temperature is too high; the parameters for the motor temperature estimation are not set optimally.	Let system cool down (wait 15 minutes). Check output currents. Check the parameters for the motor temp estimation (these are OEM parameters).
100	<b>Battery Overvoltage</b>	A downhill ride with fully charged batteries.	Do not drive downhill with fully charged batteries. Continue downhill ride at reduced speed. (This error is at the recoverable fault level).
101	<b>Battery Undervoltage</b>	Battery voltage below the lower operating range limit, or empty	Charge battery. (This error is at the warning level)
102	<b>Powerbase High Temperature</b>	A constant high load has overheated the Powerbase; or excessive load on outputs.	Check output currents.
104	<b>High Battery Voltage</b>	A downhill ride with fully charged batteries. Continue downhill ride at reduced speed. (This error is at the Recoverable Fault level.)	Do not drive downhill with fully charged batteries.
105	<b>Low Battery Voltage</b>	Battery voltage below the lower operating range limit, or empty.	Charge battery. (This error is at the Recoverable Fault level.)
107	<b>Charger/Drive Inhibit: driving inhibited due to low voltage on the DMS line</b>	Charger plugged in while driving; attempting to start while charger connected; deadman switch line (DMS) inhibits driving; or bus cable defective.	Disconnect charger. Check inhibiting modules. Unplug module after module from bus until fault is recovered. Check bus cables.
109	<b>Communication Fault: drive command missing (Timeout CAN message)</b>	Bus cable unplugged while driving, or bus cable defective.	Check bus cables.
110	<b>High Pedal Protection: joystick out-of-center position during power up</b>	Input command not zero during power up.	Release joystick. Release input command.
111	<b>Center Detect Fault: center detect is not active when JS in center position</b>	Joystick disconnected or defective.	Check if joystick cable is connected. Replace joystick. Replace module.
112	<b>Center Detect Fault: center detect is active while JS is not centered</b>	Joystick disconnected or defective.	Check if joystick cable is connected. Replace joystick. Replace module.
121	<b>Communication Fault: input device failed</b>	Bus cable unplugged while driving; bus cable defective; or periodic module supervision has detected breakdown of a module.	Check bus cables. Check if a fatal error occurred on another module. If necessary, replace this module or update the software. Unplug module after module from bus until fault is recovered.
122	<b>SW Fault: overtake abort</b>	Generic software fault.	Defective software; replace module. (See error history to determine which module caused the error.)
123	<b>SW Fault: unresolvable duplicate output definition in system</b>	Multiple modules of the same kind, which are only allowed to exist once in the system.	Remove duplicate modules, leaving just one unique module in the system.

124	<b>SW Fault: unresolvable duplicate input definition in system</b>	(Same as #123.)	(Same as #123.)
125	<b>SW Fault: requested output definition not found</b>	Communication to a module over the system bus has failed.	Check if a fatal error occurred on another module. If necessary, replace this module or update the software.
126	<b>SW Fault: start of output failed</b>	(Same as #125.)	(Same as #125.)
127	<b>SW Fault: general menu error</b>	The module whose function was just active, or was just activated, has failed.	Check if a fatal error occurred on another module. If necessary, replace this module or update the software.
128	<b>Motor Control Warning: motor control loop is not stable</b>	The control parameters do not match the motors being used; motor impedance parameters is set too high; or defective motor.	Download parameter file with the PCPS (Activate Advanced Cloning). Check Motor Impedance parameter and decreased value if necessary (this is a OEM parameter). Replace motor.
129	<b>Communication Fault: Y-dataflow timeout</b>	Bus cable unplugged while driving, or bus cable defective; hardware failure	Check bus cables. Replace defective bus cable or hardware
130	<b>SW Fault: general SDO client error</b>	Generic software fault.	Remove one or more modules. If error persists, contact Quantum Rehab.
131	<b>Left Motor Output Fault: Incorrect output voltage</b>	Motor connector unplugged; motor wiring open; short in motor or power module failure.	Check motor wiring. Replace motor. Replace power module.
132	<b>Right Motor Output Fault</b>	See error code #131	See error code #131
133	<b>EEPROM Fault: incorrect CRC of BDI section</b>	Data in the nonvolatile memory is incorrect.	Note: BDI will automatically reset to 100%. Update module software. Replace module if this error occurs periodically. (Check error history.
134	<b>High Pedal Fault</b>	Input command is not zero during power up.	Release input command. Cycle on/off switch.
135	<b>Direction Assignment Error</b>	Two commands assigned for the same direction.	Reassign directions.
136	<b>Incompatible Device Connected: wrong protocol version of remote device</b>	Incompatible module connected.	Remove incompatible module or update software.
137	<b>Incompatible Device Connected: invalid device type or serial number</b>	Incompatible module connected, or a module (other than the Powerbase) created a critical failure.	Unplug module after module from bus until fault is recovered. Check if a fatal error occurred on another module. If necessary, replace this module or update the software.
138	<b>Main Relay Not Open: main relay not open during initial test</b>	Charger connected; battery voltage below nominal operating range limit; or main relay contact is welded.	Disconnect charger. Charge battery. Replace Powerbase.
139	<b>Communication Fault: CAN bus off</b>	Bus cable defective, or hardware failure.	Check bus cables. Unplug module after module from bus until fault is recovered.
140	<b>Controller Power Down Fault: internal controller supply remains active when switched off</b>	Supervision of a module function has detected an error	Disconnect and reconnect battery. Replace power module.
141	<b>Drive Restricted</b>	Driving restriction active.	Clear restrictions.
142	<b>Current Offset. Calibration Left: current offset Left is out of limit</b>	Supervision of a module function has detected an error.	Replace power module if this error occurs periodically.
143	<b>Current Offset Calibration Right</b>	(Same as #142.)	(Same as #142.)
144	<b>Puff Parameters Overlap</b>	Puff parameters are overlapping (4-pressure setup).	Adjust parameters.
145	<b>Sip Parameters Overlap</b>	Sip parameters are overlapping (4-pressure setup).	Adjust parameters.
149	<b>Open Wire in Indicator Left Circuit</b>	Indicator bulb blown, or indicator not connected.	Check indicator bulb. Check indicator wiring.
150	<b>Open Wire in Indicator Right Circuit</b>	(Same as #149.)	(Same as #149.)
151	<b>Open Wire in Light (L/R) Circuit</b>	Light bulb blown, or light not connected.	Check light bulb. Check light wiring.
155	<b>EEPROM Fault: CRC of config section is incorrect</b>	Data in the nonvolatile memory is incorrect.	Set the configuration data with the help of the PCPS (OEM only). Replace Powerbase.
156	<b>SW Fault: unexpected interrupt</b>	The microcontroller system has triggered an unexpected interrupt.	Replace Powerbase if this error occurs periodically.

157	SW Fault: out of window range	Incompatible module connected.	Remove incompatible module or update software.
160	Set Recline to Vertical Position First!	Recline is not in down position.	Move recline to down position.
161	Set Standup to Down Position!	Standup is not in down position.	Move standup to down position.
163	One or More Initial Tests Not Processed	Not all initialize tests were processed.	Replace Powerbase if this error occurs periodically.
164	Invalid Configuration	Invalid value(s) in config section.	Set the configuration data with the help of the PCPS.
166	EEPROM Fault: CRC of distance section is incorrect.	Distance values are corrupted.	Note: This fault automatically resets the trip counters. Replace Powerbase if this error occurs periodically.
167	Brake Switch Opened During Idle	Brake switch is either open or not connected.	Close brake switch. Check brake wiring.
174	Memory Full: Code Could Not Be Saved	Not enough memory available (e.g., while learning IR codes).	Delete unused data in data section.
175	Memory Full: User-Defined Menu Too Big	Memory holding dynamic protocol table is full.	Update software. Replace Powerbase.
176	Learning of IR Code Failed. Retry.	Incorrect positioning of remote control device.	Try again with the remote control device in a different position
177	Motor 6 Not Connected: resistance too high	Motor connector unplugged; motor wiring open; or defective motor.	Check motor brake connector. Check motor wiring. Check motor resistance and current. Decrease motor resistance, by using a motor with a smaller resistance or by adding a resistor in parallel with motor.
181	Speed Potentiometer Out of Range	Invalid speed pot connection.	Replace Handcontrol.
192	Motor 1 Disconnected	Motor connector unplugged; motor wiring open; or defective motor.	Check motor brake connector. Check motor wiring. Check motor resistance and current. Replace motor.
193	Motor 2 Disconnected	(Same as #192.)	(Same as #192.)
194	Motor 1 Shorted	Short in motor or wiring.	Check motor brake connector. Check motor wiring. Check motor resistance and current.
195	Motor 2 Shorted	(Same as #194.)	(Same as #194.)
196	Current Offset Calibration Motor 1	Current offset of Motor 1 is outside the allowable limits.	Replace Powerbase.
197	Current Offset Calibration Motor 2	(Same as #196.)	(Same as #196.)
198	Current Sense Fault: Motor 1	Current measurement of Motor 1 is out of range.	Replace Powerbase.
199	Current Sense Fault: Motor 2	(Same as #198.)	(Same as #198.)
200	Motor 1 Output Fault: output voltage is incorrect	Motor connector unplugged; motor wiring open; short in motor or wiring; or controller failure.	Check motor wiring. Replace Powerbase. Replace motor.
201	Motor 2 Output Fault	(Same as #200.)	(Same as #200.)
203	Brake 1 Disconnected	Motor connector unplugged; brake wiring open; brake defective; or brake voltage set too low.	Check motor brake connector. Check brake wiring. Check brake resistance. Increase the Brake Voltage parameter (this is an OEM parameter) Replace brake.
204	Brake 2 Disconnected	(Same as #203.)	(Same as #203.)
205	Brake Driver Defective	Brake fault input high.	Replace Powerbase.
206	Hardware Fault: oscillator failure	Hardware failure.	Replace AAM.
207	On/Off Switch Disconnected	On/off switch disconnected while system is running.	Reconnect on/off switch.
208	Brake 1 Overload: current too high	Brake wiring shorted, or brake defective.	Check motor brake connector. Check brake wiring. Check brake resistance. Replace brake.
209	Brake 2 Overload: current too high	(Same as #208.)	(Same as #208.)
210	EEPROM Fault: CRC of poti section is incorrect	Data in the nonvolatile memory	Recalibrate potentiometer.
211	Poti Value Out Of Range	Poti calibration is invalid.	Recalibrate poti.
217	Actuator Overcurrent	Short in actuator or wiring; or actuator overload.	Check actuator wiring. Check actuator resistance and current.
218	Actuator Timeout	Actuator operated too long in one direction.	Release input command.
219	Reference Voltage Failed	Reference voltage failed.	Replace Powerbase.

221	<b>Mode Switch Disconnected</b>	Mode switch disconnected.	Reconnect Mode switch. If supervision not required, deactivate the Mode Jack Supervision parameter.
222	<b>Handcontrol Missing or Defective</b>	Handcontrol not connected or defective; or wrong system configuration data.	Reconnect Handcontrol. Replace Handcontrol Execute Save System Configuration function.
223	<b>Standalone Missing or Defective</b>	SAJ not connected or defective; or wrong system configuration data.	Reconnect SAJ. Replace SAJ. Save System Configuration.
224	<b>Attendant Missing or Defective</b>	Attendant Joystick not connected or defective; or wrong system configuration data.	Reconnect Attendant Joystick. Replace Attendant Joystick. Execute Save System Configuration function.
225	<b>Advanced Actuator Module Missing or Defective</b>	AAM not connected or defective; or wrong system configuration data.	Reconnect AAM. Replace AAM. Execute Save System Configuration function.
226	<b>Enhanced Display Missing or Defective</b>	Enhanced Display not connected or defective; or wrong system configuration data.	Reconnect Enhanced Display. Replace Enhanced Display. Execute Save System Configuration function.
227	<b>Sip&amp;Puff Module Missing or Defective</b>	S&P not connected or defective; or wrong system configuration data.	Reconnect S&P. Replace S&P. Execute Save System Configuration function.
228	<b>ECU Missing or Defective</b>	ECU not connected or defective; or wrong system configuration data.	Reconnect ECU. Replace ECU. Execute Save System Configuration function.
229	<b>Module Missing or Defective</b>	Device not connected or defective; wrong system configuration data.	Reconnect device. Replace device. Execute Save System Configuration function.
230	<b>Hardware Fault: charge pump defective</b>	Supervision of a module function has detected an error.	Replace Powerbase.
231	<b>Input Device Not Active</b>	Input device not properly centered.	Release any inactive devices. Unplug module after module from bus until fault is recovered. Check joystick cable connection. Replace joystick. Replace module.
234	<b>Incompatible Module Connected</b>	Incompatible module connected.	Remove incompatible module or update software.

# Fault List Q-Logic 3

Number	Error Text	Help Text
1	Warning: Motor 1 not connected	Motor 1 error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
1	Error: Motor 1 not connected	Motor 1 error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
2	Warning: Motor 2 not connected	Motor 2 error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
2	Error: Motor 2 not connected	Motor 2 error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
3	Error: Brake 1 not connected	Brake 1 error detected 1. Turn power off 2. Disengage then re-engage brake lever 3. Inspect motor connections 4. Turn power on
4	Error: Brake 2 not connected	Brake 2 error detected 1. Turn power off 2. Disengage then re-engage brake lever 3. Inspect motor connections 4. Turn power on
5	Warning: Attendant Control On/Off Jack disconnected	Attendant Control On/Off jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the On/Off Jack switch 3. Turn power on
6	Warning: Enhanced Display On/Off Jack disconnected	Enhanced Display On/Off jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the On/Off Jack switch 3. Turn power on
7	Warning: Handcontrol On/Off Jack disconnected	Handcontrol On/Off Jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the On/Off Jack switch 3. Turn power on
8	Warning: Stand Alone Joystick On/Off Jack disconnected	Stand Alone Joystick On/Off jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the On/Off Jack switch 3. Turn power on
9	Warning: Attendant Control Mode Jack disconnected	Attendant Control Mode jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the Mode Jack switches 3. Turn power on
10	Warning: Enhanced Display Mode Jack disconnected	Enhanced Display Mode jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the Mode Jack switches 3. Turn power on
11	Warning: Handcontrol Mode Jack disconnected	Handcontrol Mode jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the Mode Jack switches 3. Turn power on
12	Warning: Stand Alone Joystick Mode Jack disconnected	Stand Alone Mode jack switch disconnected 1. Turn power off 2. Disconnect then re-connect the Mode Jack switches 3. Turn power on
13	Warning: D-Sub (9-Pin) disconnected	D-Sub (9-Pin) disconnected 1. Turn power off 2. Disconnect then re-connect the D-Sub (9-Pin) 3. Turn power on
14	Warning: Proportional input device not connected	Proportional input device not connected If configured wrong: 1. Connect programming device 2. Select correct input device Otherwise: 1. Turn power off 2. Disconnect then re-connect the D-Sub (9-Pin) 3. Turn power on
14	Error: Proportional input device not connected	Proportional input device not connected If configured wrong: 1. Connect programming device 2. Select correct input device Otherwise: 1. Turn power off 2. Disconnect then re-connect the D-Sub (9-Pin) 3. Turn power on

Number	Error Text	Help Text
15	Warning: Drive Motor Encoder not connected	Encoder error detected 1. Turn power off 2. Disconnect both encoder cables 3. Inspect encoder connections 4. Reconnect both encoder cables 5. Turn power on
16	Error: Brake 1 shorted or programmed incorrectly	Brake 1 error detected 1. Connect programming device 2. Check Brake Voltage Setting 3. Turn power off 4. Disengage then re-engage brake lever 5. Inspect motor connections 6. Turn power on
17	Error: Brake 2 shorted or programmed incorrectly	Brake 2 error detected 1. Connect programming device 2. Check Brake Voltage Setting 3. Turn power off 4. Disengage then re-engage brake lever 5. Inspect motor connections 6. Turn power on
18	Warning: Actuator shorted	Seat error detected 1. Turn power off 2. Disconnect and reconnect seat module cables one at a time 3. Turn power on
19	Warning: Drive Motor Encoder shorted	Encoder error detected 1. Turn power off 2. Disconnect both encoder cables 3. Inspect encoder connections 4. Reconnect both encoder cables 5. Turn power on
20	Warning: Undervoltage	Charge Battery
20	Error: Undervoltage	Charge Battery
21	Error: Overvoltage	Check the battery voltage, batteries may be overcharged. Avoid driving downhill fast with fully charged batteries.
22	Warning: Speed reduction (Overvoltage)	Check the battery voltage, batteries may be overcharged. Avoid driving downhill fast with fully charged batteries.
23	Error: Motor 1 output defect	Motor 1 error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
24	Error: Motor 2 output defect	Motor 2 error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
25	Error: Brake 1 error	Brake 1 error detected 1. Turn power off 2. Disengage then re-engage brake lever 3. Inspect motor connections 4. Turn power on
26	Error: Brake 2 error	Brake 2 error detected 1. Turn power off 2. Disengage then re-engage brake lever 3. Inspect motor connections 4. Turn power on
27	Error: Motor output defect	Powerbase error detected 1. Turn power off 2. Check Motor wiring and wait 5 seconds 3. Turn power on
28	Warning: Main contactor error	Powerbase error detected 1. Turn power off 2. Wait 5 seconds 3. Turn power on
29	Warning: Main contactor error	Powerbase error detected 1. Turn power off 2. Wait 5 seconds 3. Turn power on
30	Error: Main contactor error	Powerbase error detected 1. Turn power off 2. Wait 5 seconds 3. Turn power on
31	Warning: Motor stall detected	Motor stall detected 1. Back up and try to overcome obstacle again with more speed 2. If chair stalls again, drive around the obstacle or find a location where the obstacle height is lower
32	Error: Overtemperature	Chair stopped to protect system electronics 1. Turn power off to let system cool down. Note: This is the normal system behavior.
33	Warning: Speed reduction (Overtemperature)	Chair speed is reduced to protect system electronics 1. Turn power off to let system cool down. Note: This is the normal system behavior.



Number	Error Text	Help Text
34	Error: Bus voltage dropped	Primary system module (HC/ED) error detected 1. Turn power off 2. Inspect Handcontrol and/or Enhanced Display cable 3. Disconnect and reconnect Handcontrol and/or Enhanced Display cable 4. Turn power on
35	Error: Joystick not centered	Joystick deflected at power up 1. Turn power off 2. Release joystick to neutral position 3. Turn power on
36	Warning: Joystick out of center	Joystick deflected at power up 1. Turn power off 2. Release joystick to neutral position 3. Turn power on
37	Warning: Switched input pressed	Switched input pressed at power up 1. Turn power off 2. Release switched input 3. Turn power on
38	Error: Switched input not released	Switched input pressed at power up 1. Turn power off 2. Release switched input 3. Turn power on
39	Warning: Incompatible Device connected	Incompatible device 1. Turn power off 2. Remove incompatible device 3. Turn power on
40	Warning: Encoder connected but not configured	Encoder error detected 1. Connect programming device 2. Enable encoders 3. Cycle the power 4. If encoders are available but not used, disable encoders with a programming device and unplug both encoder cables.
41	Error: Input device is not configured	Configuration load error, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
42	Error: Incompatible secondary module version	An incompatible secondary module is connected to the system 1. Turn power off 2. Remove incompatible device from the system 3. Turn power on
43	Warning: Motor 1 current measurement out of range	Motor 1 current measurement error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
44	Warning: Motor 2 current measurement out of range	Motor 2 current measurement error detected 1. Turn power off 2. Inspect motor connections 3. Turn power on
45	Warning: Input device is not present	Input device selected is not present 1. Connect programming device 2. In the 'Startup Configuration' menu select an input device that is connected to the system 3. Cycle the power
46	Warning: Bluetooth not working	Bluetooth error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
47	Warning: Suspension lock not engaged - Seek level ground	Suspension lock not engaged 1. Seek level ground 2. Check suspension lock mechanism
48	Error: Invalid 1-Switch Scanner sequence	Invalid 1-Switch Scanner sequence 1. Connect programming device 2. Check if scanner sequence makes sense (e.g. empty or step 2 defined but no step 2 entry)
49	Error: DMS fault	DMS line interruption 1. Turn power off 2. Wait 5 seconds 3. Turn power on
50	Warning: Device exchanged	An existing device has been exchanged/replaced, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
51	Warning: Device added	A new device has been added to the system, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on

Number	Error Text	Help Text
52	Warning: Device removed	A device was removed from the system, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
53	Warning: Sip N Puff not in neutral position	Sip N Puff input operated at power up 1. Turn power off 2. Release Sip N Puff input 3. Turn power on
54	Error: Sip N Puff out of neutral position	Sip N Puff input operated at power up 1. Turn power off 2. Release Sip N Puff input 3. Turn power on
55	Warning: Test version	The installed software was built for test purposes only.
56	Warning: Actuator Overcurrent	Seat error detected 1. Turn power off 2. Disconnect and reconnect seat module cables one at a time 3. Turn power on
57	Error: Severe Overtemperature	Seat error detected 1. Turn power off to let system cool down 2. Turn power on 3. If error persists, change actuator module
58	Error: H-Bridge defect	Seat error detected 1. Turn power off 2. Disconnect and reconnect seat module cables one at a time 3. Turn power on 4. If error persists, change actuator module
59	Error: ADC Overrun	H>Error: ADC Overrun
60	E:Pressure Sensor not connected	H:Pressure Sensor not connected
61	E:Non active input activated	H:Non active input activated
62	E:Actuator relay	H:Actuator relay
63	E:Sip Parameter wrong	H:Sip Parameter wrong
64	E:Puff Parameter wrong	H:Puff Parameter wrong
65	E:Switched input not released	H:Switched input not released
66	Error Message: Actuator Undervoltage	Help Text: Actuator Undervoltage
67	E:Actuator Undervoltage	H:Actuator Undervoltage
68	E:Speed reduction	H:Speed reduction
69	Warning: Actuator timeout	
70	IR for handcontrol is not enabled.	Help: IR for handcontrol is not enabled.
71	Warning: Corrupt IR data.	Help: Corrupt IR data.
72	Warning: Speed Reduction (Stability Control Supervision)	
202	Error: Emergency system power down	Emergency system power down 1. Turn power off 2. Wait 5 seconds 3. Turn power on
203	Error: Pre drive test error	Pre drive test error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
204	Warning: Communication error	Communication error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
204	Error: Communication error	Communication error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
205	Warning: Memory error	Memory error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
206	Warning: Data error	Data error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
206	Error: Data error	Data error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
207	Warning: SD-Card access failed	SD-Card error detected 1. Turn power off 2. Remove and inspect SD-Card 3. Plug the SD-Card back in 4. Make sure the SD-Card is inserted correctly 5. Turn power on 6. If issue persists, format the SD-Card
208	Warning: Supervision error	Supervision error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on

Number	Error Text	Help Text
208	Error: Supervision error	Supervision error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
209	Warning: Supervision software download error	Supervision software download error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
210	Error: Software error	Software error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
211	Error: Software error	Software error detected, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
212	Warning: Reset to default values	Reset to default, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
213	Warning: Parameter database restored	Parameter restored, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
214	Warning: Database load error	Database load error, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on
215	Warning: Parameter database not saved	Database load error, please reboot system 1. Turn power off 2. Wait 5 seconds 3. Turn power on