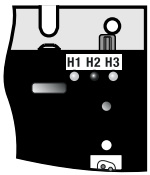
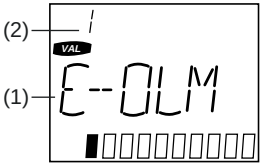
Appendix B Troubleshooting

Errors in operation are signalled as follows:

- CDD3000: Red LED (H1) flashes (flash code see Table A.2



- DRIVEMANAGER Possible causes of the error and measures to remedy it are displayed in a window.
- KEYPAD KP200: The display is backlit in red and indicates the error (1) and an error location number (2). The error location number provides detailed localization of the cause of the error.



Error reaction

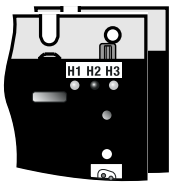
When an error occurs the servocontroller responds with a specific function sequence. This is allocated to a corresponding **reaction number**.

Reaction no.	Function
0	Signal error only, no further reaction (warning).
1	Signal error and disable power stage.
2	Signal error, quick-stop and wait for cancellation of start signal.
3	Signal error, disable power stage and secure against restarting [1)].
4	Signal error, quick-stop, wait for cancellation of start signal and secure against restarting [1)].
5	Signal error, disable power stage and wait for error reset; error reset only possible by complete cutting of power.

1) Only relevant with programmed autostart function.

Table A.1 Error reaction

LEDs



At the top right of the servocontroller there are three status LEDs coloured red (H1), yellow (H2) and green (H3).

Device status	Red LED (H1)	Yellow LED (H2)	Green LED (H3)
Power on	❍	❍	●
Servocontroller ready (ENPO set)	❍	●	●
Control enabled	❍	✳	●
Error	✳ (flash code)	❍	●
Warning (in "ready" condition)	●	●	●
Warning (in "control enabled" condition)	●	✳	●

❍ LED off, ● LED on, ✳ LED flashing

Table A.2 Meanings of LEDs

Error messages

If an error occurs in operation it is indicated by a flash code from LED H1 (red) on the servocontroller. If a KP200 is connected the KP200 indicates the error type as an abbreviation. When the DRIVEMANAGER is active the error is additionally reported in plain text.

Flash code of red LED H1	Display KEYPAD	Reaction No.	Explanation	Cause/Remedy
1x	Various messages	0-5	see Table A.4	
2x	E-0FF	1	Undervoltage shut-off	Check power supply. Also occurs briefly in response to normal power-off.
3x	E-0C	3	Current overload shut-off	Short-circuit, ground fault: Check cabling of connections, check motor coil, check neutral conductor and grounding (see also section 3, Installation). Device setup not correct: Check parameters of control circuits. Check ramp setting.
4x	E-0V	3	Voltage overload shut-off	Voltage overload from mains: Check mains voltage. Restart device. Voltage overload resulting from feedback from motor (regenerative operation): Slow down braking ramps. If not possible, use a braking resistor.
5x	E-0LM	3	Motor protection shut-off	Motor overloaded (after I x t monitoring): Slow down process cycle rate if possible. Check motor dimensioning.
6x	E-0LI	3	Device protection shut-off	Device overloaded: Check dimensioning. Possibly use a larger device.
7x	E-0TM	3	Motor temperature too high	Motor PTC correctly connected? Motor PTC evaluation correctly set? Motor overloaded? Allow motor to cool down. Check dimensioning.
8x	E-0TI	3	Overheating in servocontroller	Ambient temperature too high: Improve ventilation in switch cabinet. Load too high during driving/braking: Check dimensioning. Possibly use a braking resistor.

Table A.3 Error messages/flash code

Bus	DM/KP	Error location no.	Meaning	Comment
0			No error	
1	E-CPU	0	Processor faulty or wrong software version	1
2	E-0FF	1	Undervoltage in DC link (≤ 212/425 V), also applied on normal power-off.	
3	E-0C	19	Max. permissible output current exceeded (software shut-off)	
3	E-0C	34	Current overload shut-off of servo resulting from fast Ixt, effective to 5 Hz output frequency	
3	E-0C	35	Short-circuit detected during self-test	
3	E-0C	41	Max. permissible output current exceeded (hardware shut-off)	
4	E-0V	1	Overvoltage in DC link	
5	E-0LM	1	Current overload shut-off: IxIxt monitoring of motor, dependent on parameter MOI2T	
6	E-0LI	1	Current overload shut-off: Ixt monitoring of servo	
7	E-0TM	1	Motor overheating	
8	E-0TI	31	Servo heat sink overheating	
8	E-0TI	32	Servo interior overheating	
9	E-PLS	9	Plausibility check detected invalid parameter or program sequence	1
10	E-PAR	0	Invalid parameter setting	
10	E-PAR	7	Value range infringement of a parameter setting detected. Parameter ERPAR contains number of incorrect parameter	1
10	E-PAR	8	After reinitialization of the parameter list in the device startup phase an invalid parameter value was found. Parameter ERPAR contains the number of this parameter.	1
10	E-PAR	9	Error initializing a parameter with its permanent memory value. Parameter ERPAR contains the number of the parameter.	1
10	E-PAR	13	The combination of function selector settings for one of the analog inputs and the reference selector are mutually contradictory.	1
10	E-PAR	16	Error initializing factors for analog output to digital outputs.	1
10	E-PAR	48	Error initializing a variable	
10	E-PAR	101	Setting of number of resolver pole pairs not possible	1
11	E-FLT		Global error in floating point calculation	1

Note:

1 = If this error is repeated please contact your local Service Partner

2 = See description of field bus (user manual)

Table A.4 Error messages

Bus	DM/KP	Error location no.	Meaning	Comment
12	E-PWR	6	No power stage, or power stage unknown: No valid power stage ID detected	1
12	E-PWR	8	No power stage, or power stage unknown: No valid power stage ID detected	1
13	E-EXT	1	Error request received via digital input with function E-EXT	
14	E-USR	1	Error executing a customer-specific software function	
15	E-OP1		Error in option module at slot 1 (X8), further information in user manual	2
16	E-OP2		Error in option module at slot 2 (X9), further information in user manual	2
18	E-SIO	11	SIO watchdog tripped (LustBus)	
19	E-EEP		Error accessing EEPROM	1
21	E-SC	20	Error in auto-tuning	
25	E-HWE	47	Hardware limit switches interchanged	
26	E-OL5	1	I x t shut-off below 5 Hz to protect power stage	
30	E-ENC	1	Encoder wire break detection	
30	E-ENC	123	Hiperface: Communication error signalled by encoder	
30	E-ENC	124	Hiperface: Communication error signalled by dSMC	
30	E-ENC	125	Hiperface: Unknown encoder type	
30	E-ENC	126	Hiperface: Error signalled by encoder (but communication is OK)	
30	E-ENC	127	Hiperface: Communication parameters not found	
30	E-ENC	131	Error in commutation finding	
31	E-TIM		Runtime monitor error	1
32	E-FLW	1	Position tracking error	
32	E-FLW	24	Speed tracking error	
33	E-WDG	11	Watchdog for RS232 (LustBus) triggered	
34	E-VEC		Initialization error	1
35	E-BRK	1	Monitoring unit for brake output (OSD03) signals error	
36	E-POS	210	Pos. hardware limit switch approached	
36	E-POS	211	Neg. hardware limit switch approached	
36	E-POS	212	Pos. software limit switch approached	
36	E-POS	213	Neg. software limit switch approached	

Note:

1 = If this error is repeated please contact your local Service Partner

2 = See description of field bus (user manual)

Table A.4 Error messages

Bus	DM/KP	Error location no.	Meaning	Comment
36	E-POS	214	Positioning job with no defined reference point	
36	E-POS	215	Error accessing optional hardware	
36	E-POS	216	Selected program not available	
36	E-POS	217	Jump to non-existent record number	
36	E-POS	218	Called subroutine not available	
36	E-POS	219	Position outside positioning range	
36	E-POS	220	Division by zero	
36	E-POS	221	Max. subroutine nesting depth exceeded	
36	E-POS	223	Target position not reached	
36	E-POS	224	No feed hold (only positioning commands)	
36	E-POS	225	Selection (Auto/Homing/Jog) not permitted	
36	E-POS	226	**ProgPos**: Index overflow in indexed addressing, **TabPos**: Table index faulty (1<=Index<=31)	
36	E-POS	232	Error reading a parameter in sequence program	
36	E-POS	233	Error writing a parameter in sequence program	
36	E-POS	234	Error executing a positioning command with positioning travel by Touchprobe	
36	E-POS	235	Impermissible command in this status	
36	E-POS	236	Hardware limit switches interchanged	
37	E-FLH		Error in data flash memory	1
38	E-HW	45	Hardware limit switch left (all control modes)	
38	E-HW	46	Hardware limit switch right (all control modes)	
39	E-HWE	47	Hardware limit switches interchanged (all control modes)	
40	E-WRN	59	Torque limit (TCMMX) automatically limited	
40	E-WRN	60	Cycle time of status report via field bus too short	
40	E-WRN	61	Position reference / travel standardization outside value range	
40	E-WRN	62	Speed limit (SCSMX) automatically limited	
40	E-WRN	63	Position reference / velocity or acceleration standardization outside value range	
40	E-WRN	64	Power failure detected	
40	E-WRN	101	Encoder wire break detected (offline), no encoder connected	
40	E-WRN	179	Overflow of error counter in CAN controller	

Note:

1 = If this error is repeated please contact your local Service Partner

2 = See description of field bus (user manual)

Table A.4 Error messages