

Drive Error List - Leadshine

Errors Not on Table

Codes that have shown up but are not listed on the error table below or with information.

- E570 which is expected while the system is not enabled. It will clear once the safety relay is active and it receives that input.
- E152 will show on the face of the drive and Mach4 will throw up an "Unrecognized alarm code: 0x00007323". This has been noticed to be when the motor is not wired correctly or just not connected at all.

Below are the error codes and alarm clearing taken from the manual for CS3E_User_Manual_V1.5 and CS3E-D1008. Both of these pdf files can be found on their website and on the server at \\svr1\MachMotion\Production\Products\Drives-Stepper\Leadshine\Manuals

Error Display Codes

These error codes display on the front of the drive if there is an Object (603Fh) then more information may be found down in the Error Code Table.

Displayed Error Code	Error Name	Description	Object (603Fh)
E0e0	Over Current Error	The current through power devices in inverter exceeds the limit value.	0x2211
E0c0	Over Voltage Error		0x3211
E100	Overload Error	The motor is continuously operated more than 5 second under a load exceeding the Max. torque of motor	

E120	Regenerative Discharge Circuit Overload Error		
E121	Regenerative Resistance Error		
E150	Encoder Connection Error	Abnormal connection between drive and encoder.	
E151	Encoder Communication Error		
E152	Initialize Encoder Position Error		
E170	Encoder Data Error		
E190	Excessive Vibration Error		
E1a0	Over Speed Error		Motor speed exceed 3000[rpm].
E1a1	Speed Out of Control Error		
E1b0	Position instruction frequency it too large		
E1b1	electronic gear setup error		
E180	Position following error		0x8611
E240	EEPROM parameters saving error		0x5530
E241	Saving module hardware error		0x5531
E242	Error / diagnosis record keeping error		0x5532
E243	Saving signals error		0x5533

E244	Communication parameters saving error		0x5534
E245	Motion parameters saving error		0x5535
E260	Overtravel Positive / Negative input is valid		0x7329
E828	Synchronizing mode is not supported		0x8728
E82d	Asynchronous error		0x872D
E81a	synchronizing error		0xFF02
E82e	synchronizing cycle is too short		0x872E
E836	Invalid DC synchronizing cycle		0x8736
E832	DC phase-locked Loop failure		0x8732
E81b	Watchdog Time-Out of Synchronization Manager 2		0x821B
E818	Invalid input data		0x8211
E819	Invalid output data		0x8212
E82c	Fatal synchronization error		0x872C
E813	Boot Status main-page-reqprotection		0x8213
E850	EEPROM reading error		0x5550
E851	EEPROM error		0x5551
E801	ESM State Machine Conversion Failed		0x8201

E81c	Invalid Type of Synchronization Manager		0x821C
E811	Invalid ESM Conversion request		0xA001
E812	Unknown ESM Conversion request		0xA002
E816	Invalid pre-operation mailbox configuration		0x8216
E815	Invalid boot Status mailbox configuration		0x8215
E81d	Invalid output configuration		0x821D
E81e	Invalid input configuration		0x821E
E821	Waiting for the status of ESM initialization		0xA003
E822	Waiting for the status of ESM pre-operation		0xA004
E823	Waiting for the status of ESM safe operation		0xA005
E824	Invalid input data mapping		0x8224
E825	Invalid output data mapping		0x8225
E82b	Input and Output is invalid		0x8210
E830	DC synchronization configuration is invalid		0x8730
E802	Out of memory		0x5510
E852	Hardware is not ready		0x5552
E870	Mode not support		0x5201

E871	The operation condition of this mode is not satisfied.		0x5202
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Error Code Table

(1) Object 0x3FFE+01 indicates the current failure alarm, and other sub-index indications are historical alarms.

(2) Object 0x1001 and 0x603F indicate the current failure alarm, The error code read by 0x603F is IEC 61800 specification; the error code read by 0x1001 is CIA specification.

(3) Error code read by some master station is displayed in decimal. At this time, please convert it to hexadecimal and then refer to the error code table as below. For example, the master station reports error code of 8721, the corresponding hexadecimal number is 0x2211, so the alarm information in the reference table is over-current alarm.

0x3FFE Value	0x603F Value	Description	Trouble Shooting
0x0e0	0x2211	Over-current	1. Check whether the wiring is short-circuited, or the motor is short-circuited. 2. Switch power supply alarm caused, replace other power supply for a try.
0x0c0	0x3211	Over-voltage	1. Check the voltage of power supply; 2. If over-voltage occurs in motion, the acceleration and deceleration time can be increased
0x0a0	0x3150	EEPROM error in phase A	1. Reset parameters to the factory and restart power supply 2. If it still exists, the hardware failure
0x0a1	0x3151	EEPROM error in phase B	
0x1a0	0x8402	Over-speed	1. Reduce command speed value; 2. Write 0x10 to the object 0x2056 to clear the alarm.
0x240	0x5530	Save error	1. Reset parameters to the factory and restart power supply 2. If it still exists, the hardware failure
0x260	0x7329	Limit switched alarm	Refer to 0x22A9+00
0x570	0x5441	Quick stop alarm	Refer to 0x22B4+00

0x5f0	0x7122	Auto-tuning error	1. Restart the drive; 2. If it still exists, disable auto-tuning by 0x2013
-	0x7321	Encoder wiring error	1. The drive is not connected to a motor; 2. If alarm is occurred when connect a motor, please check the encoder wiring or a cable break.
0x816	0x8216	Invalid mailbox configuration in pre-operation state	Check the network cable
0x81b	0x821B	Watchdog timeout	Check the network cable
-	0x8611	Position following error	1. Set the value of Object 2024h to "0" to make motor run in open loop mode, If alarm disappears, it means encoder wiring error; 2. Motor torque is not enough or motor speed is too high;
0x836	0x8736	Invalid DC synchronization period	Decrease the value of the synchronization period or increase the value of 0x5400+02
0x870	0x5201	Unsupported operation mode	Check the value of 0x6061 and correct it to the supported operation mode;
0x801	0x8201	ESM state machine transition failed	Alarms related to the master station, without accurate solution.
0x802	0x5510	Memory overflow	
0x807	0x8207	The mapping object does not exist	
0x808	0x8208	PDO mapping object length error	
0x809	0x8209	PDO mapping object has no mapping attribute	
0x811	0xA001	Invalid ESM conversion request	
0x812	0xA002	Unknown ESM conversion request	
0x813	0x8213	Boot state request protection	
0x815	0x8215	Email configuration with invalid boot status	

0x818	0x8211	No valid input data
0x819	0x8212	No valid output data
0x81c	0x821C	Invalid sync manager type
0x81d	0x821D	Invalid output configuration
0x81e	0x821E	Invalid input configuration
0x821	0xA003	Waiting for the initial state of ESM
0x822	0xA004	Waiting for ESM pre-operation state
0x823	0xA005	Waiting for ESM safe operation status
0x824	0x8224	Invalid process data input mapping
0x825	0x8225	Invalid process data output mapping
0x827	0x8727	Free running mode is not supported
0x828	0x8728	Does not support synchronous mode
0x82b	0x8210	Invalid input and output
0x82c	0x872C	Fatal sync error
0x82d	0x872D	No synchronization errors
0x82e	0x872E	Synchronization period is too small
0x830	0x8730	Invalid DC synchronization configuration
0x832	0x8732	DC phase locked loop failure
0x833	0x8733	DC sync IO error
0x834	0x8734	DC synchronization timeout
0x835	0x8735	Invalid DC cycle
0x850	0x5550	EEPROM inaccessible
0x851	0x5551	EEPROM error
0x852	0x5552	The hardware is not ready

Alarm Clearing

After the CS3E drive alarms, the power should be cut off first to check the fault, especially the over-current and over-voltage faults.

Some alarms (except over-voltage and over-current) can be cleared when the drive is holding on, the step is as follows:

- Write 0x80 (decimal 128) to the object 0x6040 to clear the current alarm (except over-voltage and over-current). This method is recommended as a priority;
 - Or write 1 to the object 0x2093 to clear the historical alarm records. At this time, all sub-indexes of 0x3FFE are cleared;
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