Reset Error

Error messages

The LCC provides error messages in an Emergency Error Code (16 bits) and an Error Register (8 bits).

The Emergency Error Code is used for objects 0x11003, 0x21003, 0x31003, 0x41003 (history of errors) and for 0x603F.

The Error Register is in object 0x1001.

0x1001
Error register (8 bits). The value in the register describes the error message. Each bit represents an error type. See table below:

bit	decimal value	description
0	1	Generic error
1	2	Current
2	4	Voltage
3	8	Temperature
4	16	Communication error (overrun, error state)
5	32	Device profile specific
6	64	Reserved (always 0)
7	128	Manufacturer specific

0x1003
This object contains the number of Emergency Error Codes that recorded in the history objects 0x11003, 0x21003, 0x31003 & 0x41003. Its value is within the range [0-4].

0x11003, 0x21003, 0x31003 & 0x41003,
Contain the history of **0x603F**, the emergency error code. **0x11003** is the youngest error, **0x41003** the oldest. After power up these history objects are cleared. Reset of errors has no influence on this history list.

if an error occurs the controller will automatically send the object 0x11003 up via the serial port (similar to the get command). This can be used as a trigger for a master device (like a PC or PLC) that an error has occurred. The value on the next page explains the content of that error value.

0x603F

This Emergency Error Code describes the error message using a 16 bits number. The hex code in the error (if controller is in decimal mode the decimal number is transmitted) is shown in the table below:

Error code (hex)	Error code (dec)	Description
0x0000	0	No error
0x2200	8704	Hardware peak over-current detected (system protection)
0x2201	8705	Hardware I2T over-current detected (system protection)
0x6320	25376	Parameter error
0x7305	29445	Error in incremental encoder feedback detected
0x7306	29446	Differential encoder broken wire detected
0x8110	33040	Can bus overrun
0x8120	33056	Can in error passive mode
0x8130	33072	Lifeguard or heartbeat error.
0x8140	33088	Recovered from bus off
0x8141	33089	Buss off occurred
0x8150	33104	Transmit COBID collision
0x8210	33296	PDO not processed due to length error
0x8220	33312	PDO length exceeded
0x8613	34323	Timeout during homing process
0xFF04	65284	Phasing process out of tolerance detected
0xFF10	65296	Divide by zero instruction detected
0xFF20	65312	Uart reception overflow
0xFF30	65328	An out of valid range macro or command address as been executed
0xFF31	65329	Macro stack is full
0xFF33	65331	Detected interrupt without associated macro function
0xFF34	65332	Saving or restoring out of learned position space.

Note that this hex code is shown in the bottom bar (in a red box next to node number in green). This error value stays until the error is reset.

If you would get an encoder failure like the broken wire detection for the first time after starting the controller you would get the following error values:

- Pushed onto the serial port would be something like **0x20 W 0x11003 29446**
- Error Register **0x1001** will hold the value **128** (Manufacturer Specific)
- Object **0x1003** will hold the number **1** (since it is the first error after power up)
- Emergency Error Code **0x603F** will hold the value **29446**

Resetting an Error

In order to do a fault reset you need to create a transition of bit 7 of the control word from 0 to 1. To make sure the starting value of bit 7 is 0 you can best start with setting the control word to the enable voltage and quick stop state (control word = 6).

After that you can change the bit 7 from 0 to 1 by writing control word 128.

Then finally you set the state back to 6 to ensure that the controller is enabled to continue its process.

So this sequence looks like:

0 W 0x6040 6
0 W 0x6040 128
0 W 0x6040 6