CANOpen commands and messages

ConBotics uses the Nanotec **N5** and **C5** modules.
As of June 17th:
can1: sprayarm using N5
can0 : spraybase using C5

Bits are reversed in pairs in the CAN messages sent.

- For resetting controller context:
000#8100 for all devices
000#81XX for axis XX

- For resetting controller communication:
000#8200 for all devices
000#82XX for axis XX

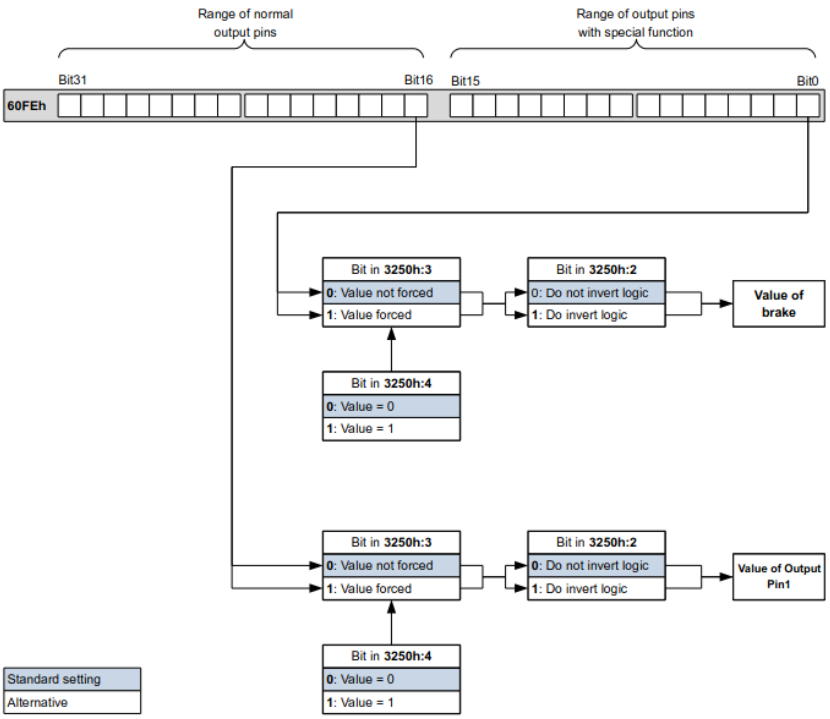
Usage:
This makes the controller lose the context of the position and treats the current position as 0.
We use this command while making or editing the zero position of the axis and all calculations take place with reference to that (if we want to move 1 radian, it will move 1 radian from that position).

- For disengaging/re-engaging the brakes on a controller:
6XX#2350320201000000

Explanation:
In this message: the 23 is for writing a message (like 40 is for reading).
50 and 32 are reversed to form 3250 on the receipt of the message.
The sub index of 02 on the receival of the message sets it from NO to NC/vice versa.

- $3250_h:01_h$: No function.
- $3250_h:02_h$: This is used to switch the logic from *normally open* to *normally closed*. Configured as *normally open*, the input outputs a logical high level if the bit is "1". With the *normally closed* configuration, a logical low level is output accordingly for a "1" in object $60FE_h$.
- $3250_h:03_h$: If a bit is set here, the output is controlled manually. The value for the output is then in object $3250_h:4_h$; this is also possible for the brake output.
- $3250_h:04_h$: The bits in this object specify the output value that is to be applied at the output if manual control of the output is activated by means of object $3250_h:03_h$.
- $3250_h:05_h$: The bit combination applied to the outputs is stored in this subindex.
- $3250_h:08_h$: For activating the Output Routing.

The message bits are reversed to receive the message 00000010 to disengage the brakes, and 00000000 to re-engage.



Usage:

This disengages the brakes on the controller so we can move it by hand in case of emergency brakes