

BISS-C Encoder interface

This page describes the **BISS-C encoder interface** of the Green Drive ISO tubular linear motor. The BISS-C option provides an absolute single-turn position, which is useful for applications that need a defined reference after power-on.

Please contact NILAB to buy the programming cable and software to change the standard configuration.

The encoder BISS-C position corresponds to a single-turn absolute value, where the single turn is related to 60 mm of linear displacement.

Standard configuration

The interpolator is set to 8192 pulses/revolution, corresponding to $60/8192 = 7.32 \mu\text{m}$ of resolution. This resolution is on the AB TTL 5V digital output signal.

The screenshot displays the BISS-C Encoder interface software. At the top, there are tabs for 'Read Sensor', 'Period Counter', 'Singleturn Data', 'Error', 'Warning', 'Stop on Error', 'Continuous Read', 'Data Display', 'Save to File', and 'Cycle Count'. Below these are four main configuration panels: 'Signal Conditioning', 'Interpolator Setup', 'Interface Setup', and 'Hex Editor'. The 'Interpolator Setup' panel is currently active, showing various parameters for the encoder. The 'Converter Functions' section includes 'Resolution' (8192) and 'Hysteresis' (0.7031°). The 'Signal Monitoring' section includes 'Amplitude Monitoring' (1.0<->4.5 Vpp) and 'Frequency Error' (Enable). The 'Incremental Signals' section includes 'Output A, B, Z' (Normal), 'Zero Signal Position' (0.00°), 'Zero Signal Length' (90°), and 'Zero Signal Logic' (B=1, A=1). The 'Maximum Possible Converter Frequency' section includes 'FCTR' (0x0004), 'Max. Input Frequency' (170.90 Hz), 'Min. Transition Distance' (0.44 μsec), and 'Oscillator Frequency (MHz)' (56.0 min. to 90.0 max.). At the bottom, there are buttons for 'Read RAM', 'Write RAM', 'Write Immediately', 'CRC', 'Save Config', 'Load Config', and 'Write EEPROM'. A status bar at the bottom left shows 'Interaction Feedback' with messages: '1. Loading configuration succeeded' and '0. GUI initialized'. A 'BISS C with COS' label is visible in the bottom right corner.

Additional resolution can be selected: 4096, 2048, 1024 pulses/revolution.

Notes

- The BiSS-C interface provides absolute position within one 60 mm turn. - The resolution can be changed with the programming cable and software from NILAB. - The digital output provides AB TTL 5V signals for the drive or controller. - For the connection and the encoder wiring, refer to the connection system page.

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