

BISS-C Encoder interface

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

Encoder BISS-C position corresponds to single turn absolute value where single turn is related to 60mm of linear displacement.

Standard configuration

Interpolator is set to 8192 pulses/revolution corresponding to $60/8192 = 7,32$ microns 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 controls for 'Read Sensor' (Decimal), 'Period Counter' (0), and 'Singleturn Data' (0). There are also buttons for 'Error' and 'Warning', and checkboxes for 'Stop on Error' (Off), 'Continuous Read' (On), and 'Data Display' (Off). A 'Save to File' checkbox is also present, along with a 'Cycle Count' field set to 1.

The main configuration area is divided into four panels:

- Converter Functions:** Resolution is set to 8192 (0x03) and Hysteresis is set to 0.7031° (0x04).
- Signal Monitoring:** Amplitude Monitoring is set to 1.0<->4.5 Vpp (0x04). Frequency Error and Amplitude Error are both disabled.
- Incremental Signals:** Output A, B, Z is set to Normal (0x00). Output Delay A, B, Z is set to immediately (0x00). Zero Signal Position is 0.00° (0x00), Zero Signal Length is 90° (0x00), and Zero Signal Logic is B=1, A=1 (0x00). Reset Enable and Code Direction are both disabled.
- Maximum Possible Converter Frequency:** FCTR is 0x0004, Max. Input Frequency is 170.90 Hz, Min. Transition Distance is 0.44 µsec, and Oscillator Frequency (MHz) is 56.0 min. to 90.0 max.

At the bottom, there are buttons for 'Read RAM', 'Write RAM', 'Write Immediately' (checked), 'CRC' (0xE4), 'Save Config', 'Load Config', and 'Write EEPROM'. An 'Interaction Feedback' window shows '1. Loading configuration succeeded' and '0. GUI initialized'. An 'Online Help' button is also present. The bottom right corner indicates 'BISS C with CDS'.

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

The screenshot shows the configuration software for a BiSS C sensor. The main window is titled 'Interface Setup' and contains several configuration panels. The 'Interface Setup' panel includes fields for Protocol Version (BiSS C), Protocol Options (BiSS C), Period Counter (none), SSI Data Format (binary coded), Timeout TIMO (ca. 20 µs), CRC Polynomial - Status Messages (0x43 - nE, nW), Timeout TOA (adaptive), and Zero Bit (no zero bit). Below these are BiSS Identifier ROM and BiSS Identifier fields. The 'Test Functions' panel includes Test Mode (OFF) and Analog Test Mode (Enable). The 'Register Access Safety Level' panel shows read/write permissions for Bank 0, Bank 1..7, Bank 8..15, and Bank 0x40..7F. The bottom of the interface has buttons for 'Read RAM', 'Write RAM', 'Write Immediately' (checked), 'CRC' (0xE4), 'Save Config', 'Load Config', and 'Write EEPROM'. A status bar at the bottom left shows '1. Loading configuration succeeded' and '0. GUI initialized'. The bottom right corner of the interface indicates 'BiSS C with CDS'.

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