

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' section 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 a software interface for configuring a BiSS C sensor. The top bar includes a 'Read Sensor' section with 'Period Counter' and 'Singleturn Data' fields, both set to 0. There are also checkboxes for 'Error' and 'Warning', and a 'Cycle Count' field set to 1. Below this are tabs for 'Signal Conditioning', 'Interpolator Setup', 'Interface Setup', and 'Hex Editor'. The 'Interface Setup' section is active, showing various configuration options: 'Protocol Version' (BiSS C), 'SSi Data Format' (binary coded), 'Protocol Options' (BiSS C), 'Timeout TIMO' (ca. 20 µs), 'Period Counter' (none), 'CRC Polynomial - Status Messages' (0x43 - nE, nW), 'Timeout TOA' (adaptive), and 'Zero Bit' (no zero bit). There are also fields for 'BiSS Identifier ROM' and 'BiSS Identifier'. The 'Test Functions' section includes 'Test Mode' (OFF) and 'Analog Test Mode' (Enable). The 'Register Access Safety Level' section shows a level of 0. At the bottom, there are 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 'Interaction Feedback' with a message '1. Loading configuration succeeded' and '0. GUI initialized'. The bottom right corner shows 'BiSS C with CDS'.

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Last update: 2025/03/06 14:32

