

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), 'Singleturn Data' (0), and status indicators for Error and Warning. Below these are buttons for 'Stop on Error' (On), 'Continuous Read' (On), 'Data Display' (On), 'Save to File' (On), and 'Cycle Count' (1). The main interface is divided into four panels: 'Converter Functions', 'Signal Monitoring', 'Incremental Signals', and 'Maximum Possible Converter Frequency'. The 'Converter Functions' panel shows Resolution (8192) and Hysteresis (0.7031°). The 'Signal Monitoring' panel shows Amplitude Monitoring (1.0<->4.5 Vpp) and checkboxes for Frequency Error and Amplitude Error. The 'Incremental Signals' panel shows Output A, B, Z (Normal), Output Delay A, B, Z (immediately), Zero Signal Position (0.00°), Zero Signal Length (90°), and Zero Signal Logic (B=1, A=1). The 'Maximum Possible Converter Frequency' panel shows 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' (On), 'CRC' (0xE4), 'Save Config', 'Load Config', and 'Write EEPROM'. An 'Interaction Feedback' section shows '1. Loading configuration succeeded' and '0. GUI initialized'. The bottom right corner indicates 'BISS C with CDS'.

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

Read Sensor Period Counter: 0 Singleturn Data: 0 Error: Warning: Stop on Error: On Continuous Read: On Data Display: On Save to File: On Cycle Count: 1

Signal Conditioning **Interpolator Setup** **Interface Setup** **Hex Editor**

Interface Setup

Protocol Version: BiSS C 0x00 Protocol Options: BiSS C 0x01 Period Counter: none 0x00

SSI Data Format: binary coded 0x00 Timeout TIMO: ca. 20 µs 0x00 CRC Polynomial - Status Messages: 0x43 - nE, nW 0x01

Timeout TOA: adaptive 0x01 Zero Bit: no zero bit 0x01

BiSS Identifier ROM: 00 00 00 00 00 00 00 00

BiSS Identifier: 4E 51 43 35 C0 83 69 43 IC-NQC 5

Test Functions

Test Mode: OFF 0x00 Analog Test Mode: Enable

PIN A: A PIN B: B PIN SDA: SDA PIN SCL: SCL

Register Access Safety Level: 0

Bank 0 Config. Dat: read / write Bank 1..7 EDS: read / write Bank 8..15 User Data: read / write 0x40..7F BiSS ID: read / write

Read RAM Write RAM Write Immediately: On CRC: 0xE4 Save Config Load Config Write EEPROM

Interaction Feedback: 1. Loading configuration succeeded 0. GUI initialized Online Help BiSS C with CDS

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Last update: **2025/03/06 14:32**

