

# 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 with the following configuration details:

- Read Sensor:** Decimal, Period Counter: 0, Singleturn Data: 0, Error: Off, Warning: Off, Stop on Error: Off, Continuous Read: On, Data Display: Off, Save to File: Off, Cycle Count: 1.
- Signal Conditioning:** Interpolator Setup, Interface Setup, Hex Editor.
- Converter Functions:** Resolution: 8192 (0x03), Hysteresis: 0.7031° (0x04).
- Signal Monitoring:** Amplitude Monitoring: 1.0<->4.5 Vpp (0x04), Frequency Error: Off, Amplitude Error: Off.
- Incremental Signals:** Output A, B, Z: Normal (0x00), Output Delay A, B, Z: immediately (0x00), Zero Signal Position: 0.00° (0x00), Zero Signal Length: 90° (0x00), Zero Signal Logic: B=1, A=1 (0x00), Reset Enable: Off, Code Direction: Off.
- Maximum Possible Converter Frequency:** FCTR: 0x0004, Max. Input Frequency: 170.90 Hz, Min. Transition Distance: 0.44 µsec, Oscillator Frequency (MHz): 56.0 min. to 90.0 max.
- Bottom Panel:** 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.

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

**Read Sensor**    Period Counter    Singleturn Data    Error    Warning    Stop on Error    Continuous Read    Data Display    Save to File    Cycle Count

Decimal    0    0     On     On     On     On    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    Bank 0x40..7F BiSS ID: read / write

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

Interaction Feedback    Online Help

1. Loading configuration succeeded    0. GUI initialized    BiSS C with CDS

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