

Product data

Contents

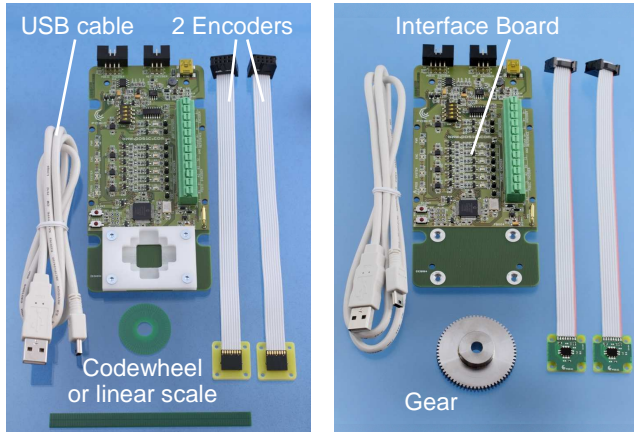


Fig. 1: Evaluation & Programming Tool with codewheel or linear scale (left) or with gear (right).

The EPT contains a 28.2 mm diameter codewheel or a 100 mm long 2-track scale or a gear module 0.5. Codewheel and linear scale fit in the white plastic target holder.

Interface Board

The board contains several LEDs as listed below:

- PWR (red): Interface Board powered via USB
- ENC (red): Encoder active
- SYSTEM (red): Microcontroller active
- PROG (yellow): Programming of OTP (One Time Programmable) memory is ongoing
- Signal LEDs (red): encoder output signals

The encoder signals are visualized by the signal LEDs and can be measured on the TestPins and the Terminal Block.

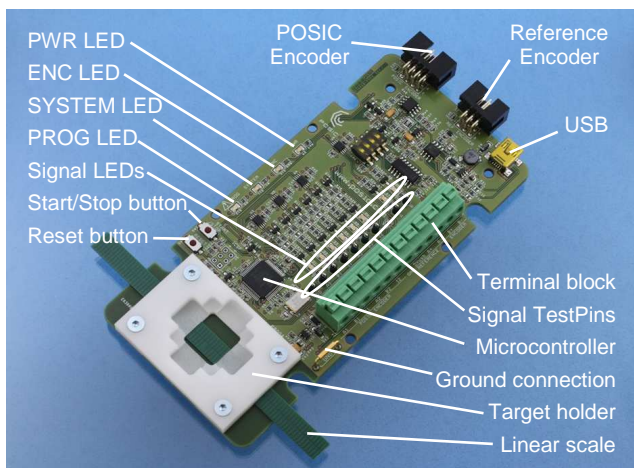


Fig. 2: The Interface Board

Operation without PC/software

The Interface Board is operated without software by connecting the USB-cable to a mains-USB converter or to a PC. Press "Start/Stop" to toggle the encoder on/off.

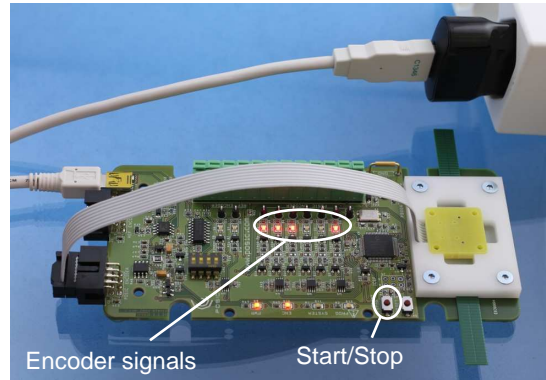


Fig. 3: The Interface Board operated without PC

Operation with ASSIST software

The Interface Board is operated with a PC using the USB cable and the ASSIST software.

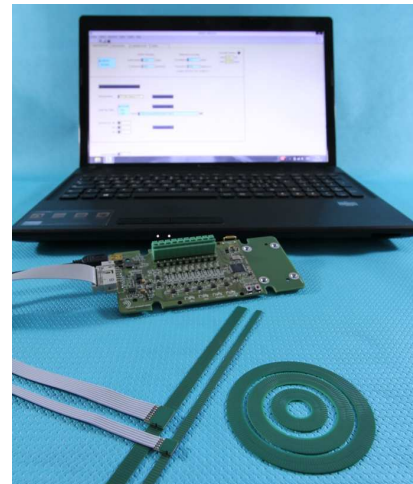


Fig. 4: The Interface Board operated with PC

ASSIST Software

The ASSIST software allows you to configure, evaluate and linearize POSIC encoder kits. These three functions are available in three windows as explained below.

Configuration

The configuration window allows you to:

- Choose between rotary and linear measurement
- Define the resolution of the reference encoder
- Define the codewheel or scale of the POSIC encoder
- Select the resolution, maximum speed and orientation of the POSIC encoder
- Select the LookUp Table

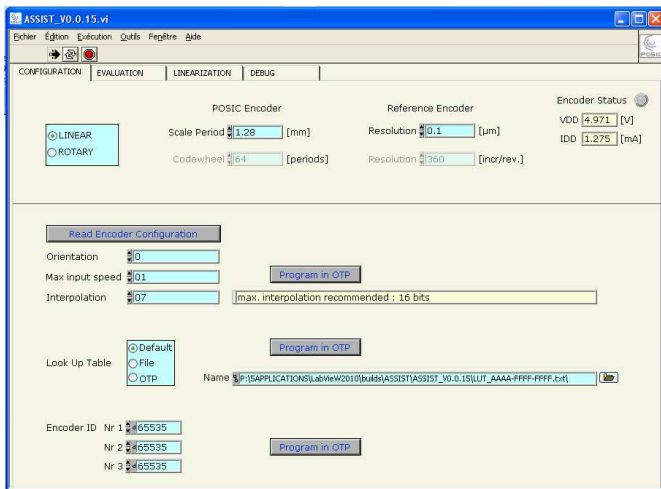


Fig. 5: Configuration window

Evaluation

The evaluation window allows you operate the encoder and shows the measured position of the POSIC- and reference encoder.

Linearization

The linearization window allows to compensate the periodic non-linearity (NL) of the encoder by means of a LookUp Table (LUT) that can be stored in volatile memory (RAM) or in non-volatile memory (OTP = One Time Programmable).

Three linearization methods are available:

- Manual: Measurement in steps adjusted with microscrew
- File: Measurement via external data acquisition system
- Automatic: Measurement via Interface Board

The linearization sequence:

- 1) Measure with Default LUT in RAM
- 2) Measure with calculated LUT in RAM
- 3) Program the LUT in the OTP memory of the encoder
- 4) Save the linearization data

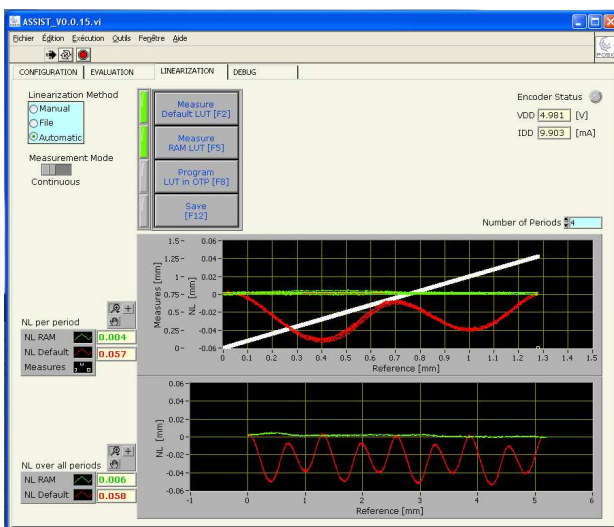


Fig. 6: Linearization window; red line prior to linearization NL 58 um; green line after linearization NL 6 um.

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Debug

The Debug window allows you to check the Interface Board and the encoder if a problem occurs:

- Check Interface Board firmware revision number
- Check Interface Board supply voltage
- Check encoder connections (all outputs toggle on/off)
- Check the encoder supply voltage and current
- OTP memory dump

Encoder Status

The encoder status is shown at the top right side of each window. The indicator turns red when the encoder is activated. The encoder's supply voltage and current are measured at the moment that the encoder is activated.

When the encoder-indicator is off, the encoder is not active and may be disconnected or replaced by another encoder.

When a short-circuit occurs between the supply lines or between an output and a supply line, the IDD display turns red and the encoder is turned off.



Fig. 7: Encoder status

Requirements

- PC operation: MicroSoft Windows™ XP or later
- Linearization: reference encoder with A quad B outputs

Types of encoders

The Interface Board and the software are compatible to the following encoder kits:

- ID4501L/C/G with linear scale, codewheel or gear
- ID1102L/C/G with linear scale, codewheel or gear
- IT3402L/C with linear scale or codewheel

User manual

A user manual for the Interface Board and the ASSIST software can be downloaded from POSIC's website.

Ordering information

Eval. & Progr. Tool: **EPT002- Encoder**

Suited for: Evaluation and prototyping
Including: Interface Board, USB cable, 2 encoders with cable/connector, codewheel or linear scale.

Encoder: ID4501L/C/G, ID1102L/C/G or IT3402L/C; to be specified according to the respective datasheet.

Programming Tool: **PT002**

Suited for: Programming during production
Including: Interface Board and USB-cable. Excluding encoders, target and target holder.