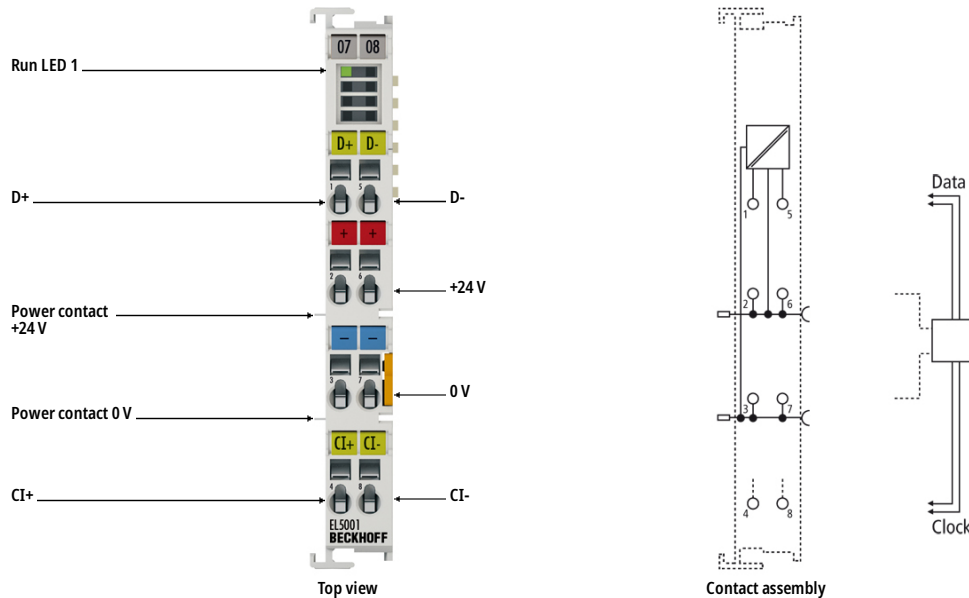


# EL5001 | EtherCAT Terminal, 1-channel encoder interface, SSI



**i Product status:** Regular delivery

The EL5001 EtherCAT Terminal is an SSI master and enables the direct connection of an absolute encoder with SSI (synchronous serial interface). Both singleturn and multiturn encoders are supported. The 24 V supply of the encoder can be provided directly via the terminal connection points. The EL9505 power supply unit terminal can be used for an optional 5 V encoder operating voltage.

Extensive parameterization allow optimum adaptation to different encoder types.

Special features:

- baud rate up to max. 1 MHz
- coding: gray and binary
- data length up to 32 bit, flexibly adjustable.
- separate evaluation of a status error bit (power fail bit) in the process data

Via the distributed clocks function, the position value is read out exactly synchronously with other processes. If the distributed clocks function is deactivated, the EL5001 clocks synchronize with the EtherCAT cycle. The encoder profile enables simple and fast linking of the process data for motion control applications.

## Product information

### Technical data

|                |                       |
|----------------|-----------------------|
| Technical data | EL5001, ES5001        |
| Technology     | SSI encoder interface |

|                                    |  |
|------------------------------------|--|
| Number of channels                 | 1  |
| Encoder connection                 | D+, D-, Cl+, Cl-   |
| Encoder operating voltage          | 24 V DC (generated from the power contacts)                              |
| Signal output (pulse)              | difference signal (RS422)  |
| Signal input (data)                | difference signal (RS422)  |
| Power supply                       | 24 V via power contacts  |
| Data transfer rates                | variable up to 1 MHz, 250 kHz default                                    |
| Serial input                       | variable up to 32 bit, 24 bit default                                    |
| Data direction                     | read   |
| Current consumption power contacts | typ. 20 mA + load  |
| Current consumption E-bus          | typ. 120 mA  |
| Distributed clocks                 | yes  |
| Special features                   | adjustable baud rate, coding and data length, power fail bit activatable |
| Weight                             | approx. 55 g   |
| Electrical isolation               | 500 V (E-bus/field potential)  |
| Operating/storage temperature      | -25...+60 °C/-40...+85 °C  |
| Relative humidity                  | 95 %, no condensation  |
| Vibration/shock resistance         | conforms to EN 60068-2-6/EN 60068-2-27                                   |
| Protect. rating/installation pos.  | IP20/variable  |
| EMC immunity/emission              | conforms to EN 61000-6-2/EN 61000-6-4                                    |
| Approvals/markings                 | CE, UL, ATEX   |
| Pluggable wiring                   | for all ESxxx terminals  |
| Ex marking                         | II 3 G Ex nA IIC T4 Gc   |

| Housing data                      | EL-12-8pin  | ES-12-8pin  |
|-----------------------------------|---|---|
| Design form                       | compact terminal housing with signal LEDs   | terminal housing with pluggable wiring level  |
| Material                          | polycarbonate   |   |
| Dimensions (W x H x D)            | 12 mm x 100 mm x 68 mm  |   |
| Installation                      | on 35 mm DIN rail, conforming to EN 60715 with lock   |   |
| Side by side mounting by means of | double slot and key connection  |   |
| Marking                           | labeling of the BZxxx series  |   |
| Wiring                            | solid conductor (e), flexible conductor (f) and ferrule (a): spring actuation by screwdriver            |   |
| Connection cross-section          | s*: 0.08...2.5 mm <sup>2</sup> ,<br>st*: 0.08...2.5 mm <sup>2</sup> ,<br>f*: 0.14...1.5 mm <sup>2</sup> | s*: 0.08...1.5 mm <sup>2</sup> ,<br>st*: 0.08...1.5 mm <sup>2</sup> ,<br>f*: 0.14...1.5 mm <sup>2</sup> |
| Connection cross-section AWG      | s*: AWG 28...14,<br>st*: AWG 28...14,<br>f*: AWG 26...16  | s*: AWG 28...16,<br>st*: AWG 28...16,<br>f*: AWG 26...16  |

|                             |                         |           |
|-----------------------------|-------------------------|-----------|
| Stripping length            | 8...9 mm                | 9...10 mm |
| Current load power contacts | I <sub>max</sub> : 10 A |           |

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\*s: solid wire; st: stranded wire; f: with ferrule

## Ordering information

| Special terminals |   |
|-------------------|---|
| EL5001            | EtherCAT Terminal, 1-channel encoder interface, SSI                   |
| ES5001            | EtherCAT Terminal, 1-channel encoder interface, SSI, pluggable wiring |

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