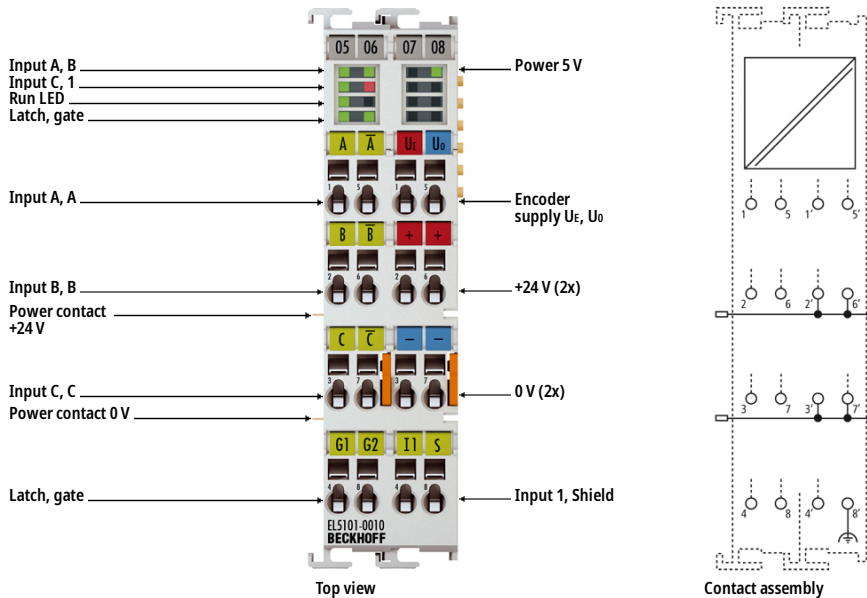
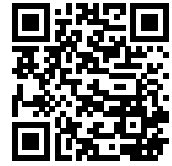


# EL5101-0010 | EtherCAT Terminal, 1-channel encoder interface, incremental, 5 V DC (DIFF RS422), 5 MHz



**i Product status:** Regular delivery

The EL5101-0010 EtherCAT Terminal is an interface for the direct connection of incremental encoders with differential signals (RS422). With a maximum input frequency of up to 5 MHz it is particularly suitable for dynamic applications. Two additional 24 V digital inputs are available for storing, blocking and setting the counter status. The error message output of an encoder can be connected and evaluated via the status input. The 5 V and 24 V supply of the encoder can be provided directly via the terminal connection points.

Special features:

- save, lock, set counter
- integrated frequency and period measurement
- open-circuit recognition
- synchronous reading of the position value via distributed clocks
- timestamp on the last-registered incremental edge

In addition, the EL5101-0010 enables the measurement of a period or frequency with a resolution of 100 ns. It also supports synchronous reading of the encoder value together with other input data in the EtherCAT system via the high-precision EtherCAT distributed clocks (DC). A timestamp for the last-registered incremental edge is also available. The use of encoder profiles enables simple and fast linking of the process data for motion control applications.

## Product information

### Technical data

Technical data

EL5101-0010

Technology	incremental encoder interface, differential (RS422)
Number of channels	1
Encoder connection	1 x A, B, C: differential inputs (RS422): A, $\bar{A}$ (inv), B, $\bar{B}$ (inv), C, $\bar{C}$ (inv)
Additional inputs	status input 5 V DC, gate/latch input 24 V DC
Encoder operating voltage	5 V DC/max. 0.5 A (generated from the 24 V DC power contacts)
Counter	1 x 16/32 bit switchable
Limit frequency	20 million increments/s (with 4-fold evaluation), corresponding to 5 MHz
Quadrature decoder	4-fold evaluation
Nominal voltage	24 V DC (-15 %/+20 %)
Current consumption power contacts	typ. 100 mA + load
Current consumption E-bus	typ. 130 mA
Distributed clocks	yes
Special features	wire breakage detection, latch and gate function, period duration and frequency measurement, timestamping of edges, filters, no single-ended operation
Weight	approx. 100 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
Ex marking	II 3 G Ex nA IIC T4 Gc

<b>Housing data</b>	EL-24-2x8pin
Design form	compact terminal housing with signal LEDs
Material	polycarbonate
Dimensions (W x H x D)	24 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> , st*: 0.08...2.5 mm <sup>2</sup> , f*: 0.14...1.5 mm <sup>2</sup>
Connection cross-section AWG	s*: AWG 28...14, st*: AWG 28...14, f*: AWG 26...16
Stripping length	8...9 mm

**Current load power contacts** $I_{\max}$ : 10 A

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