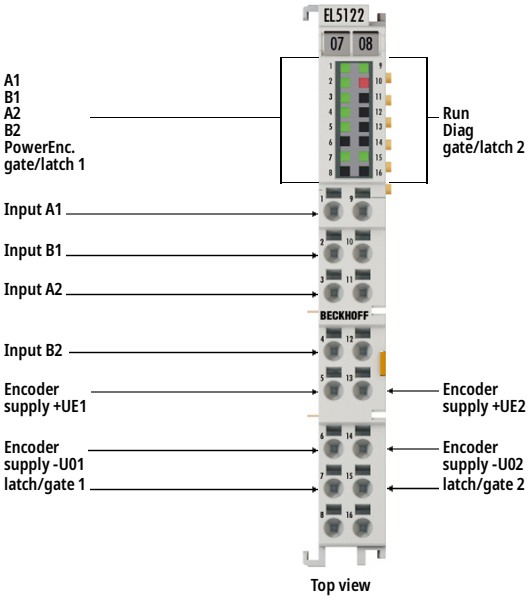
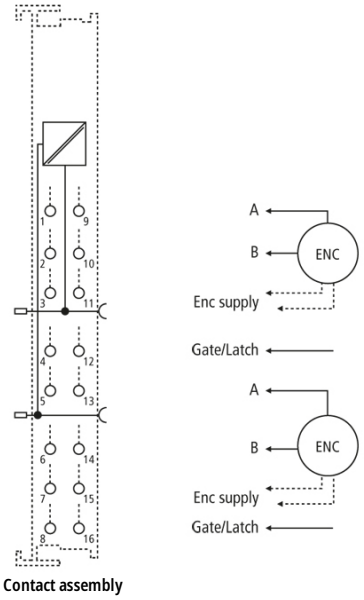
EL5122 | EtherCAT Terminal, 2-channel encoder interface, incremental, 5 V DC (TTL, open collector), 1 MHz



Top view



Contact assembly

Product status: Regular delivery

The EL5122 EtherCAT Terminal is an interface for the direct connection of two incremental encoders with A and B track. Encoders with single ended signals (TTL and Open Collector) can be connected. Due to internal pull-up resistors, no external circuitry is necessary for Open Collector evaluation. Per channel a 24 V digital input is available for storing, blocking and setting the counter status. It is also possible to set the counter to a predefined value or to lock the counter directly through the process data. The 5 V, 12 V or 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
- optionally usable as 5 V up/down counter
- synchronous reading of the position value via distributed clocks

In addition, the EL5122 enables the measurement of a period, frequency or velocity with a resolution of 10 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). The use of encoder profiles enables simple and fast linking of the process data for Motion Control applications.

Product information

Technical Data

Technical data	EL5122

Technology	incremental encoder interface, single-ended (TTL, open collector), counter, pulse generator
Number of channels	2
Encoder connection	2 x A, B single-ended connection (TTL, Open Collector): A, B counter, pulse generator: A, B
Additional inputs	gate/latch (24 V DC, T_{ON} > 1 µs) per channel
Encoder operating voltage	5 V DC (default), 12 V DC, 24 V DC switchable, 0.3 A total current (generated from the 24 V DC power contacts)
Counter	32 bit (default), 16/32 bit switchable
Limit frequency	TTL: 4 million increments/s with 4-fold evaluation, corresponding to 1 MHz, Open Collector: 400 kilo increments/s with 4-fold evaluation, corresponding to 100 kHz
Quadrature decoder	4-fold evaluation (default), 2-fold, 1-fold evaluation switchable
Distributed clocks	yes
Current consumption power contacts	typ. 10 mA + load
Current consumption E-bus	typ. 190 mA
Wiring fail indication	–
Special features	period duration, frequency and speed measurement
Weight	approx. 50 g
Electrical isolation	500 V (E-bus/field potential)
Operating/storage temperature	0...+55 °C/-25...+85 °C
Relative humidity	95 %, no condensation
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protect. class/installation pos.	IP 20/variable
Approvals/markings	CE

Housing data	**EL-12-16pin**
Design form	HD (High Density) housing with signal LEDs
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 conductors (e): direct plug-in technique; fine-stranded conductors (f) and ferrule (a): spring actuation by screwdriver
Connection cross-section	s*: 0.08...1.5 mm^2, st*: 0.25...1.5 mm^2, f*: 0.14...0.75 mm^2

Connection cross-section AWG	s*: AWG 28...16, st*: AWG 22...16, f*: AWG 26...19
Stripping length	8...9 mm
Current load power contacts	I_{max}: 10 A

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