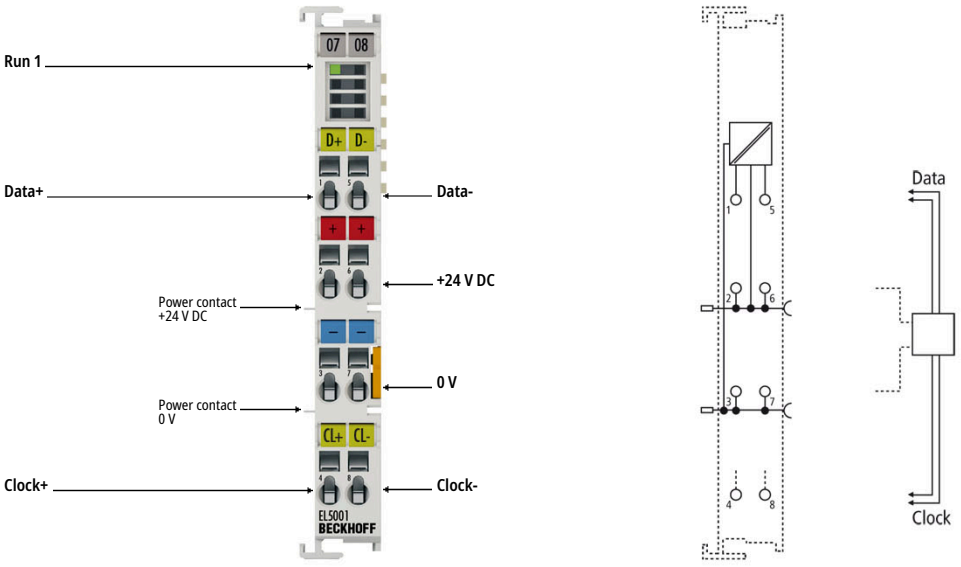
EL5001 | EtherCAT Terminal, 1-channel encoder interface, SSI

Image similar, may contain optional accessories



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

Product status: regular delivery

The EL5001 EtherCAT Terminal is an SSI controller 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
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)
Distributed clocks	yes
Signal output (pulse)	difference signal (RS422)
Signal input (data)	difference signal (RS422)
Power supply	24 V via power contacts
Transmission rate	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
Electrical isolation	500 V (E-bus/field potential)
Special features	adjustable baud rate, coding and data length, power fail bit activatable
Weight	approx. 55 g
Operating temperature	-25...+60°C
Storage temperature	-40...+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. rating/installation pos.	IP20/variable
Pluggable wiring level	for all ESxxxx terminals
Approvals/markings	CE, CCC, UL, ATEX, IECEx, cFMus
Ex marking	ATEX: II 3G Ex ec IIC T4 Gc IECEx: Ex ec IIC T4 Gc cFMus: Class I, Division 2, Groups A, B, C, D Class I, Zone 2, AEx ec 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

Housing data	EL-12-8pin	ES-12-8pin
Material	polycarbonate	
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 BZxxxx series	
Wiring	solid conductor (s), flexible conductor (st) and ferrule (f): spring actuation by screwdriver	
Connection cross-section	s*: 0.08...2.5 mm², st*: 0.08...2.5 mm², f*: 0.14...1.5 mm²	s*: 0.08...1.5 mm², st*: 0.08...1.5 mm², f*: 0.14...1.5 mm²
Connection cross-section AWG	s*: AWG28...14, st*: AWG28...14, f*: AWG26...16	s*: AWG28...16, st*: AWG28...16, f*: AWG26...16
Stripping length	8...9 mm	9...10 mm
Current load power contacts	I_{max}: 10 A	
Dimensions (W x H x D)	12 mm x 100 mm x 68 mm	

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

Ordering information

Ordering information	
EL5001	EtherCAT Terminal, 1-channel encoder interface, SSI
ES5001	EtherCAT Terminal, 1-channel encoder interface, SSI, pluggable wiring level

Material Compliance

Material compliance	EL5001
REACH SVHC	no
POP	compliant
RoHS	compliant with exemption
RoHS exemption	7c-I: Lead-containing electrical and electronic components in glass and ceramic materials, excluding dielectric ceramics in capacitors
China-RoHS	www.beckhoff.com/china-rohs-io
CA Prop65	www.beckhoff.com/prop65
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