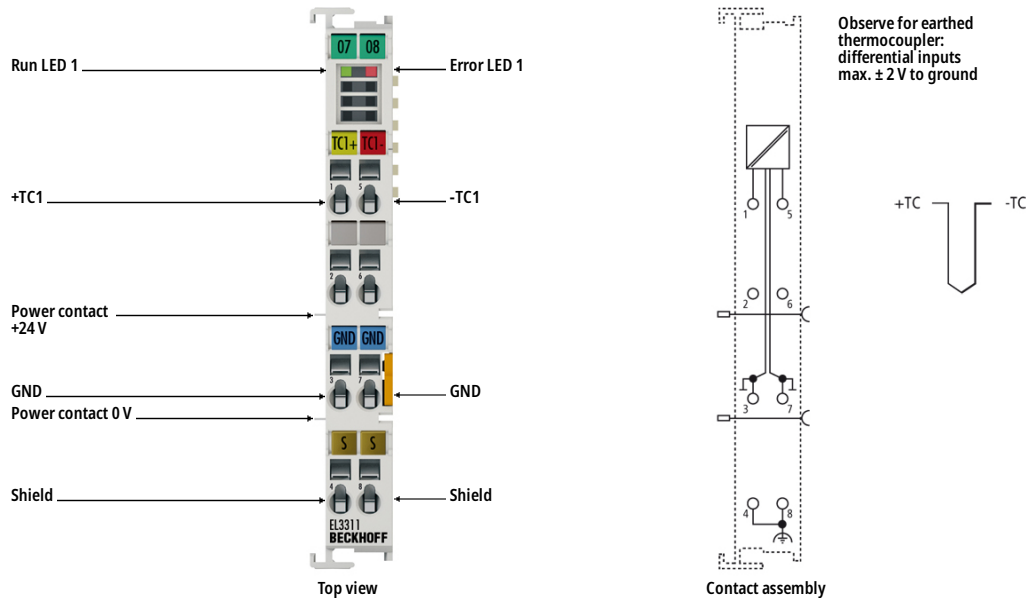




EL3311 | EtherCAT Terminal, 1-channel analog input, temperature, thermocouple, 16 bit



i Product status: Regular delivery

The EL3311 analog input terminal allows thermocouples to be connected directly. The EtherCAT Terminal's circuit can operate thermocouple sensors using the 2-wire technique. Linearization over the full temperature range is realized with the aid of a microprocessor. The temperature range can be selected freely. The error LEDs indicate a broken wire. Compensation for the cold junction is made through an internal temperature measurement at the terminal. The EL3311 can also be used for mV measurement.

Product information

Technical Data

Technical data	EL3311
Number of inputs	1
Technology	Temperature measurement (TC)
Connection method	2-wire
Signal type	differential
Temperature measurement (thermocouple)	type B, C, E, J, K, L, N, R, S, T, U (default setting: type K)
Measurement uncertainty (temperature measurement)	at 23 °C ambient temperature, with internal cold junction, according type: B: ±8.5 °C; C: ±6.2 °C; E: ±2.5 °C; J: ±2.7 °C; K: ±3 °C; L: ±2.3 °C; N: ±3 °C; R: ±6.7 °C; S: ±7.1 °C; T: ±2.9 °C; U: ±2.5 °C; for further details see documentation
Voltage measurement	±30/±60/±75 mV

Measurement uncertainty (voltage measurement)	at ± 75 mV, 23 °C ambient temperature: $< \pm 0.14$ % (relative to full scale value)
Resolution	16 bit, representation adjustable: 0.1/0.01 °C or 1/2/4 μ V per digit
Input filter limit frequency	typ. 1 kHz
Conversion time	approx. 750 ms up to 20 ms, depending on configuration and filter setting, default: approx. 75 ms
Distributed clocks	–
Power supply	via the E-bus
Current consumption E-bus	200 mA
Current consumption power contacts	–
Electrical isolation	500 V (E-bus/signal voltage)
Special features	channel by channel wire break detection, internal and external cold junction, firmware filter adjustable
Weight	approx. 60 g
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
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protect. rating/installation pos.	IP20/variable
Approvals/markings	CE, UL, ATEX
Ex marking	II 3 G Ex nA IIC T4 Gc

Housing data	EL-12-8pin
Design form	compact terminal 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 conductor (e), flexible conductor (f) and ferrule (a): spring actuation by screwdriver
Connection cross-section	s*: 0.08...2.5 mm ² , st*: 0.08...2.5 mm ² , f*: 0.14...1.5 mm ²
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