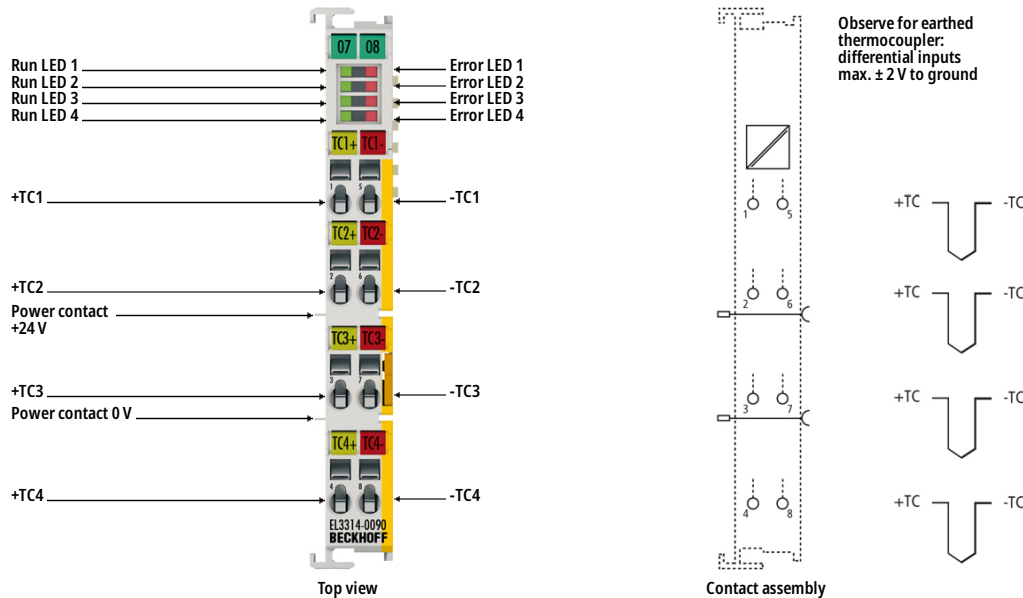
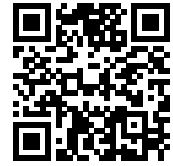


EL3314-0090 | EtherCAT Terminal, 4-channel analog input, temperature, thermocouple, 16 bit, TwinSAFE SC



i Product status: Regular delivery

The EL3314-0090 analog input terminal allows four thermocouples to be connected directly. The EtherCAT Terminal circuit can operate thermocouple sensors using the 2-wire technique. A microprocessor handles linearization across the whole temperature range, which is freely selectable. Compensation for the cold junction is made through an internal temperature measurement at the terminal. The EL3314-0090 can also be used for mV measurement.

With the aid of the TwinSAFE SC technology (TwinSAFE Single Channel) it is possible to make use of standard signals for safety tasks in any network or fieldbus. To do this, EtherCAT I/Os from the areas of analog input, position measurement or communication (4...20 mA, incremental encoder, IO-Link, etc.) are extended by the TwinSAFE SC function. The properties typical for the signals and the standard functions of the I/O components are retained. TwinSAFE SC I/Os differ optically from standard I/Os by a yellow stripe on the front of the housing.

The TwinSAFE SC technology enables communication via a TwinSAFE protocol. These connections can be distinguished from the usual secure communication via Safety over EtherCAT.

The data from the TwinSAFE SC components is fed via a TwinSAFE protocol to the TwinSAFE Logic, where it can be used in the context of safety-relevant applications. Detailed examples confirmed/calculated by the TÜV SÜD for the correct application of the TwinSAFE SC components and the respective normative classifications can be found in the TwinSAFE application manual.

Product information

Technical Data

Technical data

EL3314-0090

Number of inputs	4
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: < ±0.14 % (relative to full scale value)
Resolution	16 bit, representation adjustable: 0.1/0.01 °C or 1/2/4 µV per digit
Input filter limit frequency	typ. 1 kHz
Conversion time	approx. 2.5 s up to 20 ms, depending on configuration and filter setting, default: approx. 250 ms
Distributed clocks	–
Power supply	via the E-bus
Current consumption E-bus	typ. 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, TwinSAFE SC
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