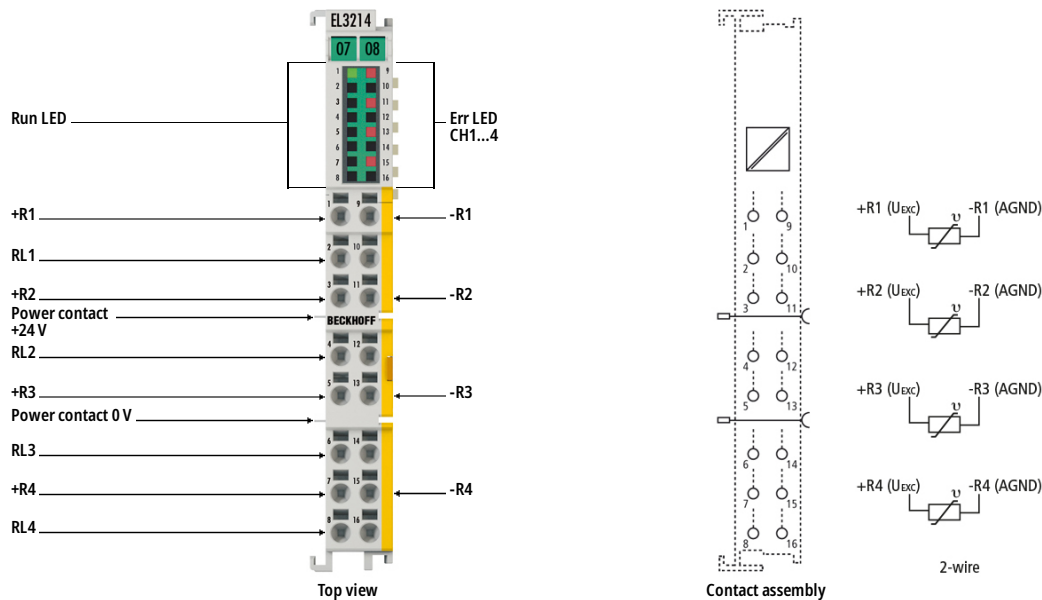
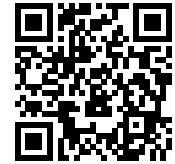


EL3214-0090 | EtherCAT Terminal, 4-channel analog input, temperature, RTD (Pt100), 16 bit, 3-wire connection, TwinSAFE SC



i Product status: Regular delivery

The EL3214-0090 is the TwinSAFE SC version of the EL3214. The EL3214-0090 analog input terminal facilitates the direct connection of four resistance sensors. The measured resistance value can either be output directly in ohms or transformed into a temperature. If the temperature at the measuring point is of interest, the conversion from resistance to temperature can be carried out in the terminal according to various sensor characteristics (Pt100, Pt1000, NI120, NI1000, KTY types, etc.). The EL3214-0090 can operate sensors using 2-wire and 3-wire technology. The EtherCAT Terminals indicate their measurement capability by means of light emitting diodes and status bits in the EtherCAT process image. The EL3214-0090 supports TwinSAFE Single Channel technology.

The TwinSAFE SC technology (TwinSAFE Single Channel) facilitates the use of standard signals for safety-related tasks in any networks or fieldbuses. To do this, EtherCAT I/Os from the areas of analog input, angle and displacement measurement, or communication (4 to 20 mA, incremental encoder, IO-Link, etc.) are extended by the TwinSAFE SC function. The typical signal features and standard functionalities of the I/O components are retained. TwinSAFE SC I/Os have a yellow strip at the front of the housing to distinguish them from standard I/Os.

The TwinSAFE SC technology facilitates communication by means of a TwinSAFE protocol. These connections can be distinguished from the usual safe communication by means of Safety over EtherCAT.

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

Product information

Technical Data

Technical data	EL3214-0090
Number of inputs	4
Power supply	via the E-bus
Technology	Temperature measurement (RTD)
Signal type	differential
Distributed clocks	–
Input filter limit frequency	typ. 1 kHz
Sensor types	Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000, resistance measurement (e.g. potentiometer, 10 Ω...1.2/4 kΩ), KTY sensors (types see documentation)
Conversion time	approx. 170 ms default setting
Measuring current	< 0.5 mA (load-dependent)
Measuring range	-200...+850 °C (Pt sensors); -60...+250 °C (Ni sensors)
Temperature range	-200...+850 °C (Pt sensors); -60...+250 °C (Ni sensors)
Resolution	0.1 °C per digit
Measuring error	< ±0.5 °C for Pt sensors, 4 x 3-wire connection
Electrical isolation	500 V (E-bus/signal voltage)
Current consumption power contacts	–
Current consumption E-bus	typ. 140 mA
Special features	TwinSAFE SC, integrated digital filter, limit value monitoring, variable connection technology
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

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