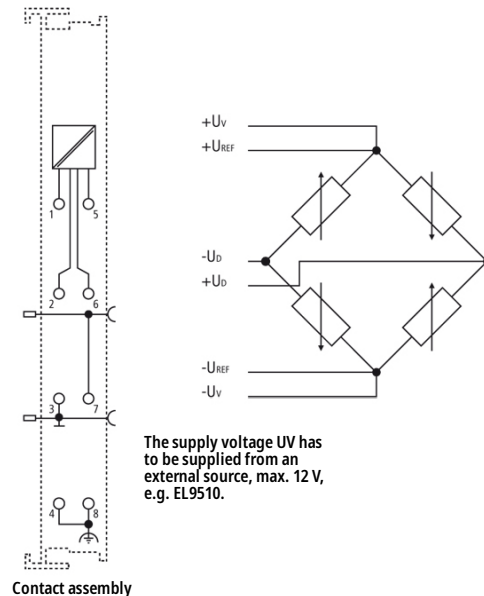
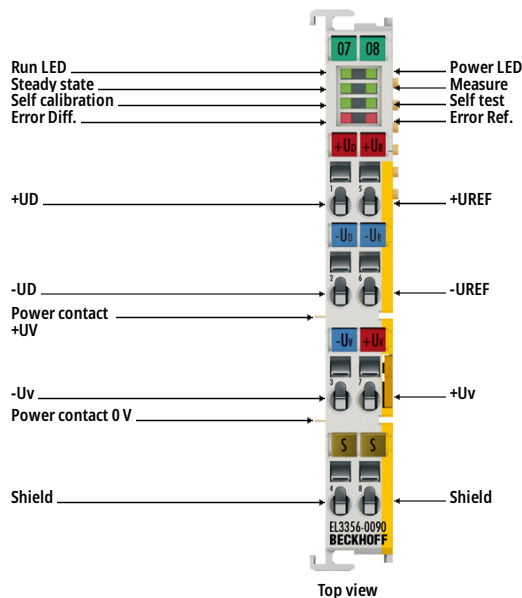
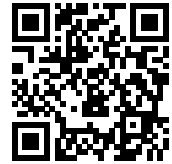


# EL3356-0090 | EtherCAT Terminal, 1-channel analog input, measuring bridge, full bridge, 24 bit, high-precision, TwinSAFE SC



## **i** Product status: Regular delivery

The analog EL3356-0090 input terminal enables direct connection of a resistor bridge or load cell in a 4- or 6-wire connection technology. The ratio between the bridge voltage UD and the supply voltage UREF is determined simultaneously in the input circuit and the final load value is calculated as a process value on the basis of the settings in the terminal. With automatic self-calibration (can be deactivated) and dynamic filters the terminal with measuring cycles of 10 ms can be used for slow weighings with high precision.

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

EL3356-0090

Number of inputs	2, for 1 resistor bridge in full bridge technology
Power supply	via the E-bus
Technology	resistor bridge, strain gauge
Signal type	differential
Distributed clocks	yes
Measuring range UD	max. $\pm 27$ mV
Measuring range UREF	max. $\pm 13.8$ V
Internal resistance	$> 200$ k $\Omega$ (UREF), $> 1$ M $\Omega$ (UD)
Input filter limit frequency	10 kHz low pass (-3 dB)
Conversion rate	10,000...4 samples/s (0.1...250 ms conversion time)
Power supply UV	up to 12 V DC from power contacts, dependent on sensor
Resolution	24 bit, 32 bit presentation
Measuring error	$< \pm 0.01$ % for the calculated load value in relation to the final load value with a 12 V feed and 24 mV bridge voltage (hence nominal strain gauge characteristic value of 2 mV/V), self-calibration active, 50 Hz filter active
Current consumption power contacts	depends on strain gauge supply, min. 1 mA
Current consumption E-bus	typ. 280 mA
Supported nominal sensitivity	all, parameter resolution: 0.01 $\mu$ V/V; recommended: 0.5...4 mV/V
Special features	TwinsAFE SC, self-calibration, quadruple averager, dynamic filters
Weight	approx. 60 g
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. rating/installation pos.	IP20/variable
Pluggable wiring	for all ESxxx terminals
Approvals/markings	CE, UL, ATEX, IECEx
Ex marking	II 3 G Ex nA IIC T4 Gc Ex nA IIC T4 Gc Ex tc IIIC T135 °C Dc

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

<b>Wiring</b>	solid conductor (e), flexible conductor (f) and ferrule (a): spring actuation by screwdriver
<b>Connection cross-section</b>	s*: 0.08...2.5 mm <sup>2</sup> , st*: 0.08...2.5 mm <sup>2</sup> , f*: 0.14...1.5 mm <sup>2</sup>
<b>Connection cross-section AWG</b>	s*: AWG 28...14, st*: AWG 28...14, f*: AWG 26...16
<b>Stripping length</b>	8...9 mm
<b>Current load power contacts</b>	I <sub>max</sub> : 10 A

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