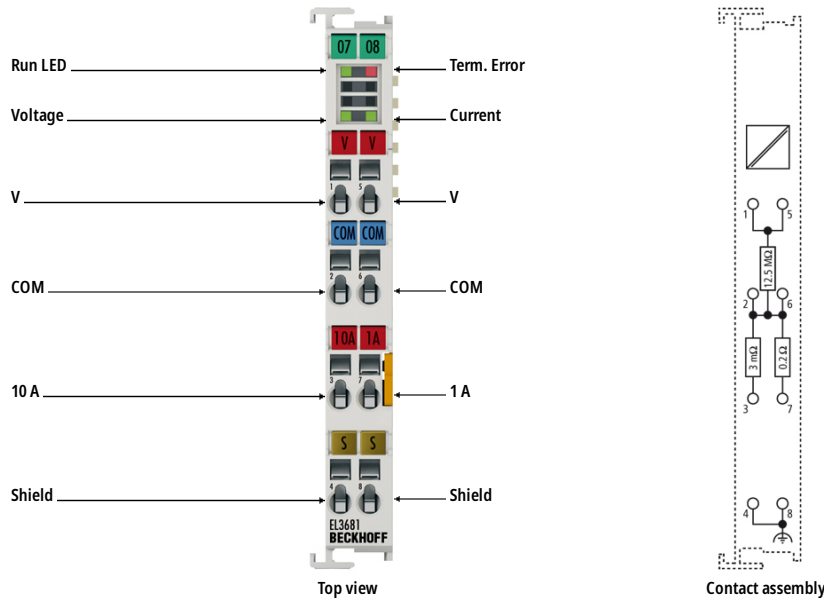
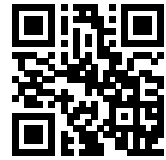


EL3681 | EtherCAT Terminal, 1-channel analog input, multimeter, 300 V AC/DC, 10 A, 19 bit



i Product status: Regular delivery

The EL3681 EtherCAT Terminal enables measurement of currents and voltages in a wide input range. The measuring ranges are switched automatically, as usual in advanced digital multimeters. For current measurements, two current paths are available, one of which is a high-current path for up to 10 A. The current and the voltage measurement facility can be used for DC and AC. The alternating parameters are output as true RMS values. The measurement readings can be read and processed with EtherCAT. At the same time, the EL3681 enables the measuring type and range to be set via the bus.

Excellent interference immunity is achieved through the fully electrically isolated design of the electronic measuring system and the dual-slope conversion system. High precision and simple, high-impedance measurement from 300 mV to 300 V allow the EtherCAT Terminal to be used like a modern digital multimeter.

In measuring applications in particular, the voltage to be expected is often not yet known during the planning phase. Automatic adjustment of the measurement range simplifies use and reduces stock levels. The selected measuring type and overload are indicated by LEDs.

Product information

Technical Data

Technical data	EL3681, ES3681
Number of inputs	1 voltage or 1 current (10 A/1 A)
Technology	digital multimeter with automatic range selection
Signal voltage	max. 300 V AC/DC, 10 A
Distributed clocks	–

Internal resistance	3 mΩ/0.2 Ω/12.5 MΩ
Resolution	18 bit + sign in each measurement range
Conversion time	0.5 s (1 s during measuring range switching) preset, min. 65 ms
Measured values	current, voltage
Measuring voltage	300 mV, 3 V, 30 V, 300 V
Measuring current	100 mA, 1 A and 10 A via high current path
Measuring error	0.01 % DC voltage measurement at 40 °C
Measuring procedure	DC with arithmetic averaging, AC with true RMS value calculation
Update time	0.5 s, 1 s for measuring range selection
Electrical isolation	1500 V (E-bus/field potential)
Current consumption power contacts	–
Current consumption E-bus	150 mA
Bit width in the process image	32 bit data, 16 bit control/status
Special features	automatic or manual range selection, 1.25 A fuse installed + spare fuse, filter deactivatable
Weight	approx. 70 g
Operating/storage temperature	-25...+60 °C/-40...+85 °C
Relative humidity	95 %, no condensation
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
Protect. rating/installation pos.	IP20/variable
Pluggable wiring	for all ESxxxx terminals
Approvals/markings	CE

Housing data	EL-12-8pin	ES-12-8pin
Design form	compact terminal housing with signal LEDs	terminal housing with pluggable wiring level
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	s*: 0.08...1.5 mm ² , st*: 0.08...1.5 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	s*: AWG 28...16, st*: AWG 28...16, f*: AWG 26...16

Stripping length	8...9 mm	9...10 mm
Current load power contacts	I _{max} : 10 A	

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

Ordering Information

Related products	
EL3681	EtherCAT Terminal, 1-channel analog input, multimeter, 300 V AC/DC, 10 A, 19 bit
ES3681	EtherCAT Terminal, 1-channel analog input, multimeter, 300 V AC/DC, 10 A, 19 bit, pluggable wiring