EL3024 | EtherCAT Terminal, 4-channel analog input, current, 4...20 mA, 12 bit, differential
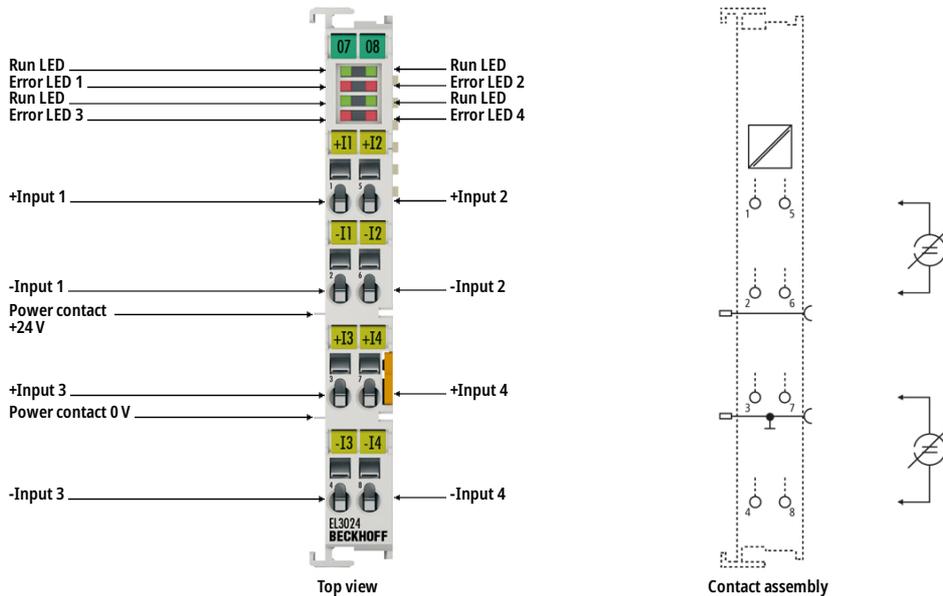

Run LED
Error LED 1
Run LED
Error LED 3

+Input 1

-Input 1
Power contact +24 V

+Input 3
Power contact 0 V

-Input 3

Run LED
Error LED 2
Run LED
Error LED 4

+Input 2

-Input 2

+Input 4

-Input 4

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Top view

Contact assembly

> ⓘ Image similar, may contain optional accessories

ℹ **Product status:** regular delivery

The EL3024 analog input terminal handles signals in the range from 4 to 20 mA. The current is digitized to a resolution of 12 bits and is transmitted, in an electrically isolated form, to the higher-level automation device. The input channels of the EtherCAT Terminal have differential inputs and possess a common, internal ground potential. The EL3024 combines four channels in one housing. An open lead or overload condition are detected and the terminal status is relayed to the controller via the E-bus. The EtherCAT Terminal indicates its signal state by means of light emitting diodes. The error LEDs indicate an overload condition and a broken wire.

Product information

Technical data

Technical data	EL3024
Number of inputs	4 (differential)
Power supply	via the E-bus
Signal current	4...20 mA
Distributed clocks	–
Internal resistance	typ. 85 Ω + diode voltage
Input filter limit frequency	1 kHz

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Common-mode voltage U_{CM}	max. 10 V
Conversion time	0.625 ms default setting, configurable, multiplex
Resolution	12 bit (16 bit presentation incl. sign)
Measurement error/uncertainty	< ±0.3% (relative to full scale value)
Surge voltage resistance	35 V DC
Electrical isolation	500 V (E-bus/signal voltage)
Current consumption power contacts	–
Current consumption E-bus	typ. 130 mA
Bit width in the process image	inputs: 16 byte
Configuration	no address or configuration setting
Special features	standard and compact process image, activatable FIR/IIR filters, limit value monitoring
Operating/storage temperature	-25...+60°C/-40...+85°C
Weight	approx. 60 g
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
Pluggable wiring	for all ESxxxx terminals
Approvals/markings	CE, UL, ATEX, IECEx
Protect. rating/installation pos.	IP20/variable
Ex marking	ATEX: II 3 G Ex ec IIC T4 Gc IECEx: Ex ec IIC T4 Gc

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 (s), flexible conductor (st) and ferrule (f): spring actuation by screwdriver	

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Connection cross-section	s*: 0.08...2.5 mm², st*: 0.08...2.5 mm², f*: 0.14...1.5 mm²	s*: 0.08...1.5 mm², st*: 0.08...1.5 mm², f*: 0.14...1.5 mm²
Connection cross-section AWG	s*: AWG28...14, st*: AWG28...14, f*: AWG26...16	s*: AWG28...16, st*: AWG28...16, f*: AWG26...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

Ordering information	
EL3024	EtherCAT Terminal, 4-channel analog input, current, 4...20 mA, 12 bit, differential
ES3024	EtherCAT Terminal, 4-channel analog input, current, 4...20 mA, 12 bit, differential, pluggable wiring

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