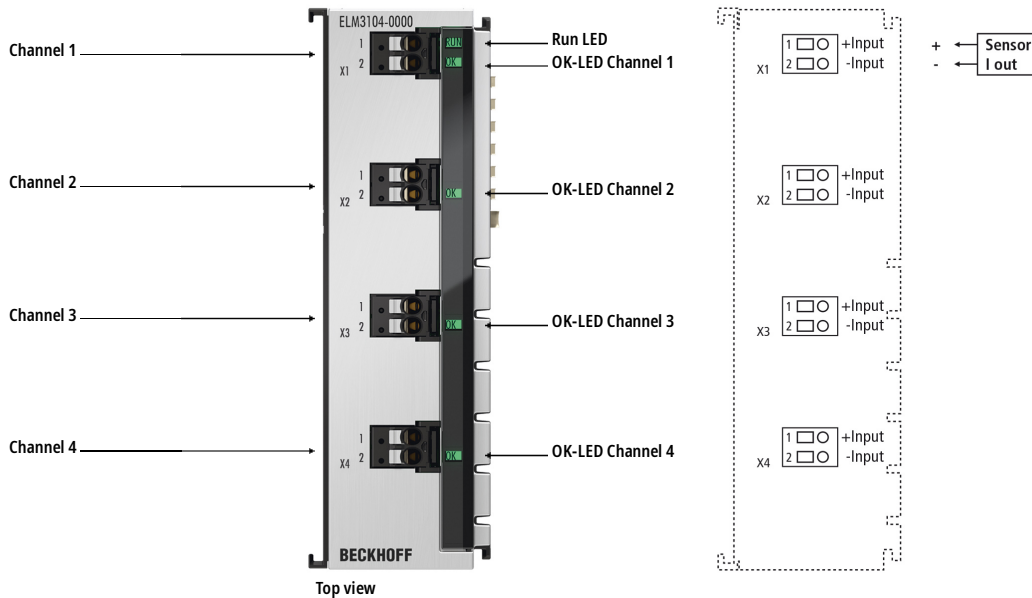
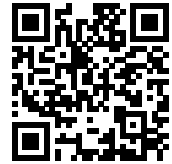


ELM3104-0000 | EtherCAT Terminal, 4-channel analog input, current, ± 20 mA, 24 bit, 10 ksps



i Product status: Regular delivery

The ELM310x EtherCAT Terminals are designed for flexible current measurement in the range from -20 to +20 mA. They offer selectable measuring ranges of -20/0/4 to ± 20 mA as well as current measurement according to NAMUR NE43.

The measuring range is selected in the CoE, as are the other setting options such as the filter parameters. Irrespective of the signal configuration, all ELM modules have the same technological properties. The ELM310x modules for current measurement offer a maximum sampling rate of 10,000 or 20,000 samples per second. The 2-pin plug (push-in) can be removed for maintenance purposes without releasing the individual wires.

Available as ELM3104-0020 variant with factory calibration certificate, with ISO 17025/DAkkS certificate on request. Support by Beckhoff recalibration service [ZS9001](#) on request.

Extensive documentation is available from Beckhoff sales, support or measurement@beckhoff.com.

Product information

Technical data

System data	ELM310x
Current measurement	± 20 mA, 0/4...20 mA, NAMUR NE43 (2-wire connection)

Technical data	ELM3104-0000
Number of channels	4
Technology	current measurement

Signal type	differential
Connection technology	2-wire
Connection type	push-in, service plug 2-pin
Max. sampling rate	max. 100 µs/10 ksps (per channel, simultaneously)
Oversampling factor	n = 1...100 selectable (max. 10 ksamples/s)
Internal resistance	150 Ω (current)
Measuring error	typ. < ±100 ppm/±0.01 % in some measuring ranges, relative to the respective full scale value, see documentation
Temperature coefficient	typ. < 10 ppm/K
Functional diagnostics	yes
Connection diagnostics	recommendation: 4...20 mA mode
Distributed clocks	yes, accuracy << 1 µs
Resolution	24 bit (incl. sign)
Electrical isolation channel/channel	no
Electrical isolation channel/bus	707 V DC (type test)
Electrical isolation channel/SGND	707 V DC (type test)
Current consumption power contacts	–
Current consumption E-bus	typ. 490 mA
Weight	approx. 350 g
Operating/storage temperature	-25...+60 °C/-40...+85 °C
Thermal dissipation	typ. 3 W
Special features	ExtendedRange 107 %, free numeric filter, TrueRMS, integrator/differentiator, non-linear scaling, PeakHold
Approvals/markings	CE, UL

Housing data	ELM-30-xpin
Design form	metal housing with signal LEDs
Material	zinc die-cast
Dimensions (W x H x D)	30 mm x 100 mm x 95 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	–
Wiring	solid conductors (e): direct plug-in technique; fine-stranded conductors (f) and ferrule (a): spring actuation by screwdriver
Connection cross-section	s*: 0.2...1.5 mm ² , st*: 0.2...1.5 mm ² , f*: 0.25...0.75 mm ²

Connection cross-section AWG	s*: AWG 24...14, st*: AWG 24...14, f*: AWG 24...14
Stripping length	8...9 mm

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