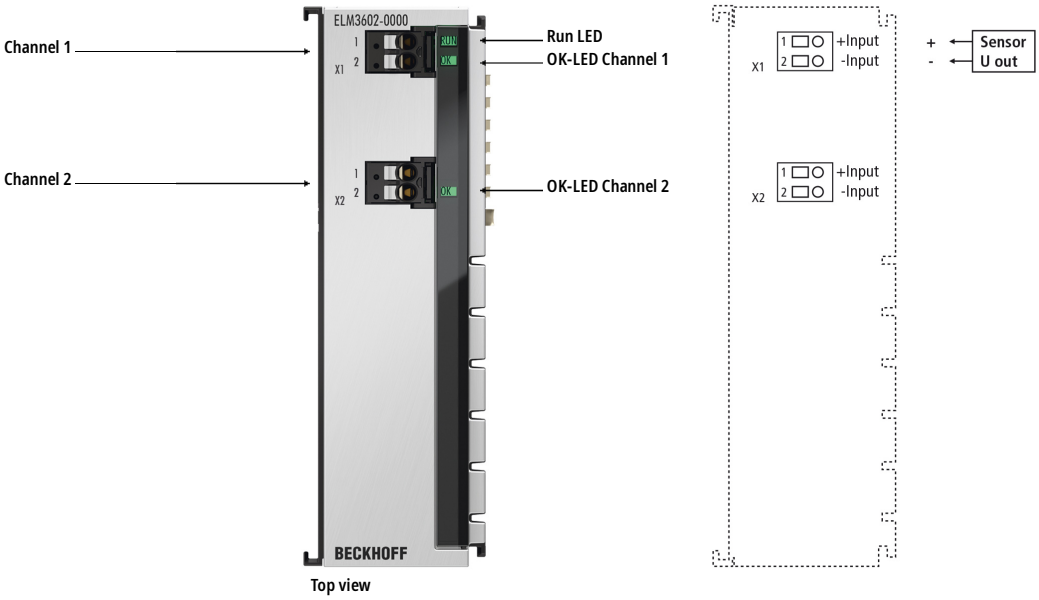
ELM3602-0000 | EtherCAT Terminal, 2-channel analog input, IEPE/accelerometer, 24 bit, 50 ksps



Top view

Product status: Regular delivery

The ELM360x EtherCAT Terminals are designed for the evaluation of IEPE sensors (Integrated Electronics Piezo-Electric), which are mainly used for vibration diagnostics and acoustics. The constant current feed can be set to 0/2/4 mA. The input characteristics are also flexibly adjustable from DC to 10 Hz in the CoE. The ELM360x basically measures voltages AC/DC and in addition, the internal scaler function can be used if, for example, an output in acceleration [m/s^2] is desired. In voltage measurement mode 12 different measurement ranges from ±20 mV to ±10 V and 0 to 20 V are adjustable.

Irrespective of the signal configuration, all ELM modules have the same technological properties. The ELM360x modules for IEPE evaluation offer a maximum sampling rate of 20,000 or 50,000 samples per second. IEPE sensors are often connected via coaxial cables, therefore the ELM360x-0002 feature a BNC connector. The 2-pin version with push-in (ELM360x-0000) on the other hand is ideal for industrial use where a plug is unplugged less frequently for maintenance purposes and fast wiring is much more important.

Available on request as variant with factory calibration certificate or ISO 17025-/DAkkS-compliant certificate including Beckhoff recalibration service.

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

Product information

Technical data

System data	ELM360x
Voltage measurement	±10/5/2.5/1.25 V, ±640/320/160/80/40/20 mV, 0...10/20 V (application notes for ±10 V measurement see documentation)

IEPE measurement	current feed 2/4 mA, can be deactivated, acquisition of the modulated AC voltage, AC/DC coupling (parameterizable high-pass)

Technical data	ELM3602-0000
Number of channels	2
Technology	IEPE, voltage measurement
Signal type	single-ended
Connection technology	2-wire
Connection type	push-in, service plug 2-pin
Max. sampling rate	max. 20 µs/50 ksps (per channel, simultaneously)
Oversampling factor	n = 1...100 selectable
Internal resistance	> 2 MΩ
Measuring error	typ. < ±100 ppm/±0.01 % in some measuring ranges, relative to the respective full scale value (DC), see documentation
Temperature coefficient	typ. < 10 ppm/K
Functional diagnostics	yes
Connection diagnostics	broken wire/short circuit
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. 460 mA
Weight	approx. 350 g
Operating/storage temperature	0...+55 °C/-25...+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