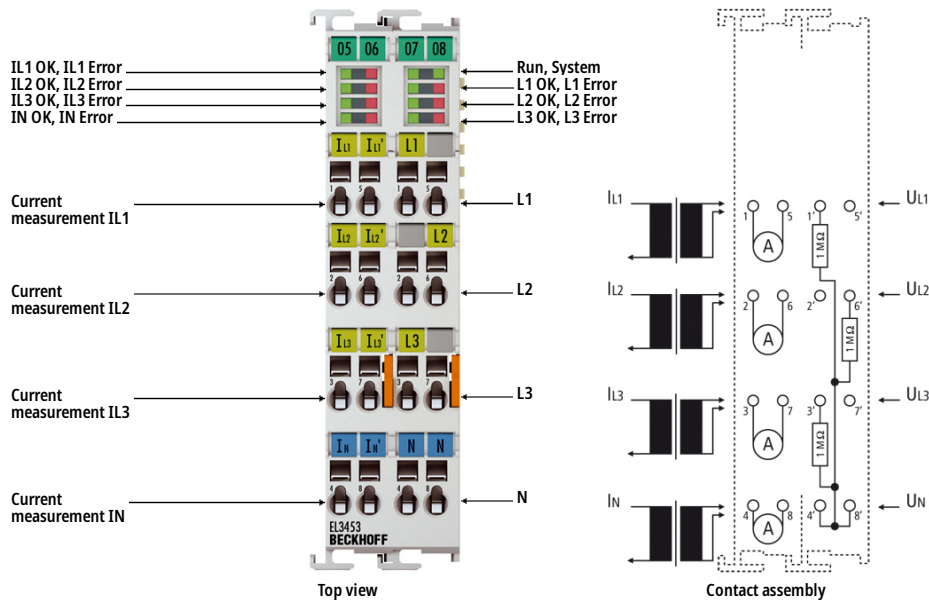
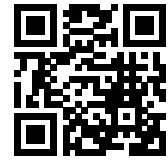


EL3453 | EtherCAT Terminal, 3-channel analog input, power measurement, 690 V AC, 0.1/1/5 A, 24 bit, electrically isolated



i Product status: Regular delivery

The EL3453 EtherCAT power measurement terminal is an advancement based on the EL3413. With up to 690 V AC, the voltage inputs are optimized for the direct monitoring of high-capacity generators, as in the wind power industry, for example. No upstream voltage transformer is required. The four current inputs are electrically isolated so that the terminal can be used in all common grounded current transformer configurations such as 2- or 3-transformer configurations with star or delta connection incl. neutral conductor current measurement. The EL3453 can be used for simple grid analysis up to the 63rd harmonics analysis. Alternatively, all readings can be combined in a power quality factor for simplified diagnostics. Like all measured terminal data, the harmonic content can be read via the process data. The EL3453 offers the “ExtendedRange” feature enabling the use of the full technical measuring range, which equals 130 % of the specified nominal measuring range.

In addition, the EL3453 comes with the option of transmitting the times of the last voltage and current zero crossing to the controller via XFC technology. This can be used, for example, to carry out switching operations to suit the application.

Product information

Technical Data

Technical data	EL3453
Number of inputs	4 x current, 3 x voltage
Technology	3-phase power measurement
Oversampling factor	–

Distributed clocks	optional
Update interval	half mains period (10 ms at 50 Hz)
Update time	net-synchronous
Measured values	current, voltage, effective, reactive and apparent power, active, reactive and apparent energy, $\cos \varphi$, frequency, THD, harmonic (up to 63 rd harmonic)
Measuring voltage	max. 690 V AC 3~ (ULX-N: max. 400 V AC)
Measuring current	adjustable, 100 mA, 1 A (default), 5 A; potential-free
Measuring error	0.3 % relative to full scale value (U/I), 0.6 % calculated value (see documentation)
Monitoring function	phase order, phase failure, phase asymmetry, undervoltage/overvoltage (adjustable)
Electrical isolation	4500 V
Current consumption power contacts	–
Current consumption E-bus	typ. 260 mA
Special features	mains monitoring, precise detection of zero voltage and zero current crossing, optional single-phase operation
Operating/storage temperature	-25...+60 °C/-40...+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
Approvals/markings	CE

Housing data	EL-24-2x8pin
Design form	compact terminal housing with signal LEDs
Material	polycarbonate
Dimensions (W x H x D)	24 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
Connection cross-section AWG	s*: AWG 28...14, st*: AWG 28...14, f*: AWG 26...16
Stripping length	8...9 mm
Current load power contacts	I _{max} : 10 A

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