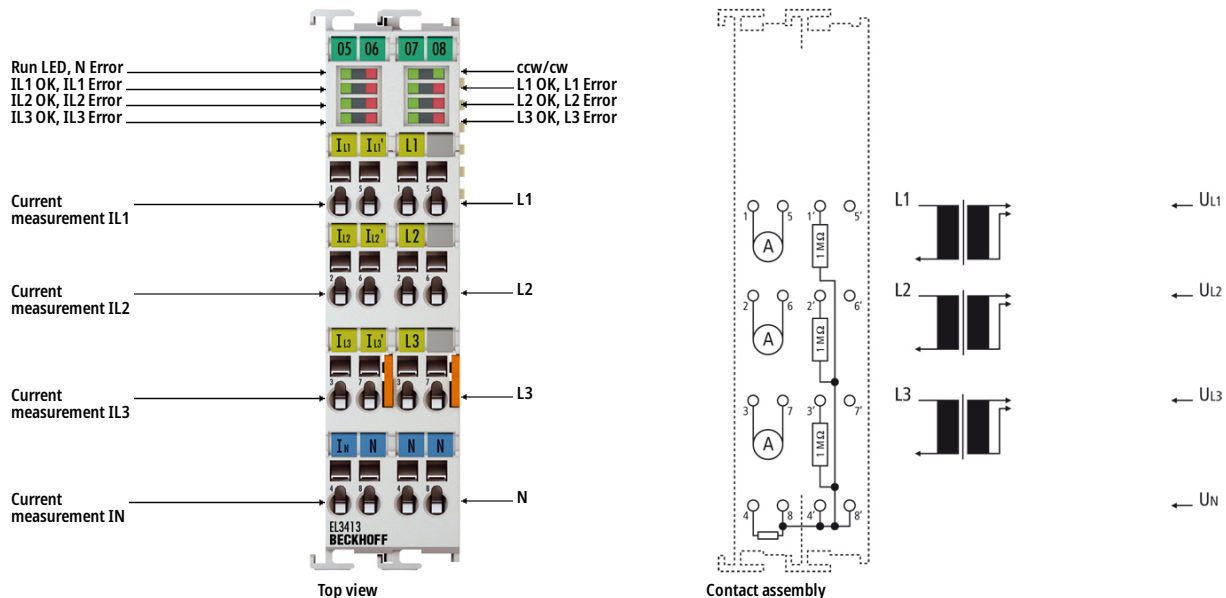
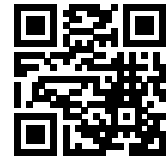


EL3413 | EtherCAT Terminal, 3-channel analog input, power measurement, 690 V AC, 1/5 A, 16 bit, electrically isolated



Product status: Regular delivery (not recommended for new projects) | recommended alternative: EL3453

The EL3413 EtherCAT power measurement terminal is a further development of the EL3403. With up to 690 V AC the voltage inputs are optimized for direct monitoring of high-performance generators, as used in the wind power industry, for example. No upstream voltage transformer is required. The current inputs are galvanically 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. The EL3413 can deal with simple network analysis up to the 21st harmonic analysis. Like all measured terminal data, the harmonic content can be read via the process data.

The EL3413, EL3413-0001 and EL3413-0120 power measurement terminals have neutral conductor current measurement as standard since the 3rd quarter of 2015. At no additional cost to the end user, the terminals feature a shunt between pin 4 and pin 8, in order to enable direct neutral conductor analysis.

Product information

Technical Data

Technical data	EL3413
Number of inputs	4 x current, 3 x voltage
Technology	3-phase power measurement for alternating voltages
Signal type	single-ended
Oversampling factor	–
Distributed clocks	–

Conversion time	mains-synchronous
Measured values	current (I1, I2, I3, In), voltage, effective power, reactive power, apparent power, energy, cos φ, frequency, 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
Resolution	1 μA, 0.1 mV, 10 mW
Measuring error	0.5 % relative to full scale value (U/I), 1 % calculated value
Electrical isolation	4500 V
Current consumption power contacts	–
Current consumption E-bus	typ. 160 mA
Special features	galvanically isolated current inputs, harmonic analysis, optional single-phase operation
Weight	approx. 100 g
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
Protect. rating/installation pos.	IP20/variable
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

Ordering Information

Ordering information

EL3413-0001	EtherCAT Terminal, 3-channel analog input, power measurement, 600 V AC, 1/5 A, 16 bit, electrically isolated
EL3413-0120	EtherCAT Terminal, 3-channel analog input, power measurement, 120 V AC, 1/5 A, 16 bit, electrically isolated
