



EL3413 | 3-phase power measurement terminal up to 690 V AC

The EL3413 EtherCAT power measurement terminal is a further development of the EL3403. With up to 690 V AC the voltage inputs are optimised 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.

Technical data	EL3413	EL3413-0001
Number of inputs	4 x current, 3 x voltage	
Technology	3-phase power measurement for alternating voltages	
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)	max. 600 V AC 3~ (ULx-N: max. 346 V AC)
Measuring current	adjustable, 100 mA, 1 A (default), 5 A; potential-free	
Resolution	1 μ A, 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, single-phase operation also possible	
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. class/installation pos.	IP 20/variable	
Approvals	CE	CE, UL

Special terminals	
EL3413-0120	3-phase power measurement terminal up to max. 210 V AC 3~ (ULx-N: max. 120 V AC)