



EL3403 | 3-phase power measurement terminal

The EL3403 EtherCAT Terminal enables the measurement of all relevant electrical data of the supply network. The voltage is measured via the direct connection of L1, L2, L3 and N. The current of the three phases L1, L2 and L3 is fed via simple current transformers. All measured currents and voltages are available as root-mean-square values. In the EL3403 version, the effective power and the energy consumption for each phase are calculated. The root-mean-square value of voltage U , current I and the effective power P , apparent power S , reactive power Q , frequency F and phase shift angle \cos can be derived. The EL3403 provides a comprehensive network analysis and an energy management option.

Technical data	EL3403 ES3403
Number of inputs	3 x current, 3 x voltage
Technology	3-phase power measurement for alternating voltages
Oversampling factor	–
Distributed clocks	–
Resolution	1 μ A, 0.1 mV, 10 mW
Conversion time	mains-synchronous
Measured values	current (I1, I2, I3), voltage, effective power, reactive power, apparent power, energy, \cos , frequency
Measuring voltage	max. 500 V AC 3~ (ULx-N: max. 288 V AC)
Measuring current	max. 1 A (AC), via measuring transformers x A/1 A
Measuring error	0.5 % relative to full scale value (U/I), 1 % calculated value
Measuring procedure	true RMS
Update time	net-synchronous
Electrical isolation	1500 V
Current consumption power contacts	–
Current consumption E-bus	typ. 120 mA
Bit width in the process image	62 byte PM input, 3 byte PM output
Special features	true RMS value calculation, single-phase operation also possible
Weight	approx. 75 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
Pluggable wiring	for all ESxxxx terminals
Approvals	CE, UL

Special terminals	
EL3403-0010	3-phase power measurement terminal, 500 V AC, 5 A
EL3403-0026	3-phase power measurement terminal, 500 V AC, 1 A, without EMC bypass capacitor between N and DIN rail
EL3403-0100	3-phase power measurement terminal, 500 V AC, 100 mA
EL3403-0111	3-phase power measurement terminal, 500 V AC, one current input for each measurement range: 10 mA, 100 mA and 1,000 mA
EL3403-0333	3-phase power measurement terminal, max. 500 V AC 3~, for transformers with 333 mV AC
EL3433	3-phase power measurement terminal 500 V AC

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