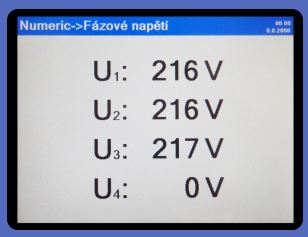
PLA44CM power quality analyser

panel mounting quality analyser according IEC 61000-4-30 class A

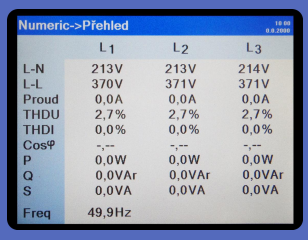
The power quality analyser PLA44 is designed according to BS EN 61000-4-30. PLA44 is a class A device for measurement of electrical parameters in LV and MV systems. PLA44 is built on a 32 bit RISC processor that provides sufficient processing capabilities for real-time measurement and calculation of all parameters & values.

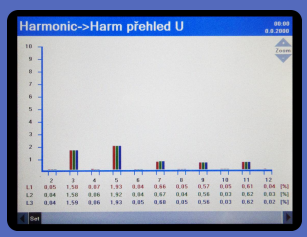
Continuous sampling of the voltage and current inputs at 40kHz, guarantees the highest accuracy.

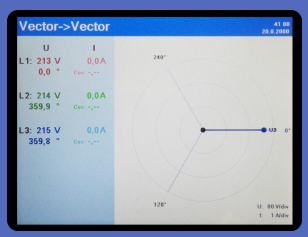
The PLA44CM is the ideal instrument for power quality monitoring according to BS EN 50160 of the incoming energy supply side as well as on the consumer side in order to find and analyse the root cause of network problems.

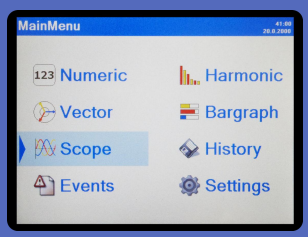


- Measurement of power quality according to the **BS EN61000-4-30, class A**
- **Continuous sampling of voltage and current inputs at 40 kHz**
- 4 voltage measuring inputs and 4 current measuring inputs
- Fourier analysis from **1st to 63rd** harmonics of U L-N, U L-L, I, P (+/-) and Q (L/C)
- Harmonics and inter-harmonics measurement of U L-N, U L-L, I according to **BS EN 61000-4-7**
- Short term and long term flicker measurement according to the **BS EN 61000-4-15**
- Detection of transients **> 25 µs**
- Detection of events > 10 ms
- Measured data logger, event and transient memory **1GB** flash
- RS485, Ethernet, USB
- 2 built in digital inputs / outputs
- Additional digital and analogue outputs and inputs via RS485 expansion module









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Measured parameters

Parameter	L1	L2	L3	L4	L1-2	L2-3	L3-1	∑L1-3	∑L1-4	Max	Min	AVG	Maxavg	Measuring range	Displayed range	Accuracy
Phase voltage	•	•	•	•						•	•	•	•	10 ... 600 V	0 ... 1 MV	±0,1 %
Line voltage					•	•	•			•	•	•	•	18 ... 1000 V	0 ... 1 MV	±0,1 %
Frequency	•									•	•	•	•	40 ... 70 Hz	40 ... 70 Hz	±0,1 %
Current	•	•	•	•				•	•	•		•	•	0,001 ... 8,5 A	0 ... 1 MA	±0,2 %
Cosφ	•	•	•	•						•				0,01 L ... 0,01 C	0,01 L ... 0,01 C	
Power factor	•	•	•	•				•	•	•				0,01 L ... 0,01 C	0,01 L ... 0,01 C	
THDU L-N	•	•	•	•						•	•	•	•	0 ... 999 %	0 ... 999 %	
THDU L-L					•	•	•			•	•	•	•	0 ... 999 %	0 ... 999 %	
THDI	•	•	•	•						•	•	•	•	0 ... 999 %	0 ... 999 %	
Harmonics U	•	•	•	•										0 ... 999 %	0 ... 999 %	±5%/±0,05%
Group of interharmonics U	•	•	•	•										0 ... 999 %	0 ... 999 %	±5%/±0,05%
Group of harmonic U	•	•	•	•										0 ... 999 %	0 ... 999 %	±5%/±0,05%
Harmonics P	•	•	•	•										0 ... 999 %	0 ... 999 %	
Harmonics Q	•	•	•	•										0 ... 999 %	0 ... 999 %	
Harmonics I	•	•	•	•										0 ... 999 %	0 ... 999 %	
Group of interharmonics I	•	•	•	•										0 ... 999 %	0 ... 999 %	
Group of harmonics I	•	•	•	•										0 ... 999 %	0 ... 999 %	
Actual flicker	•	•	•	•						•				0,4 ... 10,0 Pist	0,4 ... 10,0 Pist	
Short term flicker	•	•	•	•						•				0,4 ... 10,0 Pst	0,4 ... 10,0 Pst	
Long term flicker	•	•	•	•						•				0,4 ... 10,0 Plt	0,4 ... 10,0 Plt	
Undervoltage U	•	•	•	•	•	•	•			•	•	•	•	0 ... 100%	0 ... 100 %	
Overvoltage U	•	•	•	•	•	•	•			•	•	•	•	0 ... 100%	0 ... 100 %	
Unbalance U										•	•	•	•	0 ... 100%	0 ... 100 %	
Neutral point displacement										•	•	•	•	10 ... 600 V	0 ... 1 MV	
K-factor	•	•	•	•												
Unbalance I										•	•	•	•			
Transients	•	•	•	•												25 µs
Events	•	•	•	•												10 ms
Ripple control signal	•	•	•	•	•	•	•			•	•	•	•			
Active power	•	•	•	•				•	•	•		•	•	0 ... 15,3 kW	0 ... 9999 GW	±0,2 %
Reactive power	•	•	•	•				•	•	•		•	•	0 ... 15,3 kvar	0 ... 9999 Gvar	±0,2 %
Apparent power	•	•	•	•				•	•	•		•	•	0 ... 15,3 kVA	0 ... 9999 GVA	±0,2 %
Distortion power	•	•	•	•				•	•	•		•	•			±0,2 %
Active energy +/-	•	•	•					•						0 ... 9999 GWh	0 ... 9999 GWh	±0,2 %
Reactive inductive energy +/-	•	•	•					•						0 ... 9999 Gvarh	0 ... 9999 Gvarh	±0,2 %
Reactive capacitive energy +/-	•	•	•					•						0 ... 9999 Gvarh	0 ... 9999 Gvarh	±0,2 %
Temperature										•	•	•	•			

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Parameter	Value
Power supply voltage	230 VAC (+10%, -15%)
Measuring voltage L-N (without voltage transformer)	10 ... 600 VAC
Measuring voltage L-L (without voltage transformer)	18 ... 1000 VAC
Current range (without current transformer)	1 mA ... 8,5 A
Frequency	40 ... 70 Hz
Measurement in networks	1 ph, 2 ph, 3 ph, 4 ph
Grid type	TN, TT, IT
Clock	< 1 s per day
Sampling frequency	40 kHz
Transients	50 µs
Events trigger	10 ms
Display	5,7" TFT VGA (800x600px)
Memory	1 GB flash type
Communication protocols	Modbus RTU, Modbus TCP, SNTP, DHCP, FTP
Communication interfaces	RS485, USB, Ethernet
Working ambient temperature	-25°C ... +70°C
Mounting	Front panel mounting
Dimensions	144 x 144 x 65 mm
Weight	1 kg
Protection class	IP20 rear cover / IP54 front panel

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