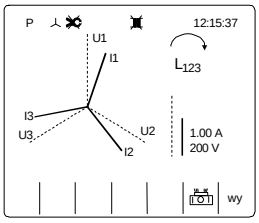
Power network analyser and energy meters tester

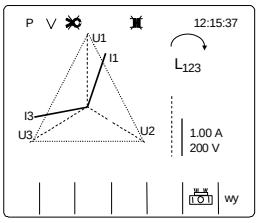
Calport 100A

Analyser Calport 100A (version with 10A direct current range) is a portable electronic device that combines:

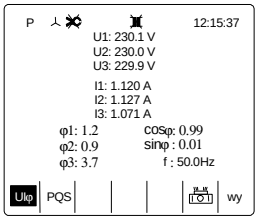
- multifunction - verification of power network wiring, measure of power network parameters, harmonics analysis, checking of energy meters,
- wide current range 0.001..3000A,
- high accuracy 0.1% or 0.2%,
- multi – variant data entering - digital and graphical display, internal memory, local printing, transmission by interface and analysis on PC computer).

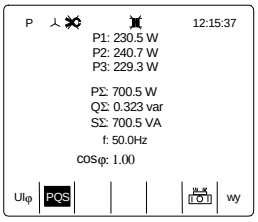
Calport 100 Portable Analyser and Tester
• Vector chart of three phase power network
• Measure of power network parameters (class 0.1 or 0.2)
• Range 0.001...10(100)(1000)(30/300/3000)A and 10...480V
• Testing of energy meters
• Voltage, current and power harmonics analysis
• Powering from measurement network



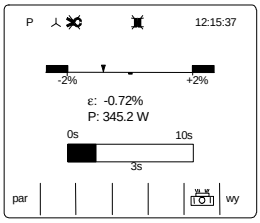


Verification of power network wiring in “star” and “delta” connection – graphical display of three phase voltage and current vector.

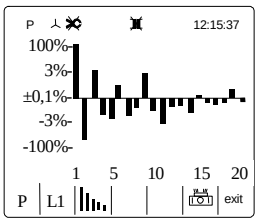


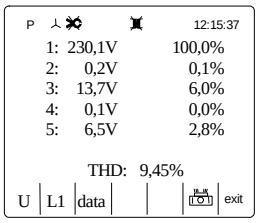


Measure of three phase power network parameters – digital measure of voltages, currents, active, reactive and apparent power one and three phase, phase shifts and cosφ, active and reactive energy, frequency. Programming of voltage and current transformers ratios



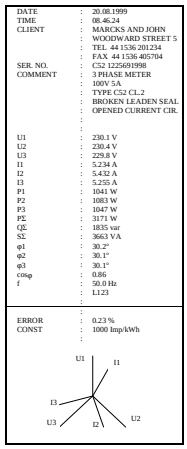
Testing of active and reactive energy meters directly on site – functions of computing meter error directly in percentages with method of setting time of measurements or number of impulses. Input in S0 standard is used to testing energy meters with impulse output. Miniature photo head CF101 is used to automatic counting of meter rotor turns for testing induction meters. Photo head CF100 is used to automating testing of meters with LED indicator and manual counting of rotor turns with using "start/stop" button.

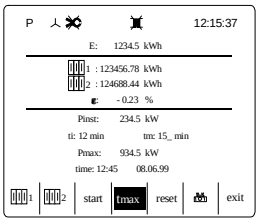




Full harmonics analysis of phase voltages and currents as well as up to 20th harmonic analysis of active and reactive power for diagnostic of distortion sources. Graphical and numerical presentation of results.

Printout from portable printer





Measure of active and reactive energy with method of setting time periods for verification of energy meter counters and testing of maximum power meters as well as measure maximum powers.

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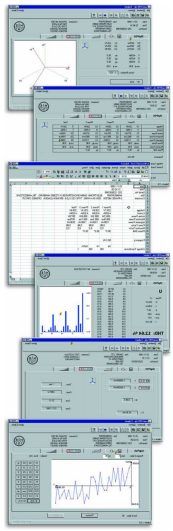
TECHNICAL PARAMETERS OF CALPORT 100A

Function / parameter	Range	Error [1)2)3)]	
		class 0.1	class 0.2
Voltage	10.00...480.0V 40.00...480.0V 10.00...40.00V	±0.1% ±0.1%*	±0.2% ±0.2%*
Line voltage	17.00...832.0V 70.00...832.0V 17.00...70.00V	±0.1% ±0.1%*	±0.2% ±0.2%*
Direct current	0.0010...10.000A 0.0500...10.000A 0.0010...0.0500A	±0.1% ±0.1%*	±0.2% ±0.2%*
Current with clamps 100A	0.05...100.0A 5.00...100.0A 0.05...5.00A	±0.2% ±0.2%*	±0.2% ±0.2%*
Current with clamps 1000A	5.0...1000A	±0.5%	±0.5%
Current with flex	0...30A/300A/3000A	±1% *	±1% *
Power and energy direct measure	0.1...10A / 40...480V 0.001...0.1A / 10...40V	±0.1% ±0.1%*	±0.2% ±0.2%*
Power and energy measurement with clamps 100A	5...100A / 40...480V 0.05...5A / 10..40V	±0.2%@cos=1 ±0.2%*@cos=1	±0.2%@cos=1 ±0.2%*@cos=1
Power and energy measurement with clamps 1000A	5...1000A / 40...480V	±0.5%	±0.5%
Power and energy measurement with Flex clamps	0…30A/300A/3000A / 40…480V	±1%*	±1%*
Resolution of energy meter error measurement "ε"		0.01%	0.01%
Phase shift direct connection with clamps 100A and 1000A with Flex clamps	0.0...±360.0°	±0.4° ±0.5° ±1.0°	±0.4° ±0.5° ±1.0°
Power factor cos φ and sin φ	0.00...±1.00	±0.01	±0.01
Frequency	45.0...65.0Hz	±0.1Hz	±0.1Hz
Ambient temperature	0...+40°C operating, -25...+60°C transportation		
Power supply	85..230..265V / 45..65Hz / 8VA (12VA with printer)		
Dimensions and weight of analyser		270 / 240 / 180 mm / 4.5 kg	
Dimensions and weight of analyser set		420 / 280 / 370 mm / 8.2 kg	

[1)] % - related to the measuring value, %* - related to the measuring final value
[2)] Power and energy errors related to apparent power
[3)] Power and energy errors is doubled for input wiring 3 phase 3 wire (Aron measuring system)

SOFTWARE CALSOFT 100

- reading actual measured values from the Calport 100 using RS232C interface and their visualisation on PC screen. The readings can be done automatically by user's defined period of time,
- reading data, earlier stored in analyser's memory (up to 40 sets of data) and their visualisation on PC screen,
- visualisation of three phase vector chart,
- export of measured data to Microsoft Excel, which enables later their processing according to user's requirements,
- printing data and charts on the printer,
- saving and reading data to and from files for making archives of measurements.



CALPORT 100A ANALYSER'S EQUIPMENT

The Calport 100A set is put in the plastic case for carrying in close state and for working in open state with analyser in hard conditions on the site. Calport 100A set consists of:

- Calport 100A analyser class 0.1 or 0.2,
- power cord,
- fuse T0.25A, 250V, 5x20 (2pcs),
- set of safety voltage cables (4pcs),
- set of safety current cables up to 20A (6pcs),
- adapter with flexible Cu wire (6pcs),
- safety test clip Kleps (3pcs),
- safety crocodile test clip,
- CF100 photo head for counting LED flashing of meters and with "start/stop" button,
- user's manual,
- guarantee certificate,
- manufacturer's calibration certificate.

Optionally the Calport 100A set may be equipped in:

- AKD100 additional accessories (handlers and terminals 42 pcs) of safety cables,
- CT100A electronic compensated clamps up to 100A (3pcs),
- CT1000A electronic compensated clamps up to 1000A (3pcs),
- Calprobe100 flexible clamps in range 30/300/3000A (3pcs) with converter,
- CF101 photo head for counting rotation of inductive meters wheel disc,
- UCF100 holder for CF100 and CF101 photo heads,
- CF102 photo head with holder for inductive meters and meters with LED,
- KAS100 transportation case for portable work,
- DR100 miniature thermal printer,
- DR200 miniature thermal printer for quick printing with accumulator,
- S0 cable,
- *Calsoft 100* PC software on CD with USB-RS232 cable.