



## PROVA 6830A + PROVA 6801

### Power and Harmonics Analyzer (100A)

CE CAT III 600V

#### Features:

- **Power Analysis** for 3P4W, 3P3W, 1P2W, 1P3W
- **True RMS** value ( $V_{123}$  and  $I_{123}$ )
- Active Power (W, KW, MW, GW)
- Apparent and Reactive Power (KVA, KVAR)
- Power Factor (**PF**), Phase Angle ( $\Phi$ )
- **Energy** (WH, KWH, KVARH, PFH)
- **AC Current (0.04A to 100A)** and **Voltage** measurement: True RMS, Auto Range.
- Capable of analyzing IT standby power consumption to the maximum demand of a factory
- Display of **35 Parameters** in One Screen (3P4W)
- Programmable **CT** (1 to 600) and **PT** (1 to 3000) Ratios
- Display of Overlapped Voltage and Current Waveform
- Average Demand (**AD** in W, KW, MW)
- Maximum Demand (**MD** in KW, MW, KVA, MVA) with Programmable Period
- **Harmonic Analysis** to the 99<sup>th</sup> Order
- Display of **50 Harmonics** in one Screen with Waveform
- Display of **Waveform** with Peak Values (1024 Samples / Period)
- Analysis of Total Harmonic Distortion (**THD-F**)
- Graphic **Phasor Diagram** with 3 Phase System Parameters
- Capture **28 Transient Events** (Time + Cycles) with Programmable Threshold (%)
- **DIP, SWELL, and OUTAGE** are included in transient events.
- 3 Phase Voltage or Current Unbalance Ratio (**VUR, IUR**)
- 3 Phase Voltage or Current Unbalance Factor (**d0%, d2%**)
- Calculated **Unbalanced Current** through Neutral Line (In)
- **512K Memory** with Programmable Interval (Sampling time from 2 to 3000 seconds, **17,000 records** for 3P4W system)
- Output of Waveform, Power Parameters and Harmonics at Command
- Large Dot Matrix **LCD** Display with **Backlight**
- **Software** to work with PC via Optical Isolated RS-232C to USB Interface
- Built-in timer and calendar for data logging

## Electrical Specifications: (23°C±5°C)

### AC Watt

Range (0 to 100A)	Resolution	Accuracy of Readings
5.0 – 999.9 W	0.1W	±1% ± 0.8W
1.000 – 9.999 KW	0.001 KW	±1% ± 8W
10.00 – 99.99 KW	0.01 KW	±1% ± 80W
100.0 – 999.9 KW	0.1 KW	±1% ± 0.8KW
1000 – 9999 KW	1 KW	±1% ± 8KW

**Range of CT (Current Transformer) Ratio:** 1 to 600

**AC Apparent Power (VA, from 0.000 VA to 9999 KVA):**  $VA = V \text{ r.m.s.} \times A \text{ r.m.s.}$

**AC Reactive Power (VAR, from 0.000 VAR to 9999 KVAR):**  $VAR = \sqrt{(VA^2 - W^2)}$

**AC Active Energy (mWH, WH, or KWH, from 0mWH to 999,999KWH):**  $WH = W \times \text{Time (in hours)}$

**AC Current** (Auto range, TRMS, Overload Protection AC 200A)

Range	Resolution	Accuracy of Readings
0.04 – 1 A	0.1mA / 1mA	±0.5% ± 0.05A
0.4 – 10 A	0.001A / 0.01A	±0.5% ± 0.05A
4 – 100 A	0.01A / 0.1A	±1.0% ± 0.5A

**AC Voltage** (Auto range, TRMS, Overload Protection AC 800V)

Range	Resolution	Accuracy of Readings
20.0 V – 500.0 V (Phase to Neutral)	0.1 V	±0.5% ± 5dpts
20.0 V – 600.0 V (Phase to Phase)		

**Range of VT (Voltage Transformer) Ratio:** 1 to 3000

### Harmonics of AC Voltage in Percentage

Range	Resolution	Accuracy
1 – 20 <sup>th</sup>	0.1%	±2%
21 – 49 <sup>th</sup>		±4% of reading ± 2.0%
50 – 99 <sup>th</sup>		±6% of reading ± 2.0%

### Harmonics of AC Voltage in Magnitude

Range	Resolution	Accuracy
1 – 20 <sup>th</sup>	0.1V	±2% ± 0.5V
21 – 49 <sup>th</sup>		±4% of reading ± 0.5V
50 – 99 <sup>th</sup>		±6% of reading ± 0.5V

### Harmonics of AC Current in Percentage

Range	Resolution	Accuracy
1 – 10 <sup>th</sup>	0.1%	±0.2% of reading ± 1%
11 – 20 <sup>th</sup>		±2% of reading ± 1%
21 – 50 <sup>th</sup> (A range)		±5% of reading ± 1%
21 – 50 <sup>th</sup> (mA range)		±10% of reading ± 1%
51 - 99 <sup>th</sup>		±35% of reading ± 1%

## Harmonics of AC Current in Magnitude

Range	Resolution	Accuracy
1 – 10 <sup>th</sup>	0.1mA / 0.1A	±0.2% of reading ±7dgts
11 – 20 <sup>th</sup>		±2% of reading ±7dgts
21 – 50 <sup>th</sup> (A range)		±5% of reading ±7dgts
21 – 50 <sup>th</sup> (mA range)		±10% of reading ±7dgts
51 - 99 <sup>th</sup>		±35% of reading ±7dgts

## Power Factor (PF)

Range	Resolution	Accuracy
0.00 – 1.00	0.01	± 0.04

## Phase Angle (Φ)

Range	Resolution	Accuracy
-180° to 180°	0.1°	± 1°

## Peak Value of ACV (peak value > 20V) or ACA (peak value > 10% of the range), VT=1

Range	Sampling Time	Accuracy of Reading
50 Hz	19µs	± 5% ± 30 digits
60 Hz	16µs	

## Crest Factor (C.F.) of ACV (peak value >20V)

## or ACA (peak value > 10% of the range), VT=1

Range	Resolution	Accuracy of Readings
1.00 – 99.99	0.01	± 5% ± 30 digits

## Frequency in AUTO mode

Range	Resolution	Accuracy
45 – 65 Hz	0.1Hz	± 0.1Hz

## Total Harmonic Distortion (THD-F)

Range	Resolution	Accuracy
0.0 – 20.0 %	0.1%	± 1%
20.0 – 100%		±3% of reading ± 5%
100 – 999.9%		±10% of reading ±10%

## General Specifications: Indoors Use

### PROVA 6830A Analyzer

Battery Type:	1.5V SUM-3 x 8
External DC Input:	Use only power supply adapter Model PHAPSA
Display:	Dot Matrix LCD (240x128) with backlight
LCD Update Rate:	1 time / second
Power Consumption:	140mA (approx.)
No. Of Samples:	1024 samples / period
Data Logging Files:	85

Max. File Capacity:	17474 records (3P4W, 3P3W) 26210 records (1P3W) 52420 records (1P2W) 4096 records (50 Harmonics / record)
Sampling Time:	2 to 3000 seconds for data logging
Low battery Indication:	
Overload Indication:	OL
Operating Temperature:	-10°C to 50°C
Operating Humidity:	less than 85% relative
Storage Temperature:	-20°C to 60°C
Storage Humidity:	less than 75% relative
Dimension:	257 (L) x 155 (W) x 57 (H) mm 10.1" (L) x 6.1" (W) x 2.3" (H)
Weight:	1160g (Batteries included)
Accessories:	<b>Probes (model 6801) x 3</b> Test leads (3 meter long) x 4 Alligator clips x 4 Carrying bag x 1 Users manual x 1 Batteries 1.5V x 8 AC power adapter x 1 Software CD x 1 Software users manual x 1 USB to RS232 cable x 1

### [PROVA 6801 Current Probes](#)

Conductor Size:	30mm (approx.)
Cable Length:	3000mm
Range Selection:	Manual (1A, 10A, 100A)
Battery:	powered by power analyzer
Dimension:	210mm (L) x 62mm (W) x 36mm (H) 8.3" (L) x 2.5" (W) x 1.4" (H)
Weight:	200g

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