PROVA 6830A + AFLEX 3007

Power and Harmonics Analyzer (3000A)

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 (Φ)
- **Energy** (WH, KWH, KVARH, PFH)
- **AC Current (10A to 3000A)** 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 99th 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℃±5℃)

AC Watt

Range (0 to 3000A)	Resolution	Accuracy of Readings	
		> 20 V and > 30A	< 20V or < 30A
10.0 – 999.9 W	0.1W	±1% of range	±2% of range
1.000 – 9.999 KW	0.001 KW		
10.00 – 99.99 KW	0.01 KW		
100.0 – 999.9 KW	0.1 KW		
1000 – 9999 KW	1 KW		

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

AC Apparent Power (VA, from 0.000 VA to 9999 KVA): VA = V r.m.s. x A 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 * Time (in hours)

AC Current (Auto range, TRMS, Overload Protection AC 3000A)

Range	Resolution	Accuracy of Readings
10.0 – 300.0A	0.01A / 0.1A	±1% of range
300.0 – 3000A	0.1A / 1A	

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% ± 5dgts
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 – 20th	0.1%	±2%
21 – 49th		±4% of reading ± 2.0%
50 – 99th		±6% of reading ± 2.0%

Harmonics of AC Voltage in Magnitude

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

Peak Value of ACV (peak value > 20V) or ACA (peak value > 30A), 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 > 30A), VT=1

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

Harmonics of AC Current in Percentage

Range	Resolution	Accuracy
1 – 20th	0.1%	±2%
21 – 50th		±6%
51 – 99th		±10%

Harmonics of AC Current in Magnitude

(1 to 99th order, min. current at the 50 or 60 Hz, True RMS < 300A)

Range (0 – 300A)	Resolution	Accuracy
1 – 20th	0.1%	±2% of reading ± 4A
21 – 50th		±4% of reading ± 4A
51 – 99th		±6% of reading ± 4A

(1 to 99th order, min. current at the 50 or 60 Hz, 3000A > True RMS > 300A)

Range (300–3000A)	Resolution	Accuracy
1 – 20th	0.1%	±2% of reading ± 40A
21 – 50th		±4% of reading ± 40A
51 – 99th		±6% of reading ± 40A

Power Factor (PF)

Range	Resolution	Accuracy	
		> 20V and > 30A	< 20V or < 30A
0.000 – 1.000	0.001	± 0.04	±0.1

Phase Angle (Φ, V > 20V, A > 30A)

Range	Resolution	Accuracy
-180° to 180°	0.1°	± 2°
0° to 360°		

Frequency of ACV (RMS value > 10V) or ACA (RMS value > 30A)

Range	Resolution	Accuracy
45 – 65 Hz	0.1 Hz	± 0.2Hz

Total Harmonic Distortion (THD-F)

Range	Resolution	Accuracy
0.0 – 20%	0.1%	± 2%
20 – 100%		± 6% 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:	**Probes (model 3007) x 3** 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

AFLEX 3007 Flexible Current Probes

Probe Length: 3007-24	24 in / 610 mm
Minimum Bending Diameter:	35mm
Connector Diameter:	23mm
Cable Diameter:	14mm
Cable Length from Probe to Box:	1700mm
Cable Length from Box to Output:	1700mm
Range Selection:	Manual (300A, 3000A)
Battery:	powered by power analyzer
Dimension (Box):	130mm(L) x 80mm(W)x 43mm(H) 5.1”(L) x 3.1”(W) x 1.7”(H)
Weight:	410g

PROVA INSTRUMENTS INC.

Add: 6F-2, No. 129, Lane 235, Pao-Chiao Road, Shin-Tien District,
New Taipei City 23145, TAIWAN

Tel: 886-2-89191255 **Fax:** 886-2-89191489

E-mail: prova@ms3.hinet.net **Website:** www.prova.com.tw