



## PORTABLE POWER QUALITY ANALYSER

### PRO PA-800

#### INTRODUCTION

The **Metravi Pro PA-800 Portable Power Quality Analyser** is a highly accurate and versatile three-phase power data logger, designed to provide precise energy measurement and analysis for a variety of applications. With an accuracy of up to **999.9 GWh**, this device ensures reliable data collection for energy management and optimisation.

The **Metravi Pro PA-800** measures currents and voltages, reporting real-time **RMS values for all three phases and neutral**. Additionally, it provides essential power quality data, including:

- **Power Factor Analysis**
- **Real Power & Reactive Power Measurement**
- **Voltage Dips & Harmonic Analysis**
- **Phase Imbalance Detection**

The **Metravi Pro PA-800 Portable Power Quality Analyser** is a powerful, user-friendly, and precise tool for comprehensive energy measurement and power quality analysis.

Its **high accuracy, robust design, multi-functional display, and extensive application scope** make it an essential instrument for energy management professionals, building operators, and industrial users seeking to optimise their energy usage and improve system reliability.



#### FEATURES

- **Accurate Energy Measurement:** Capable of measuring energy usage with high precision, ensuring detailed and reliable data for comprehensive energy analysis.
- **Wide Operating Temperature Range:** Functions seamlessly in environments ranging from **-25°C to +55°C**, making it suitable for diverse operational conditions.
- **Durable & Portable Design:** With a compact size of **21.5x10x3.5cm**, it is easy to handle and transport, enhancing usability in the field.
- **Multi-Functional Display:** Features a **3.5-inch TFT screen display** for clear visibility and efficient monitoring of power consumption and system performance.
- **User-Friendly Interface:** Powered by either **4xAA batteries** or **USB Type-C**, allowing for **up to 7 hours of battery operation** or continuous use when plugged into a power source.



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#### APPLICATIONS

This advanced three-phase energy logger is an indispensable tool for various energy monitoring and optimisation tasks, including:

- **Building Energy Load Profiling:** Track energy usage over time to understand load distribution.
- **Peak Power Usage Determination:** Identify when and where peak demand occurs.
- **Power Quality Testing:** Assess supply quality, voltage dips, and harmonics to ensure compliance with standards.
- **Solar PV System Planning:** Optimize panel count and placement based on energy usage data.
- **Backup Power System Planning:** Determine the required inverter and battery capacity for backup solutions.
- **Generator Sizing & Planning:** Ensure the correct generator capacity for reliable backup power.
- **Cost-Saving Opportunities:**
  - Enhance energy efficiency and reduce wastage.
  - Improve Power Factor to lower energy costs.
  - Monitor **peak-demand (KVA) usage** to identify cost-saving measures. Prevent phase imbalances and avoid overloading issues.



Note: Rogowski Clamps are not part of standard kit, they are available at extra cost

#### GENERAL SPECIFICATIONS

SPECIFICATIONS	DETAILS
Display	3.5 inch TFT backlit display
Power	4*AA battery (working time: approx 7 hours) Or USB Type-C
Storage	4GB SD card(Max 4GB) (save intervals 1mins default)
Weight	350g
Dimensions	L*W*D:21.5*10*3.5CM
Maximum Altitude	3000m max.
Operating Temperature	-25°C to +55°C
Storage Temperature	-40°C to +85°C
Humidity Rating	5 to 95% RH at 50°C (non-condensing)
Accessories	4pcs Voltage Clamp Wires with banana plug (2 meters, 1.5mm <sup>2</sup> ) , 85-265 AC to 9V DC Power Adaptor, SD card 1GB. (At extra cost: Rogowski coils and AA battery)

\*Technical Specifications & Appearance are subject to change without prior notice



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#### TECHNICAL SPECIFICATIONS

FEATURE	SPECIFICATIONS
Poles	3PH4W 3PH3W 1PH2W (L-N) 1PH2W(L-L);1PH3W(L-L-N)
Sampling Rate	8k samples per second
Harmonic	52nd Max
Rated Current (5 levels selectable)	100A (0.5% from 10A to 120A) 600A(0.5% from 10A to 720A) 1000A(0.5% from 10A to 1200A) 3000A(0.5% from 30A to 3600A) 6000A(0.5% from 60A to 7200A)
Current	Per phase, neutral, and average of 3 phases
Voltage	L-L, L-N, and average of 3 phases 0.2% from 60V to 500V
Power Factor (true)	Total and per phase; 0.000 to 1 (signed) $\pm 0.005$
Active / Apparent Power	Total and per phase (signed); IEC62053-22 Class 0.5
Reactive Power	Total and per phase (signed); IEC62053-21 Class 2
Frequency	0.01% from 45 to 65Hz
Angle	Voltage angle, Current angle
Current Imbalance	Per phase, most unbalanced of 3 phases
Voltage Imbalance	Most unbalanced of 3 phases
Active Energy	0 to 999.9GWh ; IEC62053-22 Class 0.5s
Reactive Energy	0 to 999.9GVARh ; IEC62053-21 Class 2
Primary Current Range	0 to 999.9GVAh
Primary Current Range Input	100A: 0.5A to 120A 600A: 0.5A to 720A 1kA: 1A to 1200A 3kA: 3A to 3600A 6kA: 6A to 7200A
Measurement Input Range	1/225mV-333mV
Permissible Overload	600mV for 10s/hours
MAX / MIN	View & reset functions, with time stamping
Terminals	Current Input: BNC Connectors Voltage Input: Banana Plugs DC Power Supply: DC 5.5*2.1 Plug
Input Type	External Rogowski Coil; External CT (333mV only)
Compatible Sensors	3pcs BNC terminal 333mV CT 3pcs BNC terminal 320mV Current Clamp 3pcs BNC terminal Rogowski Coil

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FEATURE	SPECIFICATIONS
Safety & Compliance	Overvoltage Category III for distribution systems up to 277/480VAC Pollution Degree 2
Dielectric Withstand	As per IEC61010-1, doubled insulated front panel display EN 62052-11, EN 61557-12, EN 62053-21, EN 62053-22, EN 62053-23, EN 50470-1, EN 50470-3, EN 61010-1, EN 61010-2, EN 61010-031
Protection	IP20 conforming to IEC 60629
EMC Ratings	Electrostatic discharge Level IV (IEC61000-4-2) Immunity to radiated fields Level III (IEC61000-4-3) Immunity to fast transients Level IV (IEC61000-4-4) Immunity to surge Level IV (IEC61000-4-5) Conducted immunity Level III (IEC61000-4-6) Immunity to power frequency magnetic fields 0.5mT (IEC61000-4-8) Conducted and radiated emissions Class B (EN55022)
Storage	4GB SD card (Max 4GB) (save intervals 1min default)
Data Logging	Micro SD card 4GB (default) ; store about 1K Bytes data each time ; record 8 years ( with 1min & 4GB)
Recording Interval	1s to 9999s (default 1min)
Recording Format	csv format

