

PowerMonic

Portable Rugged Power Monitoring

PM45



- Voltage Investigations
- Power Profiling
- Harmonic Analysis
- Power Factor Studies
- Flicker & Imbalance Monitoring

When all else fails, at all hours and under all weather conditions the GridSense PowerMonic range of rugged Power Quality Analysers can be relied upon.

The unpredictable variables of portable power quality investigations necessitate having rugged, reliable solutions under the most demanding environmental conditions. Understanding this, GridSense has built the PM45 to be the most rugged, reliable and versatile instrument, withstanding daily knocks, drops, spills and vibrations associated with utility, industrial and commercial voltage and power investigations.

Companies that use the PM45 benefit from its ease of use, powerful and intuitive software, reliable operations and improved performance.



Power Quality Analyzer
& Event Recorder

POWER QUALITY PROFILES



TRANSIENT RECORDINGS



RMS EVENT CAPTURES



Features

- ✓ Rugged All Weather Design
- ✓ CAT-IV 600V Certified
- ✓ Remote Communication Options
- ✓ Comprehensive Power Monitoring

GridSense™

T&D Solutions Since 1974

PowerMonic PM45

Portable Rugged Power Monitoring

The PowerMonic range of portable power recorders offers comprehensive and reliable monitoring of low voltage circuits. Built with high performance, toughness and focus on ease of use, the PowerMonic has been adopted as the workhorse instrument for a variety of power monitoring applications including power quality analysis, supply compliance checks, power flow studies, energy audits and voltage investigations.

The PM45 is the latest addition to the PowerMonic product line, meeting CATIV-600V safety certification and voltage measurement standards. With four voltage and current channels, the PM45 records a trend over time along with a range of power quality parameters, including flicker, harmonics, power and imbalance in accordance to the latest IEC standards.

The PM45 is also an independent event recorder capturing high resolution snapshots of fluctuations including motor starts, spikes and transients based on voltage and current limit settings.

Utilized for short and long term power monitoring applications, the PM45 is typically installed on pad mount and pole mount transformers, capacitor banks, regulators, distribution substations, as well as commercial, residential and industrial connection points.

Since its introduction in 1995, the PowerMonic has proven to be a reliable and versatile everyday instrument used worldwide by System Planners, Distribution Engineers, Electrical Engineers, Electrical Contractors, Power Quality Engineers, and Maintenance Engineers alike.



PowerView Software

Incorporating over 10-years experience and enhancements, PowerView has become a best in class software interface for configuration, downloading, data analyzing and reporting. PowerView enables quick data and root cause analysis through a variety of analysis and reporting tools displayed in a simple and easy-to-use graphic interface.



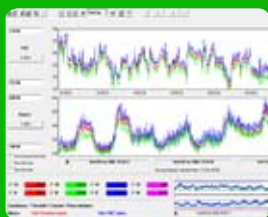
Set-Up

- Step-by-step configuration wizard
- Import & export of configurations
- Comprehensive power metering
- Independent V & I event thresholds
- User defined memory management



Installation

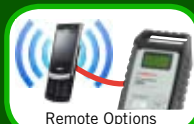
- Single, 3-phase Wye & Delta circuits
- Powered by A-phase voltage
- Auto or delayed start options
- Online LCD display
- Remote Cellular Options



Analysis Tools

- Power meter & voltage charts
- Daily, average and min/max tables
- Waveform & RMS event graphs
- Harmonic & flicker charts
- Export to CSV & energy calculator

PowerMonic Accessories



* Not CATIV-600V Rated

Specifications

Measurement

Samples Per Cycle	204@50Hz, 170@60Hz
Sample Rate	PPL Synchronized (IEC61000-4-7)
Memory	15MB Internal Flash Memory
Power Meter	V, A, Min/Max, Freq, TPF, DPF, kV, KVA, KVAR
Total Harmonic Distortion	IEC61000-4-7 (THD-F & THD-R)
Harmonics	IEC61000-4-7 (Up to 48th Magnitude & Angle)
Interharmonics	IEC61000-4-7 (Up to 48th)
Flicker (Pst & Plt)	IEC61000-4-15 (10min Pst and 2hr Plt)
Voltage & Current Umbalance	IEC61000-4-30
Instrument Type	Class B (IEC 61000-4-30)
Frequency Range	50Hz nominal (42.5-57.5Hz) 60Hz nominal (51.0-69.0Hz)

High Speed Event Recording

	User defined Rolling and/or Threshold Voltage and Current & Transient Triggers
Table Capture (Sags/Swells)	Half Cycle, Min/Max & Duration
RMS Snapshot	Half Cycle, 5s - 30s duration
Waveform Snapshot	Sample rate for 400ms duration

	Voltage	Current
Input Channels	4 Isolated channels	4 Channels
Measurement Range	A, B & C channels 0-600 VAC Vgnd 0 - 60 VAC ($\pm 1\%$ reading ± 1 Isd)	0-3000 Amps
Input Range	0-600VAC (660VAC absolute)	0-440mV at 10K Ohms
Instrument Accuracy	0.4% readings + 1 Isd	0.4% readings + 1 Isd
System Accuracy	0.4% readings + 1 Isd	1% readings + 1 Isd
Resolution Logged Data	0.001 Volt	0.001 Amp
Resolution LCD Display	0.1 Volt	0.1 Amp

Circuit Connections

Three Phase Wye/Delta, Open/2-Element Delta, Split Phase & Single Phase

Current Probe Options

C10* (0-10A), C100S* (10-125A), C500* (25-600A), Flexi F3000-6 (150-3600A) * Not CATIV-600V Rated

Communications

Direct Connection	Remote Connection
USB Serial Cable	Cellular (GPRS/3G/CDMA)

Mechanical & Power

Power Source - Main	60-600 VAC from Phase A, and USB powered for configuration and downloading
Power Source - Backup	6V 0.5Ah Rechargeable sealed lead acid battery
Power Consumption	10W typical (from Phase A)
Display	Graphic LCD 128 x 64 bits (0.1 resolution)
Real-Time-Clock	3V 950mAh Li-Magnanese Dioxide/Organic Electrolyte
Dimensions	230mm/9.1" (l) x 120mm/4.72" (w) x 90mm/3.6" (d)
Weight	7lbs (3kg) instrument only

Environmental & Safety

Temperature Range	-20°C (-4°F) to +60°C(+130°F)
Humidity	20% to 99% Relative Humidity
Protection Class	IP65 (all weather housing)
Protection Levels	IEC 61010-1 2001 Pollution Degree 3 Measurement Category IV-600V

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