SATEC
Powerful Solutions

PM175 Power Quality Analyzer
EN50160 Statistical Meter

- ❑ Class 0.2S Accuracy
- ❑ 128 samples per cycle
- ❑ EN50160 Full Compliance
- ❑ IEC 61000-4-7 (Harmonics)
- ❑ IEC 61000-4-15 (Flicker)
- ❑ EN50160 PQ Recorder & Compliance Report
- ❑ Flexible Communications
- ❑ Multiple Protocol Support
- ❑ Supports RS485, RS232, Profibus DP, 56K Modem and Ethernet
- ❑ 1MB data storage
- ❑ Time-of-Use(TOU) metering
- ❑ Compact Design

The PM175 Statistical Power Quality Analyzer with EN50160 full compliance monitoring capability offers the best price/performance ratio for any EN50160 Compliance Monitor in the power quality market today. The PM175 is based on the successful PM172EH* platform and follows SATEC's long tradition of offering leading-edge technology at affordable prices. The PM175 supports all the features of the PM172EH and complies fully with the EN50160 power quality monitoring requirements.

Power Quality Monitors

EN50160 Standards
- Flicker (IEC61000-4-15)
- Harmonic Voltage (IEC61000-4-7)
- Frequency Variations
- Supply Voltage Variations
- Rapid Voltage Changes
- Voltage Dips
- Voltage Interruptions
- Temporary Overvoltages
- Transient Overvoltages
- Voltage Unbalance
- Interharmonic Voltage
- Mains Signaling Voltage

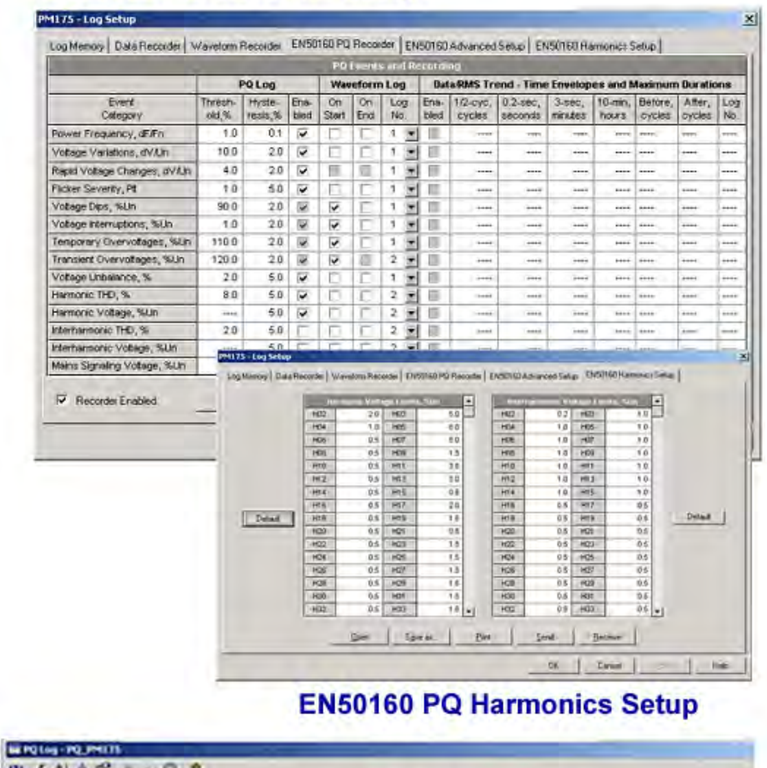
EN50160 PQ Recorder
- EN50160 Compliance Statistics Log
- EN50160 Harmonics Survey Log
- EN50160 Power Quality Event Log

Time Of Use (TOU)
- Configurable to match any utility billing profile
- 8 Energy and Maximum Demand Registers
- 8 tariffs for each energy register

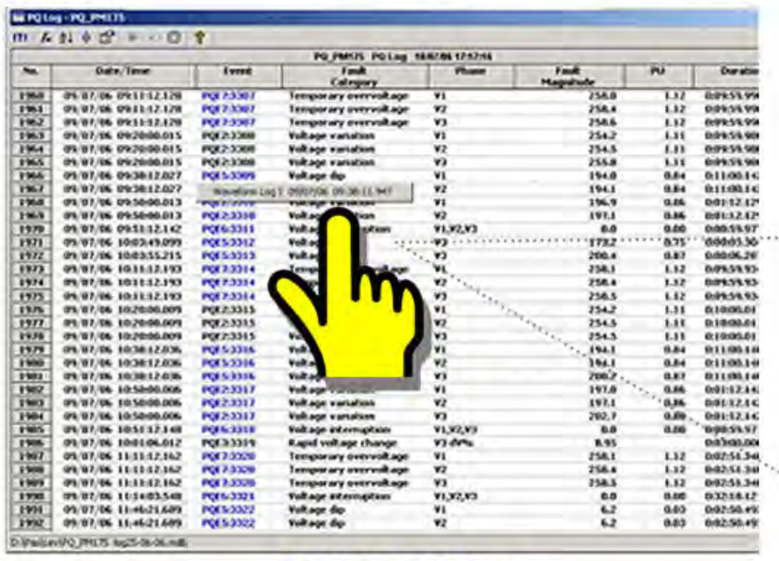
Real-time clock:
- Accuracy: 77 seconds per month @ 25°C

Log Memory:
- 1MB on-board memory with battery backup

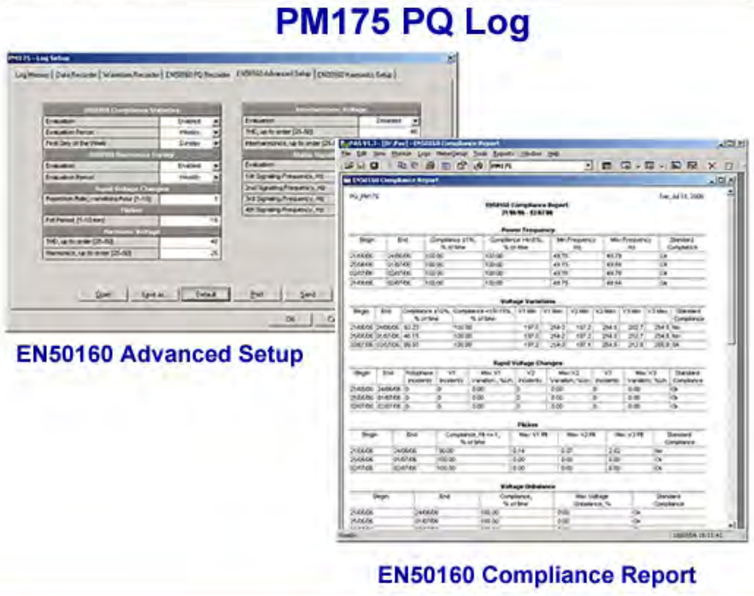
EN50160 PQ Recorder Setup



EN50160 PQ Harmonics Setup

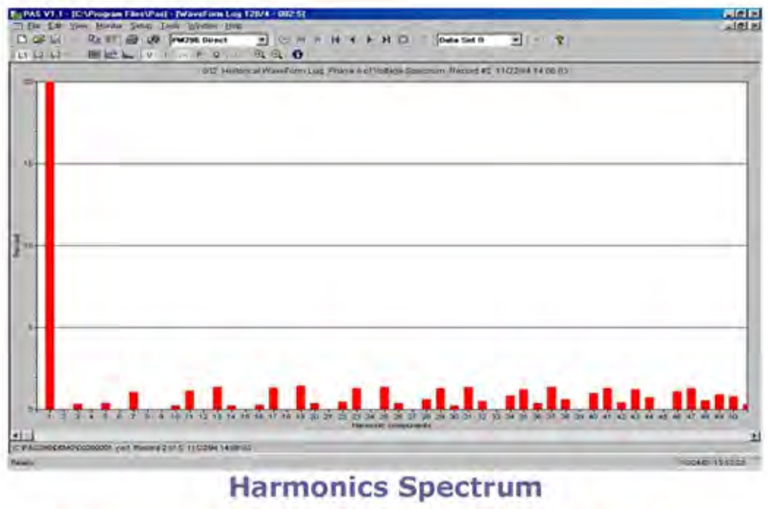


PM175 PQ Log



EN50160 Advanced Setup

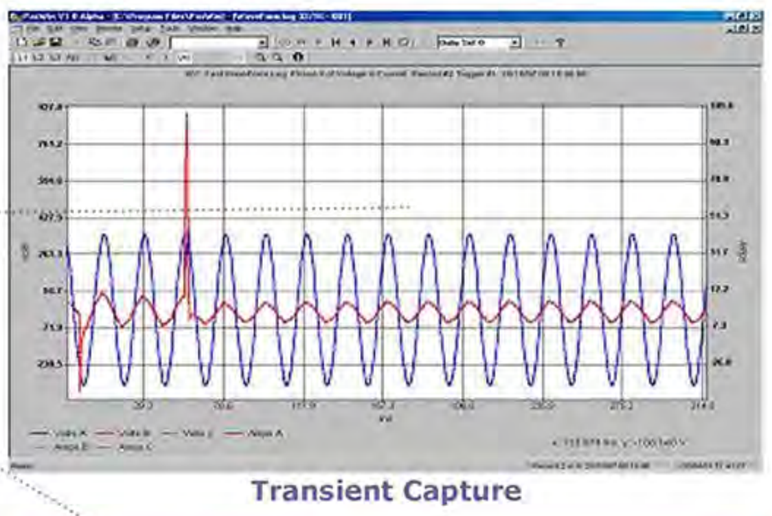
Advanced Power Quality Measurements
- Individual Harmonics up to 63rd, Amplitude & Phase
- Harmonic Power Direction (Load/Source)
- Total Harmonic Power and Energies



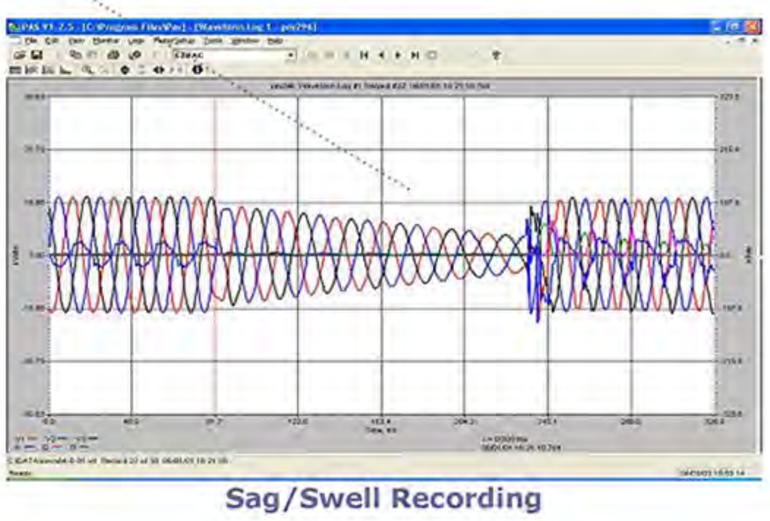
Harmonics Spectrum

Advanced Power Quality Functions
- Transient recording (minimum width: 130us @ 60Hz)
- Sag/Swell detection

Waveform Logs
- Two independent, simultaneous waveform recorders, each recording the complete 3-phase voltage and current waveforms
- Recording resolution at 32 and 128 samples/cycle
- Up to 20 pre-fault cycles
- Any number of post-fault cycles, limited only by available memory
- Supports Wrap-Around and Stop-on-Full recording modes



Transient Capture



Sag/Swell Recording

Power Quality Monitors Portable

The **EDL175XR** Portable Event Power Quality and Data Logger measures, records and analyzes events and data of electrical network parameters. **EDL175XR** meets the requirements of a wide range of applications, from events analysis to energy auditing and load profile records over a period of time. This Logger incorporates all the measurement and Logging capabilities of the **PM175** Powermeter in a convenient portable package, and includes the **PAS** software package which provides graphic data display and analysis capabilities.

EDL175XR

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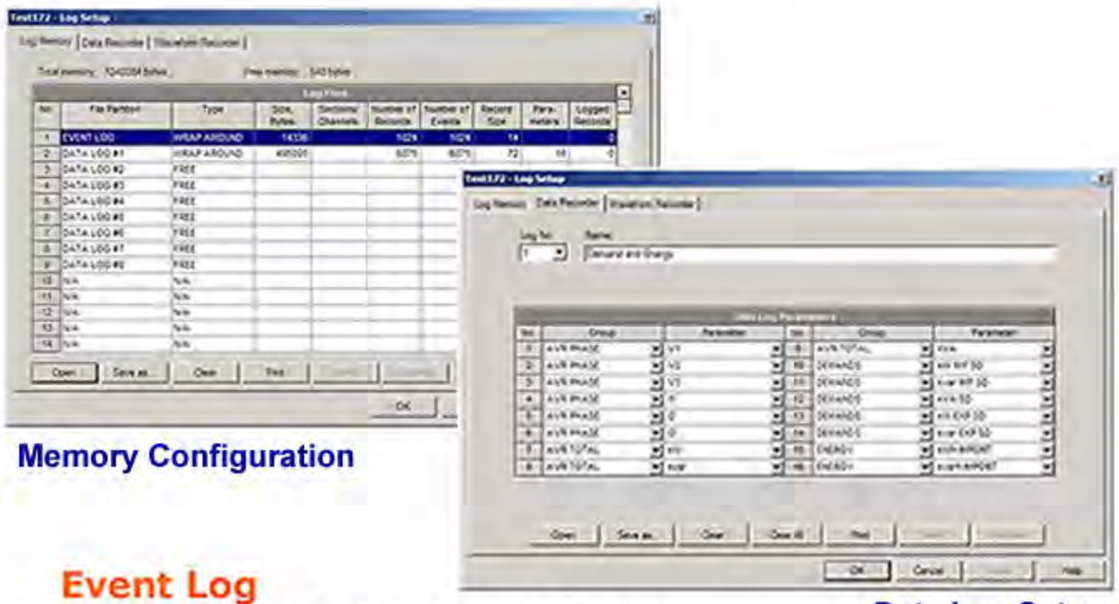
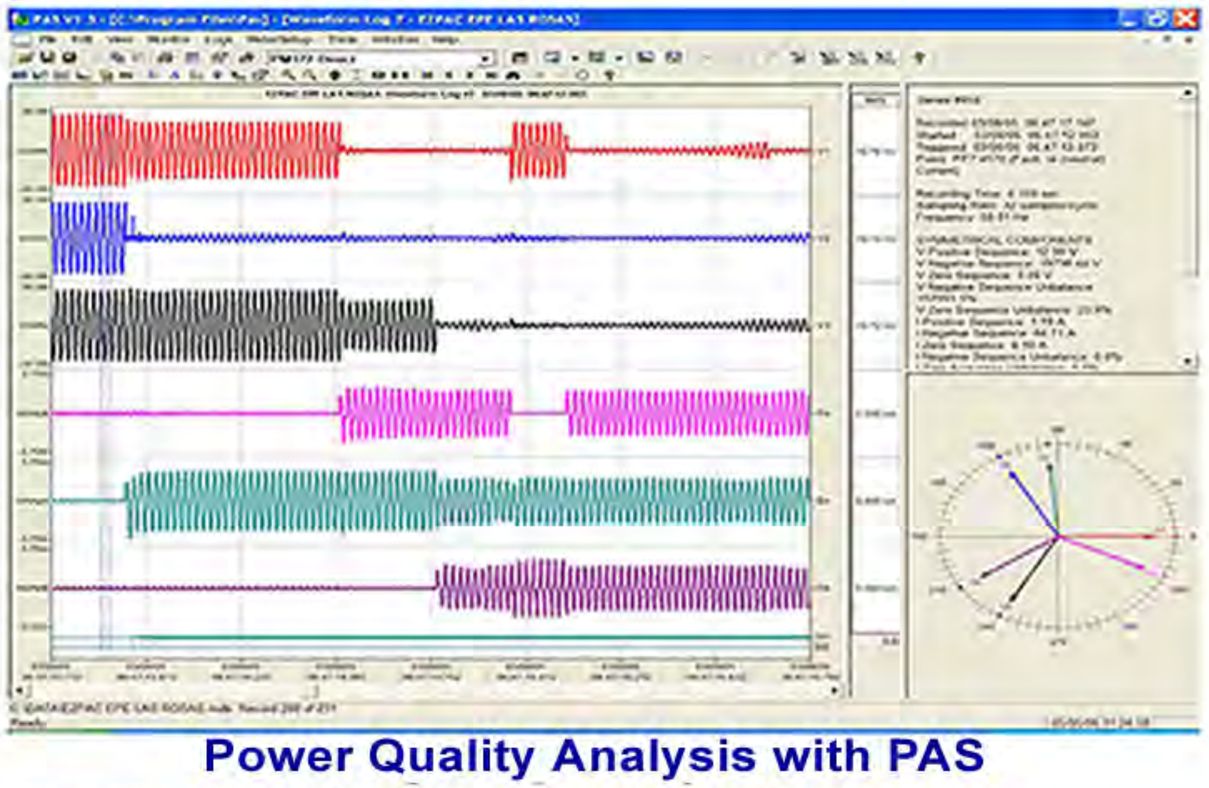
PM175 Power Quality Analyzer

EN50160 Statistical Meter



Memory Configuration

Data Log Setup



Power Quality Analysis with PAS

Event Log

- 1 Event Log of programmable depth
- Supports wrap-around and stop-on-full recording modes

Data Logs

- 16 Data Logs of 16 parameters each
- Configurable depth
- Recording intervals from 1 to 9999 seconds
- Supports wrap-around and Stop-on-Full recording modes

Accuracy

Voltage: 0.2% reading + 0.01% F.S.
(10% to 120% Nominal)
Range: 0 to 1,150,000V
Starting Voltage: 1.5% F.S.

Current: 0.2% reading + 0.02% F.S.
(1% to 200% Nominal)
Range: 0 to 10,000A
Starting Current: 0.1% F.S.

I Neutral: 0.6% F.S. (2% to 150% Nominal)

Frequency: 0.02% reading (15 to 480 Hz)

PF: 0.2% F.S. (|PF| ≥ 0.5)

THD: 1.5% reading + 0.1% F.S.
THD ≥ 1%
V ≥ 10% F.S.V
I ≥ 10% F.S.I.

TDD: 1.5% F.S.
TDD ≥ 1%
I ≥ 10% F.S.I.

Watts: 0.2% reading + 0.02% F.S.
(|PF| ≥ 0.5)
-10,000,000 to +10,000,000 kW

VARs: 0.5% F.S. (|PF| ≤ 0.9)
-2,000,000 to +2,000,000 kVAR

VAs: 0.5% F.S. (|PF| ≥ 0.5)
0 to +2,000,000 kVA

Wh: Class 0.2S as per IEC 62053-22: 2003
-999,999,999 to +999,999,999 MWh

VARh: Class 0.2S as per IEC 62053-22:2003
-999,999,999 to +999,999,999 MVARh

VAh: Class 0.2S as per IEC 62053-22: 2003
0 to 999,999,999 MVAh

Software and Integration

System Integration

- Easy integration with Energy Management or SCADA systems via Modbus RTU, ASCII, DNPV3.0 protocols
- Remote display and logging of all measured parameters
- Automatic/Remote Alarm & Control
- Remote configuration

PAS Software

- Easy to use remote configuration software
- Supports off-line programming to allow easy downloading of a standard configuration to multiple meters
- Supports scheduled polling, viewing of real-time data, and automatic retrieval of historical and waveform logs
- Provides the ability to export waveform and data logs to COMTRADE and PQDIF formats
- Advanced Power Quality Analysis

Installation & Connections

- Each model accepts all wiring configurations, selectable from the front panel
- Analog meter replacement. Mounting standard to both ANSI C39.1 4-inch round and DIN 96x96 mm² cutouts
- Direct connection up to 400/690V or via PT
- Configurable PT and CT ratios via front panel
- Optional switchboard case for retrofit situations

INPUT SPECIFICATIONS

Power Supply:

- 85-265V AC/DC universal power supply
  - 85-265VAC 50/60Hz, 88-290VDC, 10W
  - Isolation:
    - Input to output: 3000VAC
    - Input to ground: 2000VAC
- Options:
  - 12VDC: 10-16VDC
  - 24VDC: 18-36VDC
  - 48VDC: 36-72VDC

Voltage:

Direct Input: Up to 400V-ln/690V-ll
Input impedance: 500 kΩ
PT Ratio: 1.0-6500
Range: 1-999,000V
Burden: <0.4VA for 400VAC
<0.04VA for 120VAC
Overload withstand: 1000VAC continuous
2000VAC for 1 second
Galvanic Isolation: 3500VAC
Wire size: Up to 12AWG (2.5mm²)

Current:

5A secondary:
Operating Range: Continuous 10A RMS
Burden: < 0.1VA
Overload: 15A continuous
300A RMS for 1 secor

1A secondary:
Operating Range: Continuous 2A RMS
Burden: < 0.02VA
Overload: 6A continuous
80A RMS for 1 second

CT Ratio: 1-50,000A
Range: 0-60,000A
Galvanic Isolation: 3500VAC
Wire size: Up to 12AWG (2.5mm

Digital Inputs:

- 2 dry contact digital inputs
- Internal supply: 15V
- Scan time: 1ms
- Isolation: 2000V RMS

Standards of Compliance:

UL Recognized – E129258
UL61010B-1

CE EMC: 89/336/EEC as amended by 92/31/EEC and 93/68/EEC
LVD: 73/23/EEC as amended by 93/68/EEC and 93/465/EEC

Harmonized standards to which conformity is declared:
EN55011: 1991; EN 50082-1: 1992; EN61010-1: 1993; A2/1995

EN EN50081-2: 1994 Generic Emission Standard – Industrial Environment
EN50082-2: 1995 Generic Immunity Standard – Industrial Environment
EN55011:1994 Class A
EN61000-4-2: 1995 Electrostatic Discharge
EN61000-4-4: 1995 Electrical Fast Transient

ANSI C37.90.1: 1989 Surge Withstand Capability

ANSI C62.41: 1991 Standard Surge

MISCELLANEOUS

Warranty:

3 Year limited warranty

Environmental Conditions

Operating Temp.: -20 to +60°C (-4 to 140°F)
Storage Temp.: -25 to +80°C (-13 to 176°F)
Humudity: 0 to 95% non-condensing

Construction

Case enclosure: Plastic PC/ABS blend
Display body: Plastic PC/ABS blend
Front panel: Plastic PC
PCB: FR4 (UL94-V0)
Terminals: PBT (UL94-V0)
Plug-in connectors: Polyamide PA6.6 (UL94-V0)
Dimensions: 127x127x147mm (5x5x5.8")
Mounting: ANSI 4" round
DIN 92x92mm cutout
Weight: 1.23kg (2.7 lb.)

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