

- **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:

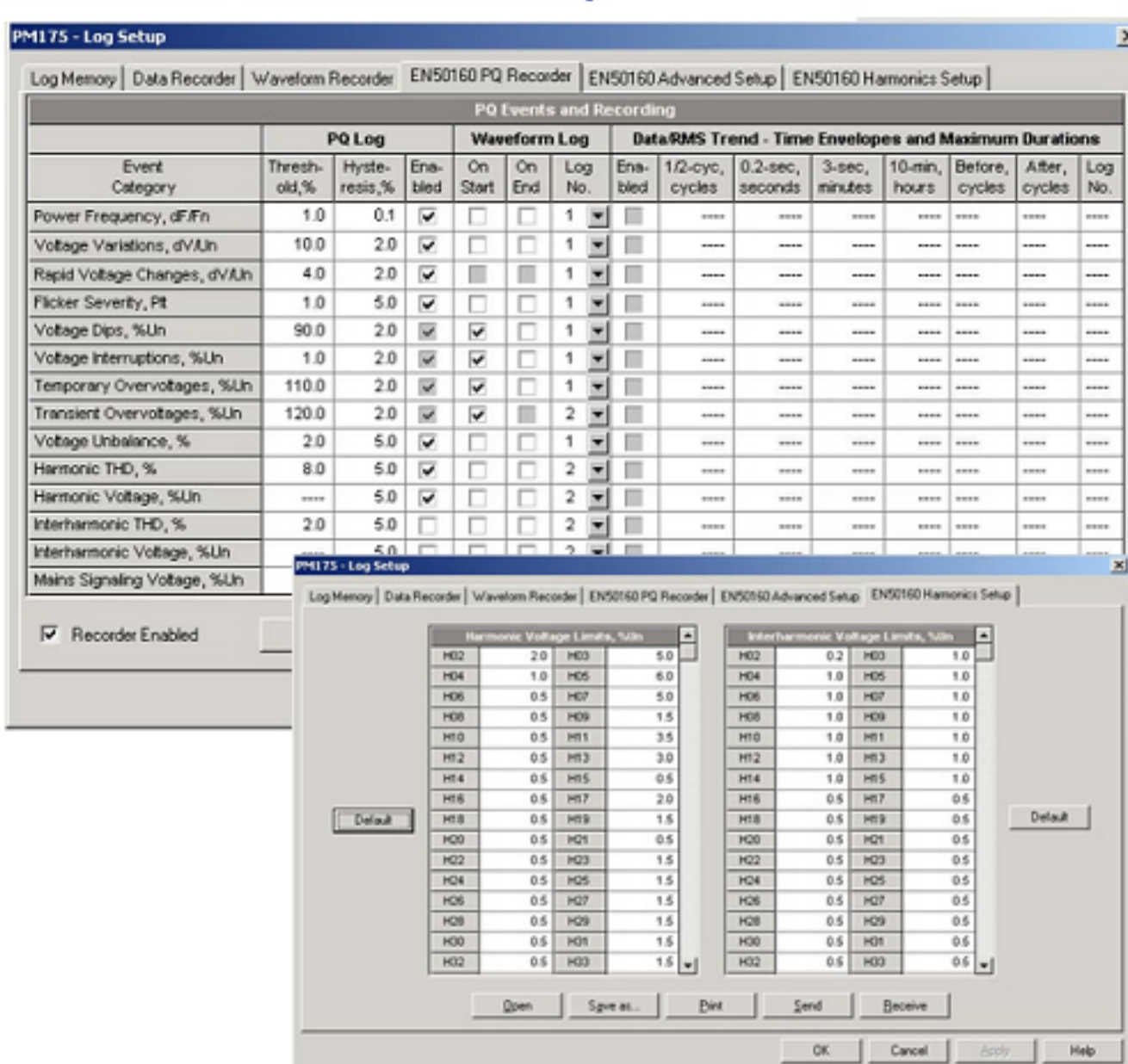
- Accuracy: 77 seconds per month @ 25°C

Log Memory:

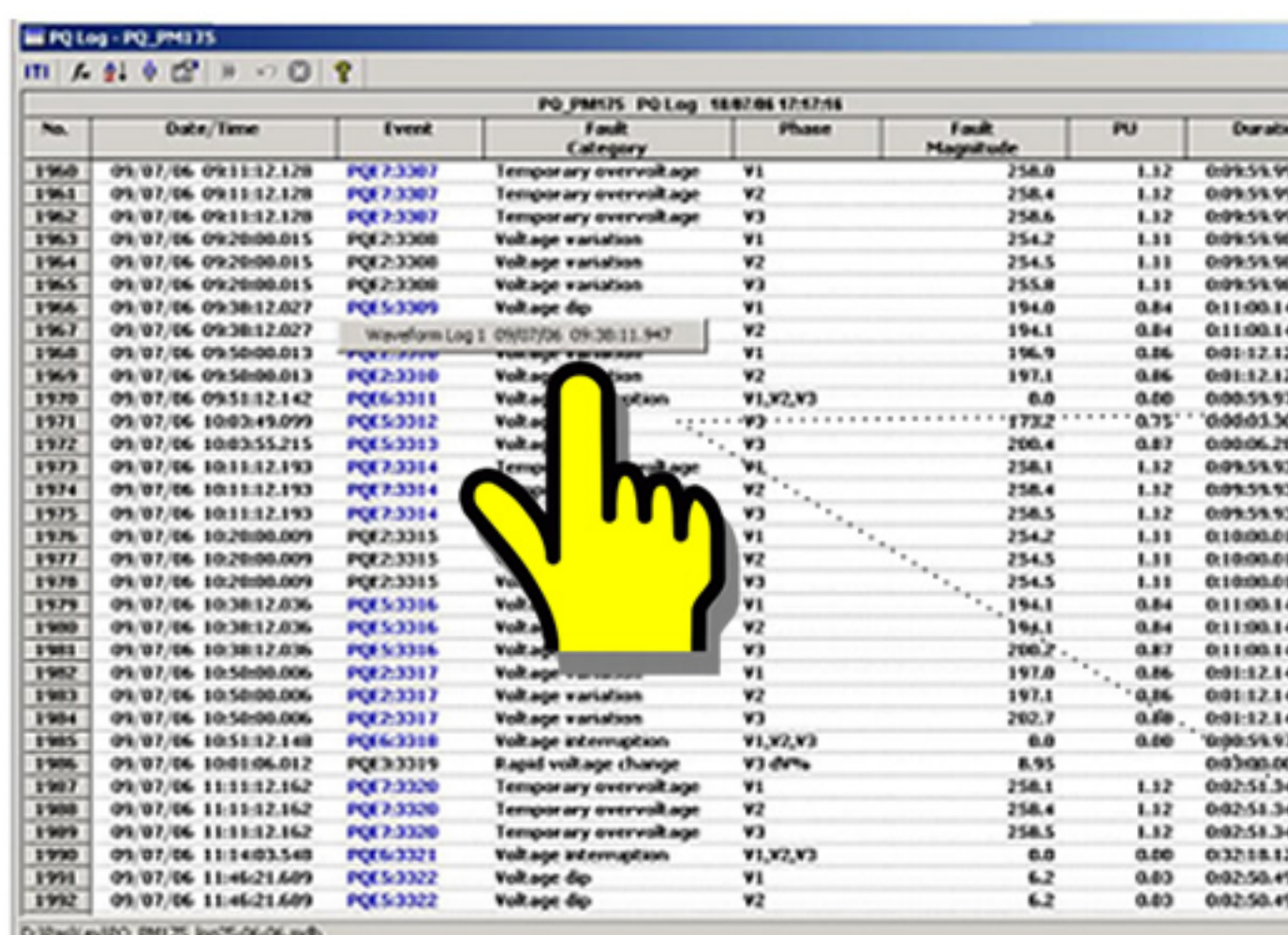
- 1MB on-board memory with battery backup



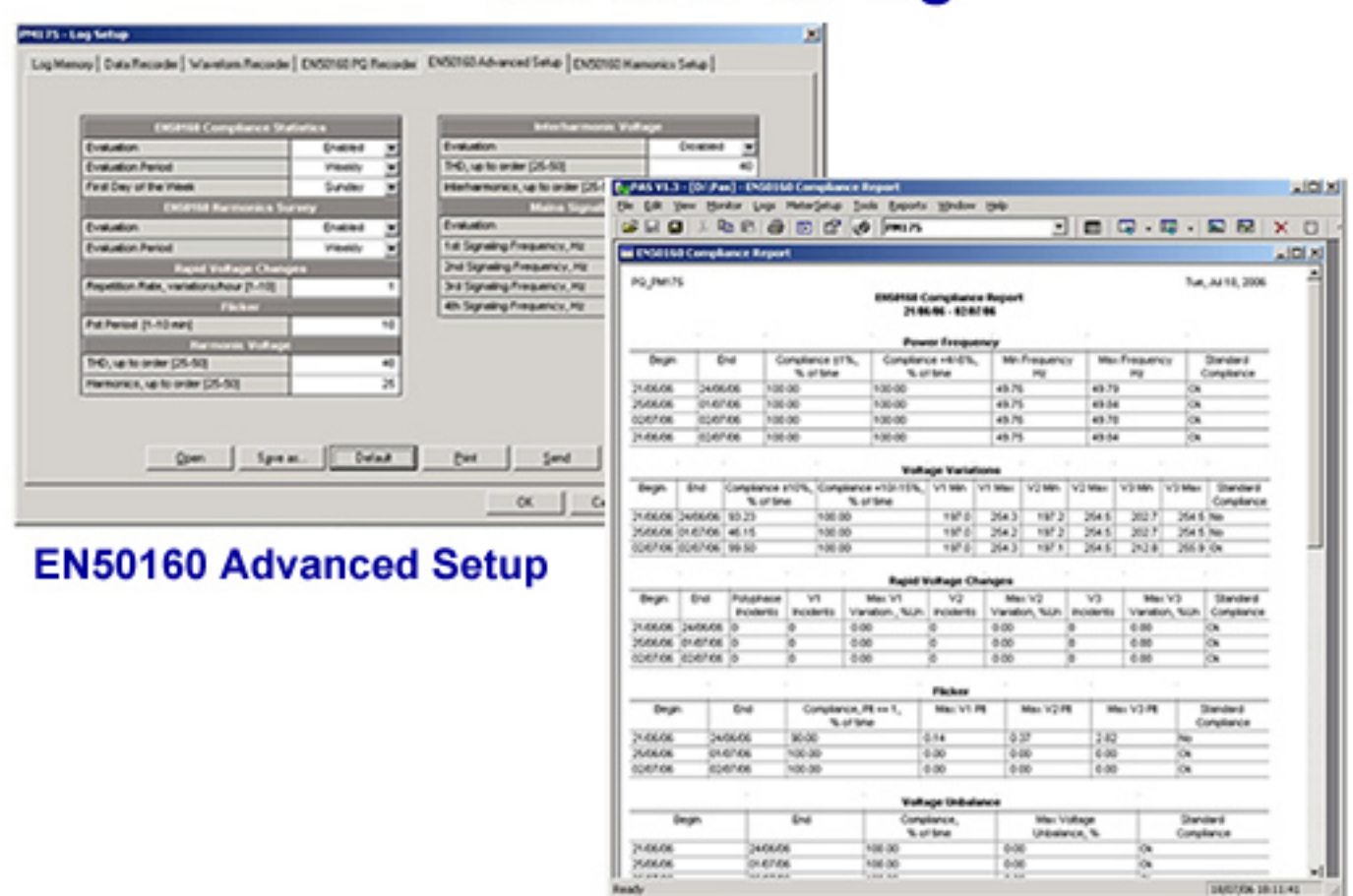
EN50160 PQ Recorder Setup



EN50160 PQ Harmonics Setup



PM175 PQ Log

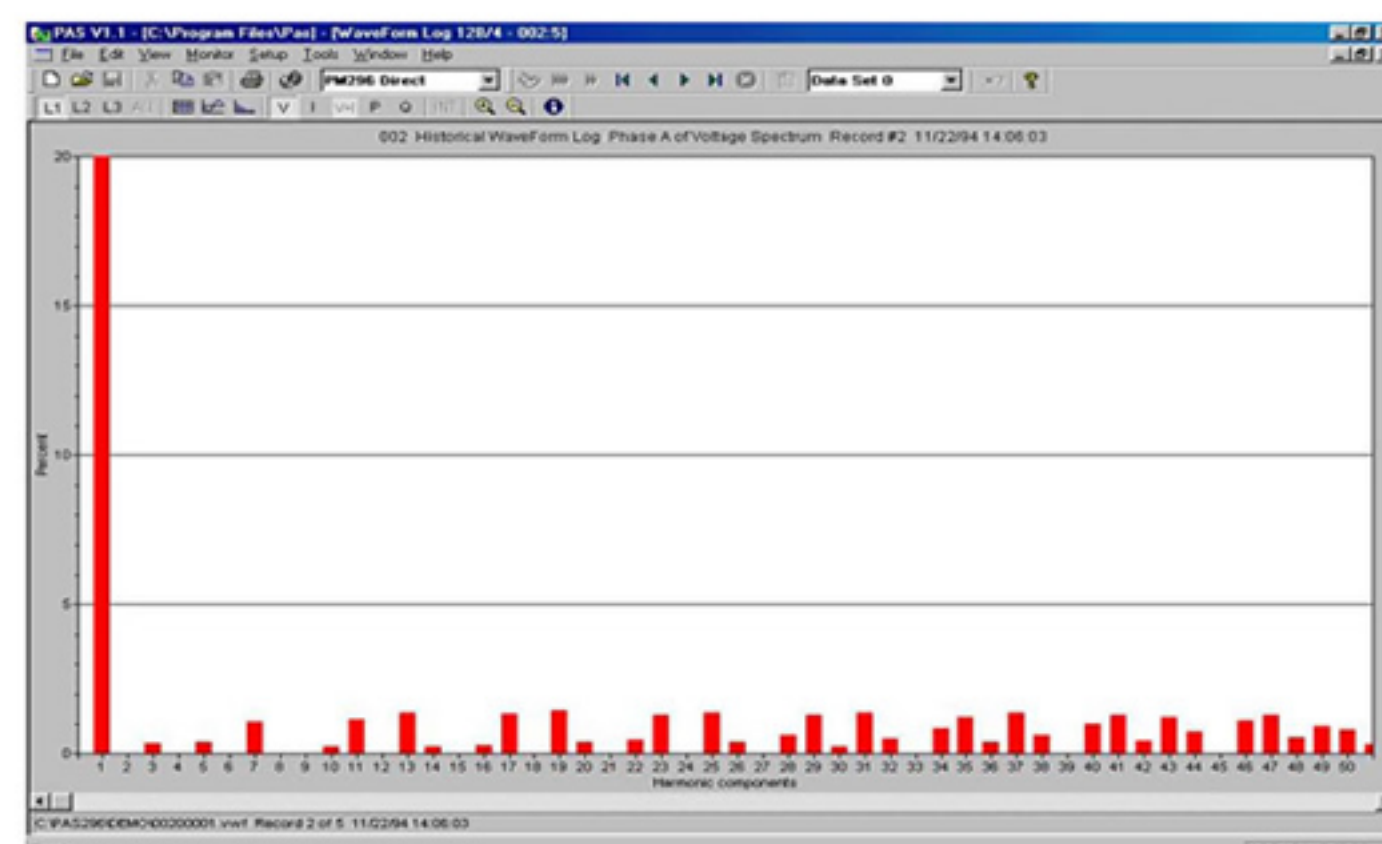


EN50160 Advanced Setup

EN50160 Compliance Report

Advanced Power Quality Measurements

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



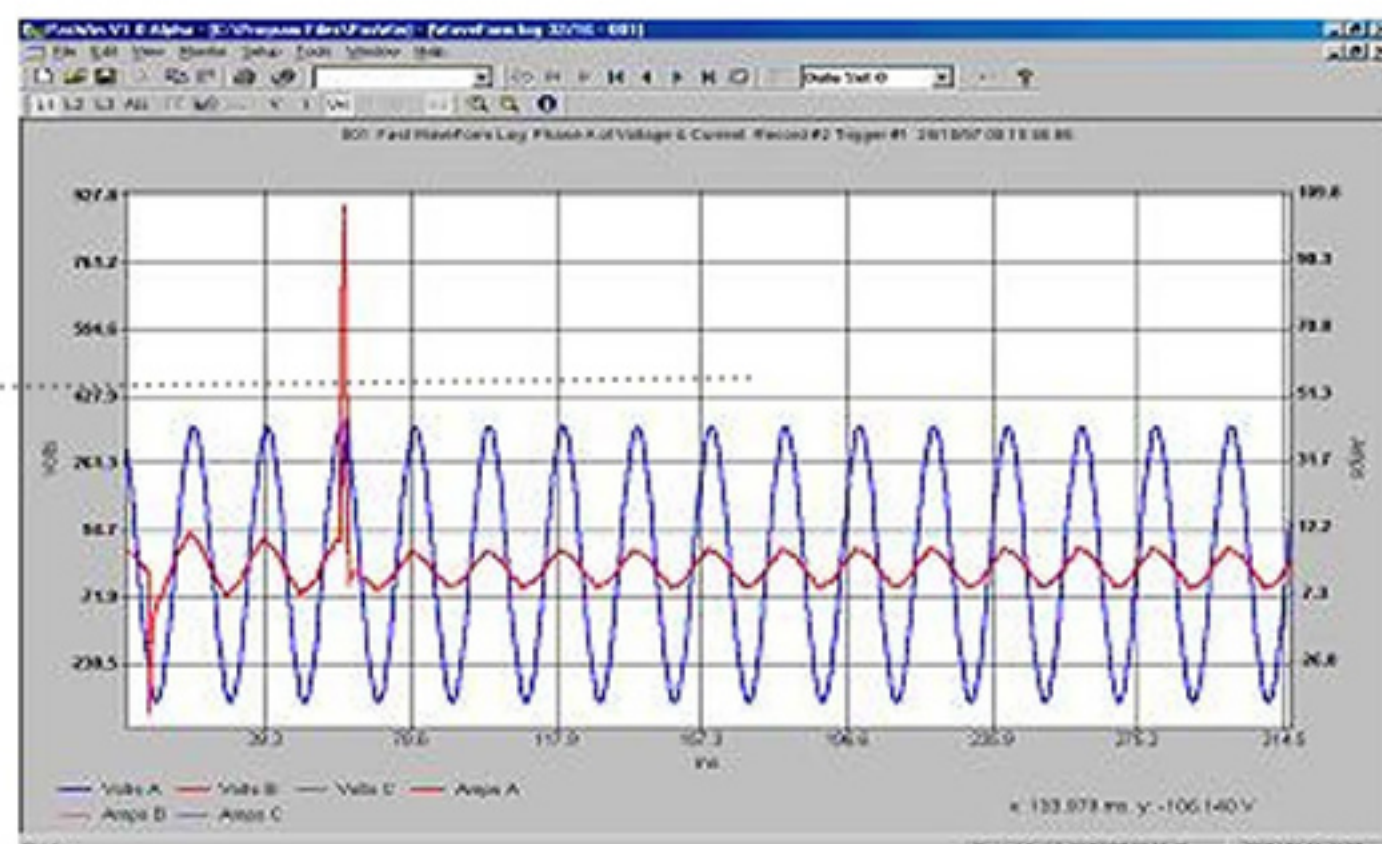
Harmonics Spectrum

Advanced Power Quality Functions

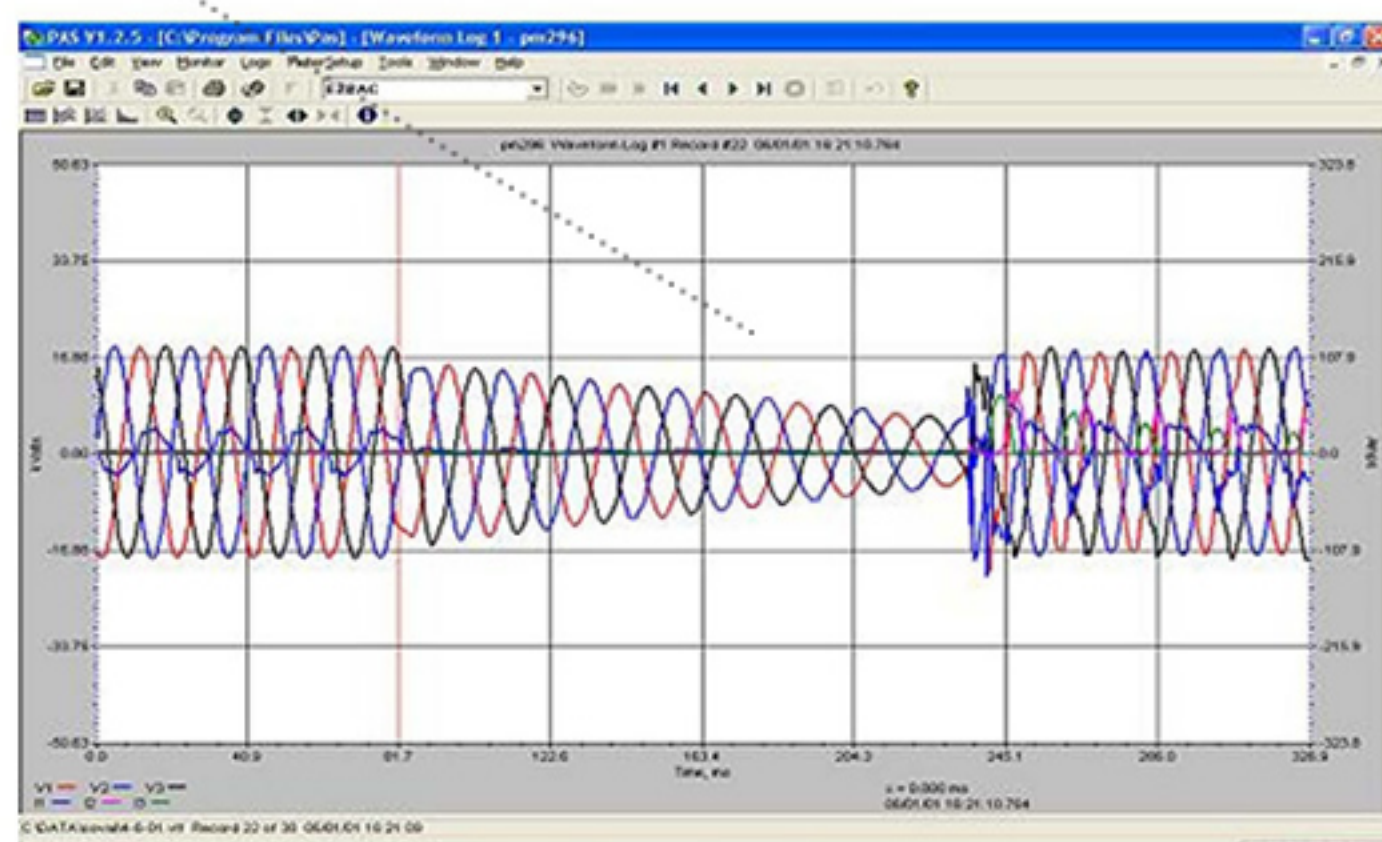
- Transient recording (minimum width: 130us @ 60Hz)
- Sag/Swell detection

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



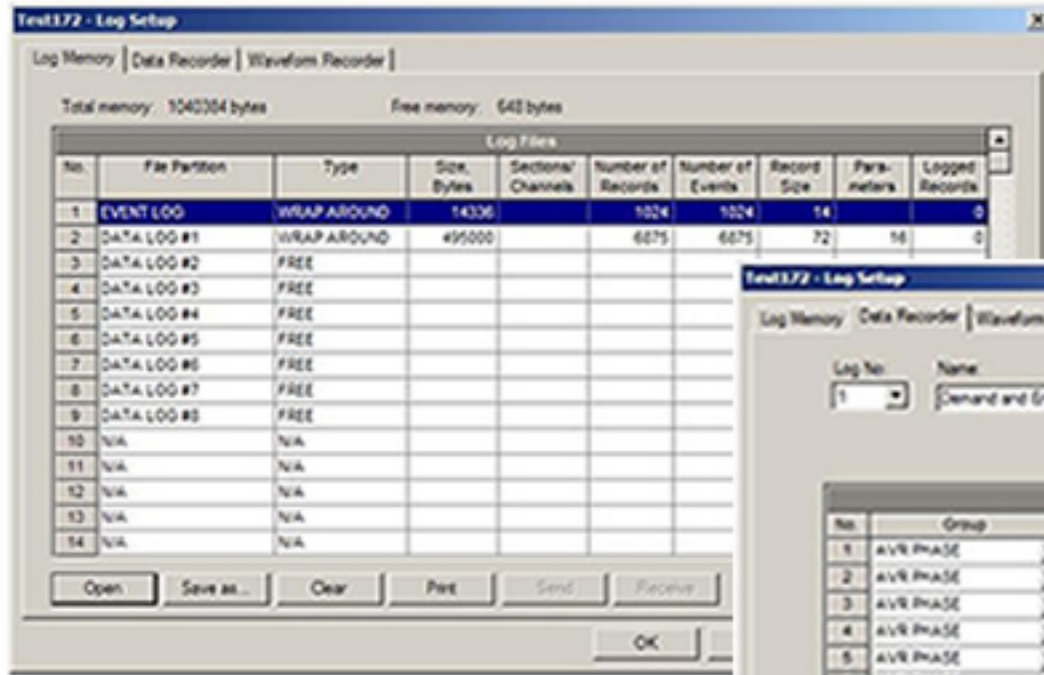
Sag/Swell Recording

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



Memory Configuration

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. ($|PF| \geq 0.5$)
- THD: 1.5% reading + 0.1% F.S.
THD $\geq 1\%$
V $\geq 10\%$ F.S.V
I $\geq 10\%$ F.S.I.
- TDD: 1.5% F.S.
TDD $\geq 1\%$
I $\geq 10\%$ F.S.I.
- Watts: 0.2% reading + 0.02% F.S.
($|PF| \geq 0.5$)
-10,000,000 to +10,000,000 kW
- VARs: 0.5% F.S. ($|PF| \leq 0.9$)
-2,000,000 to +2,000,000 kVAR
- VAs: 0.5% F.S. ($|PF| \geq 0.5$)
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

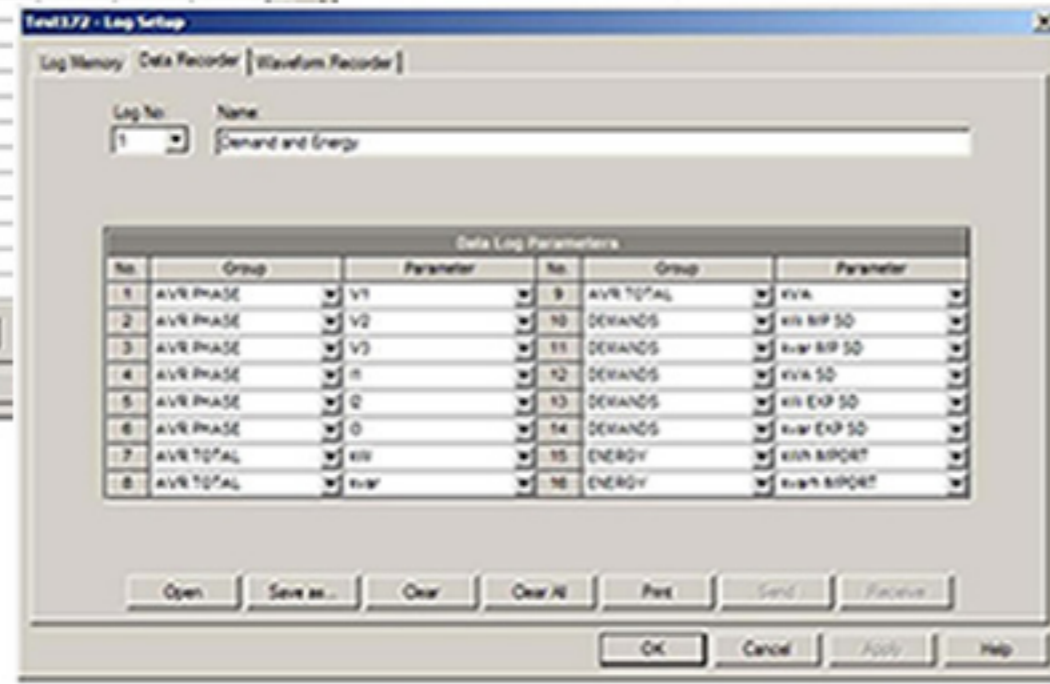
Software and Integration

System Integration

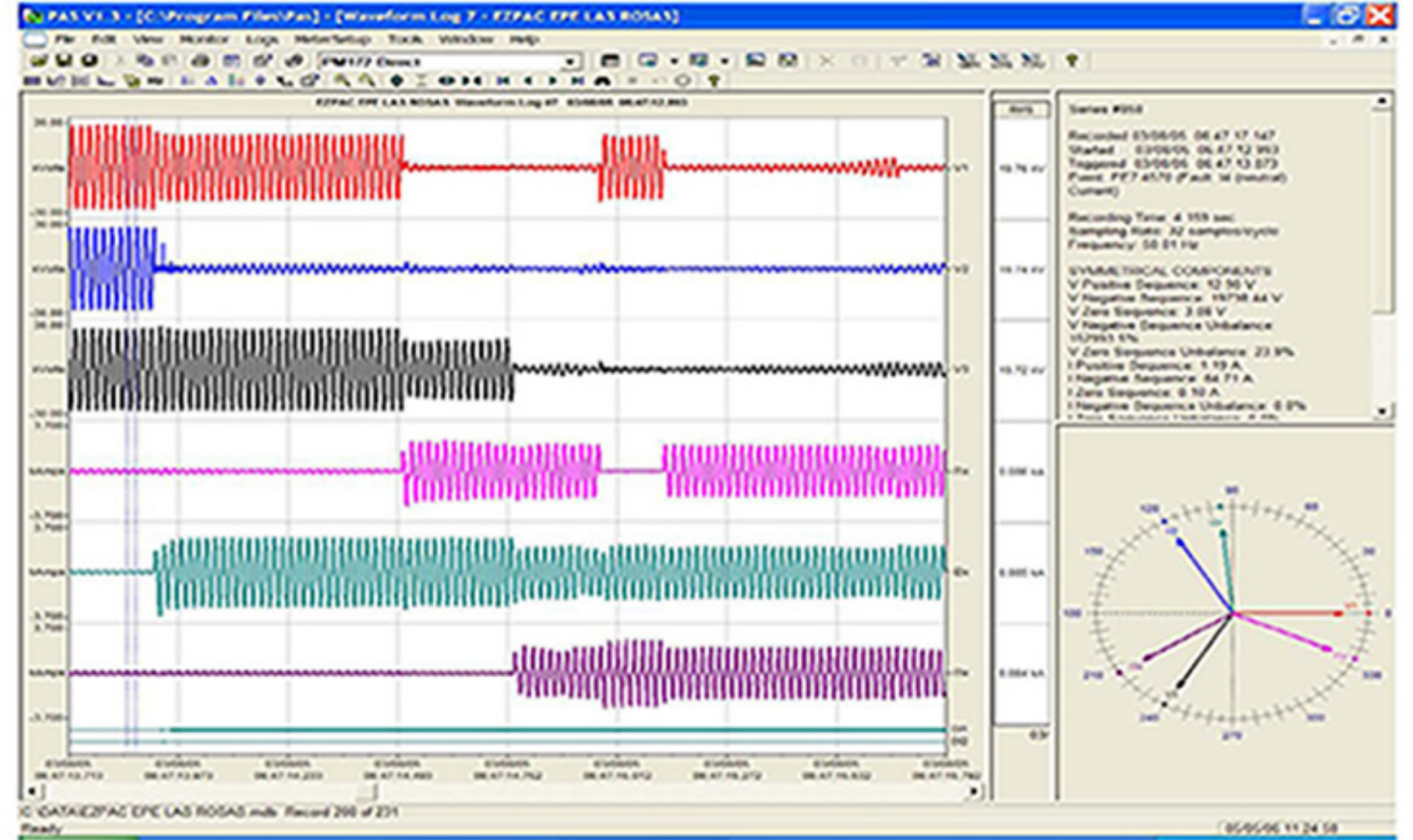
- Easy integration with Energy Management or SCADA systems via Modbus RTU, ASCII, DNPV3.0 protocols
- Remote display and logging of all measured parameters
- Automatic/Remote Alarm & Control
- Remote configuration

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



Data Log Setup



Power Quality Analysis with PAS

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-In/690V-II
 Input impedance: 500 k Ω
 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 second
- 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 (2.5mm²)

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)
 Humidity: 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.)

SATEC, INC.

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