**PowerXplorer PX5**

**Sets the new standard for high performance, advanced measurement capabilities and enhanced usability**

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### Measured Parameters
- 4 differential inputs, 1-600 Vrms, AC/DC, 0.1% rdg + 0.05% FS, 256 samples/cycle, 16 bit ADC
- 40 inputs with CT 1-6000 Arms CT-dependent, AC/DC, 0.1% rdg + CT, 256 samples/cycle, 16 bit ADC
- 1 MHz High Speed Sampling, 14 bit ADC
- Frequency Range, 10 mHz resolution, 15-20 Hz, 45-65 Hz or 350-450 Hz
- Phase Lock Loop - Generator tracking, Standard PQ mode

### General Specifications
- **Size (HxWxD):** 12” x 2.5” x 8” (30cm x 6.4cm x 20.3cm)
- **Weight:** 4.2 pounds (1.9 kg)
- **Operating Temperature:** 0º to 50º C (32º to 122º F)
- **Storage Temperature:** -20º to 55º C (4º to 131º F)
- **Humidity:** 10 to 90% non-condensing
- **System Time Clock:** Crystal controlled-1 second resolution
- **Charger/Battery Eliminator:** 90-264 VAC 47-63 Hz
- **Display:** LCD color touch screen
- **Memory options (must have one):** 32M-128M removable compact flashcard

### Available Languages
- English, French, Italian, German, Spanish, Swedish

### Monitoring/Compliance
- **IEEE 1159**
- **EN50160 Quality of Supply**
- **Current Inrush/Fermentation**
- **Voltage Fault Recording**
- **Long Term Monitoring:** 24/7
- **Continuous Data Logging**

### Power Quality Triggers
- Cycle-by-cycle analysis
- 256 samples/cycle; 1/2 cycle RMS steps (1)
- L1, L2, N-G RMS Variations: Sag/ swell/ interruptions
- RMS Recorings: 8, 16, 32 pre-fault, 10K post-fault cycles
- Waveform Recordings: (32 pre-fault, 10K post-fault cycles)
- Low and Medium Frequency Transients: V & I
- High Frequency Transients: V, I & I, 3% FS trigger (1)
- Harmonics Summary Parameters
- Cross trigger V & I channels
- RMS Event Characterization (IEEE or IEC)
- **Transient Event Characterization (1)**

### Distortion/Power/Energy
- **W, VA, VAR, TPF, DPE, Demand, Energy, etc.**
- **IEEE 1459 Parameters of distorted and unbalanced**
- Harmonics/Interharmonics per IEC 61000-4-7
- THD/Harmonic Spectrum (V) (W) to 63rd
- Total Harmonic Interharmonic Spectrum (VII) to 63rd
- Flicker per IEC 61000-4-15 (P, P, P, Sliding PS)
- Crest Factor, K Factor, Transformer Derating Factor, Telephone Interference Factor
- Unbalance (max rms deviation) 8 sequencing components
- 5 User Spec Harmonics or Signaling Frequency
- Vector/Arithmetic/Coincident Parameters

### Optional Accessories
- **Current Probes:** An extensive selection, including:
  - Model TR-2510A 0-10 A; up to 0.47” conductors
  - Model TR-2500A 10-500 A; up to 1/8” diameter or 2.5” x 0.2” conductors
  - Model TR-2520A 300-3000 A; up to 2.56” diameter or 1.97” x 5.3” (bus bar)
  - Model TR-2019B 1-300 A; up to 2.0” conductors (requires 116002-G1 adapter)
- **Flexible probes:** ranging in current from 30-6000 A, 24”, 36”, 48”
- **Hall Effect Probes for AC/DC applications, 150 A or 1500 A**
- **CT Cable Adapter (CA430048)**
- **Voltage Cable Accessory Pack (VCP4300)**
- **Soft Carrying Case (SCC-4300)**
- **Field Replaceable Battery Pack (BP-PX5)**
- **External Battery Charger (XBC-PX5)**
- **Reusable Shipping Container (NEMA4300)**
- **Lockable Portable Case (LPC-4300)**
- **Portable Field Printer (PFP4300)**
- **Communications Interface:**
  - RS232 FiberOptic Adapter (COMM-RS232)
  - USB FiberOptic Adapter (COMM-OUA)
  - LAN-FiberOptic Adapter (COMM-OEA)
- **DRAN-VIEW software:** Runs under Windows 98, ME, NT, XP
  - NodeLink with download, setups and meter
  - CD-ROM Training Program

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*(1) PX5-400 samples at 32 samples/cycle, 1 cycle steps at 400 Hz.*

*(Certain parameters measured at 45-65 Hz range only)*
Load Distortion and Imbalance
Rectified-input power supplies plus other non-linear loads have increased from 25% of the total U.S. load to over 65% today. These loads draw current only during part of the waveform, resulting in current distortion, and depending on harmonic impedances, which causes voltage distortion as well. This distortion can have a significant derating effect on equipment reliability, as well as for matching the requirements and susceptibilities of that equipment to the incoming supply.

Power Quality Surveys and Diagnostics
A power quality survey is key to pinpointing and diagnosing problems or negative trends and to effectively implement a reliability-centered maintenance program. By evaluating power quality over a week or longer, baseline conditions and susceptibility to events can be determined so that corrective measures can be implemented. The PowerXplorer has a built-in event characterizer that correctly identifies wave-shaping and the gathering of survey data—improving power quality and equipment reliability as well as for matching the requirements and susceptibilities of that equipment to the incoming supply.

Fast Transient Capture
The PowerXplorer uses digitized high-speed sampling to capture and analyze microsecond-wide transients (Dranetz 658-like and BMI 8800-like). Transients, generated by fast-switching electronics, medical diagnostic equipment, capacitor switching, lightning, transformer energization, and load-shifting, are immediately characterized as impulsive or oscillatory and detailed for further analysis. Capable of capturing the complete power quality spectrum, the PowerXplorer provides scope-like display of the entire transient.

Flicker
The activation of arc furnace, large induction machines and other large loads that produce continuous voltage impulses cause a power quality event called flicker. Typically, flicker occurs on systems that are weak relative to the amount of power required by the load, combined with considerable variations in current occurring over a short period of time. The PowerXplorer measures the instantaneous voltage drop per IEEE 519-1.2.4 and 519-1.2.6, as well as statistical output. The PowerXplorer determines the flicker level using Dran-View software.

Harmonics
As the sensitivity of power electronics increases, equipment ranging from HVAC systems, personal computers and copiers to computerized process equipment and manufacturing systems are susceptible to harmonic pollution. In fact, harmonics can cause small, almost imperceptible variations in performance that accumulate over time to cause significant long-term damage. The PowerXplorer captures detailed harmonics, interharmonics and subharmonics to effectively troubleshoot the complex problems caused by these events.