

# POWERGUIDE

# 4400

## Power Quality Analyzer



*“Out of the Box and Ready To Go,”*



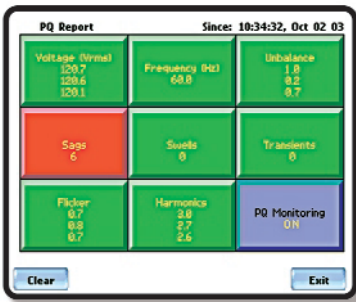
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Equipped with 8 independent channels, the 3-phase PowerGuide® 4400 is the only advanced power monitoring instrument to incorporate a color touch screen into its lightweight design. Automated setups provide instant detection of circuits and configurations, ensuring that the instrument is ready to successfully collect data. Users can select the length and mode of data collection, including troubleshooting, data logging, power quality surveys, energy and load balancing. The PowerGuide collects data at 256 samples/cycle/channel, offers remote communications using RS-232, ethernet or USB options, and meets IEEE 1159, IEC 61000-4-30 and EN50160 standards.

# POWERGUIDE

## Troubleshooting

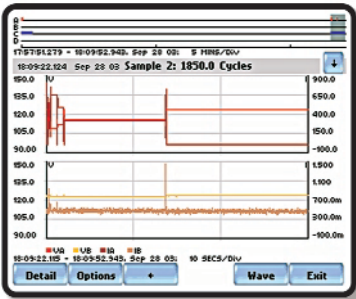
The PowerGuide 4400's unique annunciator "report card" provides instant power quality answers in the field. A wide range of power monitoring data is collected, analyzed and tabulated in color-coded categories to quickly identify areas of concern, which are identified in red. Drill down for more detailed information by simply touching the intuitive graphical screen to troubleshoot problems, locate the source and pinpoint the root cause of power quality disturbances.



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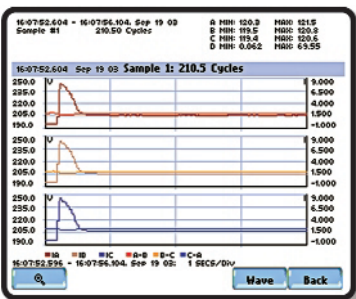
## Fault Recording

The PowerGuide 4400's simple fault recording mode provides instantaneous detection of electrical malfunctions and identification of faults within a facility's power infrastructure. The PowerGuide will characterize the magnitude and duration of a fault and help direct the user toward its source. Information including voltage and current frequency stability, power flow and harmonics underlie the PowerGuide's diagnostic capabilities.



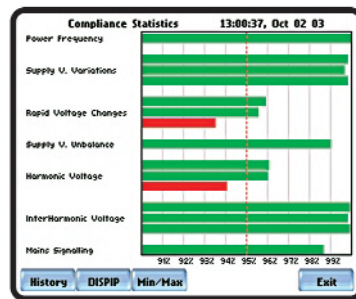
## Inrush

The startup of motors, transformer energization, breaker trips, and the activation of backup generators and other applications with inrush conditions require extended cycle-by-cycle recording to ensure proper operation and to determine their impact on other devices. The PowerGuide 4400 goes beyond other power monitoring instruments by providing current-based RMS triggers and peak threshold crossings to optimize the performance and longevity of that essential equipment.

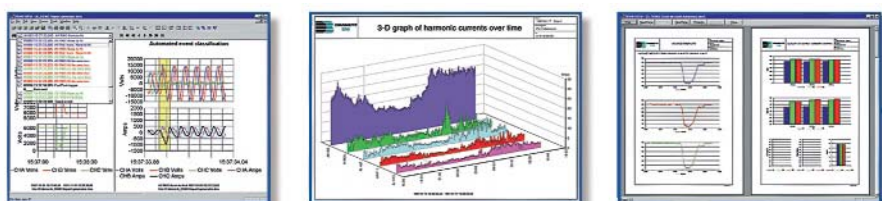


## Compliance Monitoring

The PowerGuide 4400 has been designed to meet the most advanced power quality standards, including IEEE 1159, IEC 61000-4-30 Class A and EN50160. A statistical output is produced to quickly verify compliance with international quality-of-supply standards and benchmark power quality. In an instant, the PowerGuide provides a snapshot of over 13 key parameters, including unbalance, voltage variations and harmonics.

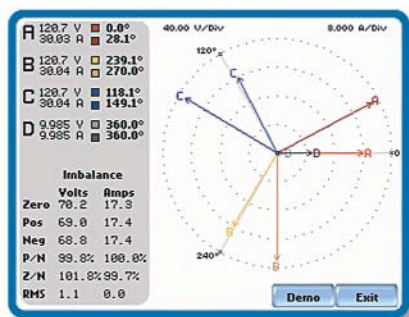


# 4400

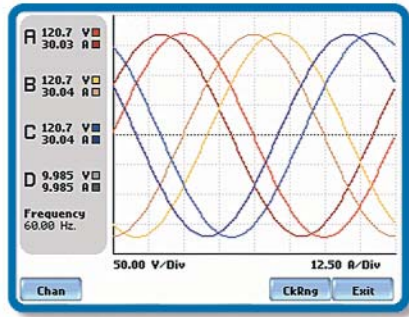


Visualization and reporting options using DRAN-VIEW

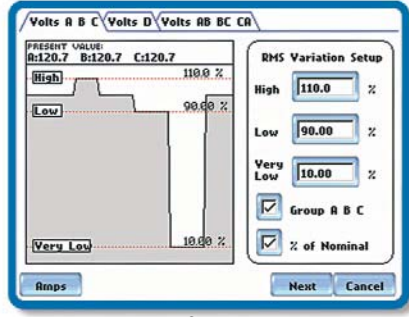
Data can be viewed in real time using scope mode, meter mode, event mode, harmonics spectrum or phasor diagrams. With the touch of your finger or a stylus, you can view data and zoom-in on captured disturbances for more detail and automated event characterization. All measuring modes are self-contained in the instrument, eliminating the need for TaskCards. Capture data on a memory card for analysis, trending, visualization and reporting using industry-leading DRAN-VIEW® software. DRAN-VIEW makes it simple to trend events, correlate data, analyze worst-case scenarios, simultaneously view data from multiple sites, generate custom reports, and understand complex issues such as transients, harmonics and interharmonics.



Phasor

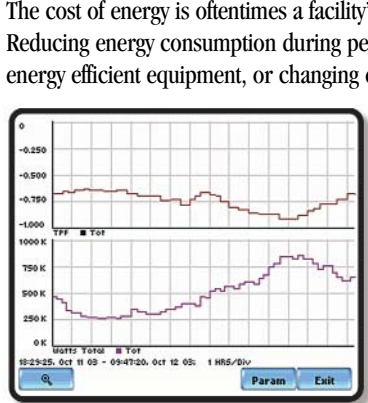


Scope



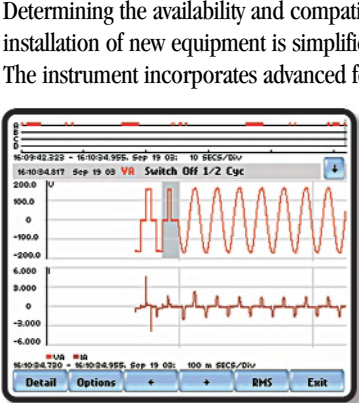
Setup

## Energy Surveys



The cost of energy is oftentimes a facility's largest operating expense. Reducing energy consumption during peak times, shifting loads, purchasing energy efficient equipment, or changing energy suppliers can shave 10-40% annually off that cost. The PowerGuide 4400 is an invaluable tool for performing energy surveys, including monitoring energy consumption, usage patterns, peak demands and the activation of large loads to reduce electricity costs. Plus, the PowerGuide makes it easy to track and allocate energy costs by process or department.

## Equipment Performance Testing



Determining the availability and compatibility of facility power prior to the installation of new equipment is simplified using the PowerGuide 4400. The instrument incorporates advanced features such as RMS triggers, low/medium frequency transients, and cross triggering between channels to demonstrate that power mitigation devices such as UPSs are operating properly. Real time readings observed during maintenance and startup processes enable users to see results and tweak that equipment during the testing process.

# POWERGUIDE4400

## SPECIFICATIONS

### Measured Parameters

(4) differential inputs, 1-600 Vrms, AC/DC, 0.1% rdg, 256 samples/cycle, 16 bit ADC

(4) inputs with CTs 1-6000 Arms, CT-dependent, AC/DC, 256 samples/cycle, 0.1% rdg + CTs, 16 bit ADC

Frequency range, 10 mHz resolution, 45-65 Hz

Phase Lock Loop - Standard PQ mode

### Monitoring/Compliance

IEEE 1159

IEC 61000-4-30 Class A

EN50160 Quality of Supply

Current Inrush/Energization

Voltage Fault Recording

Long Term Monitoring w/min/max/avg

Continuous Data Logging

### Power Quality Triggers

Cycle-by-cycle analysis

256 samples/cycle; 1/2 cycle RMS steps

L-L, L-N, N-G RMS Variations: Sags/swells/interruptions

RMS Recordings V & I (32 pre-fault, 10K post-fault cycles)

Waveshape Recordings (32 pre-fault, 10K post-fault cycles)

Low and Medium Frequency Transients - V & I

Harmonics Summary Parameters

Cross trigger V & I channels

RMS Event Characterization (IEEE or IEC)

### Distortion/Power/Energy

W, VA, VAR, TPF, DPF, Demand, Energy, etc.

Harmonics/Interharmonics per IEC 61000-4-7

THD/Harmonic Spectrum (V,I,W) to 63rd

TID/Interharm. Spectrum (V,I) to 63rd

Flicker per IEC 61000-4-15 (Pst,Plt,Sliding Plt)

Crest Factor, K Factor, Transformer Derating Factor, Telephone Interference Factor

### Available Languages

English, French, Italian, German, Spanish, Swedish

### General Specifications

Size (HxWxD): 12" x 2.5" x 8" (30cm x 6.4cm x 20.3cm)

Weight: 3.8 pounds (1.8 kg)

Operating Temperature: 0° to 50° C (32° to 122° F)

Storage Temperature: -20° to 55° C (-4° to 131° 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

### Optional Accessories

Current Probes: An extensive selection, including:

Model TR-2510A 0-10 A; up to 0.47" conductor

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 1.97" x 5.3" (bus bar)

Model TR-2019B 1-300 A; up to 2.0" conductor (requires 116002-G1 adapter)

Flexible probes: ranging in current from 30-6000 A, 24", 36", 48"

Hall Effect Probes for AC/DC applications, 150V, 1000V

CT Cable Adapter (CA4300LEM)

Voltage Cable Accessory Pack (VCP4300)

Soft Carrying Case (SCC-4300)

Field Replaceable Battery Pack (BP-PX5)

External Battery Charger (XBC-PX5)

Reusable Shipping Container (RSC-4300)

Weatherproof 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, and XP

NodeLink® with download, setups and meter

CD-ROM Training Program



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