

POWER PLATFORM 4300

Power quality, harmonics
and energy instrument

Multi-functional

Easy to use

Lightweight

Economical

DRAN-VIEW enabled



Handheld Power Quality Analyzer

The award-winning Power Platform® 4300 sets the industry standard for power analyzers. With four differential voltage channels and four independent current channels, the 4300 measures, analyzes and records power quality, harmonics and energy data simultaneously and continuously on single- or three-phase systems, responding to a range of power system management needs:

POWER PLATFORM 4300

- **PREVENTIVE MAINTENANCE**

The only handheld instrument that independently triggers on voltage transients and RMS variations and current transients and RMS variations, the PP4300's built-in ability to simultaneously capture harmonic disturbances and power flow enables monitoring for up to 16 parameters including V, I, W, VA, VAR, power factor, demand and energy.

- **TROUBLESHOOTING**

With its easy setup and operation, the PP4300 is a versatile tool for identifying and locating disturbances, determining their causes, and providing the critical data needed to respond quickly and efficiently.

- **PROACTIVE PLANNING**

The PP4300 enables users to anticipate and address power quality impacts from process changes, fluctuating demand, or the installation of new equipment and facilities. Users can add or balance loads, verify equipment performance, or determine the need and effectiveness of mitigation systems.

- **FINANCIAL MANAGEMENT**

The 4300 provides the data to manage power systems, from accurate cost allocation to energy contract compliance, evaluation of alternative rate structures, and determination of demand during different process cycles.



PARAMETERS MEASURED:

*Volts, Amps, Watts, VA, VAR, Power factor, Frequency, Voltage unbalance
Current crest factor, Demand, Energy, Harmonic directivity,
V&I total harmonic distortion, K Factor, Nth harmonics*



The optional, lockable, NEMA 4x case allows the use of the PP4300 in harsh environments.

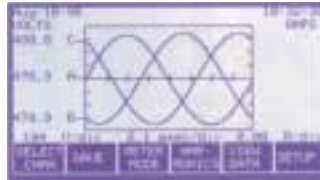
TASKCARD

From the economical single-phase TaskCard – the perfect entry system for electrical contractors – to the full 8-channel instrument for advanced power quality management, the TaskCard system allows you to easily and cost-effectively upgrade your instrument.

MEMORY CARD

The PP4300 can be equipped with up to 4MB of additional memory for collecting data. Depending on the size of the card and the nature of the event, these removable cards enable users to capture a week's worth of data and transfer it to a PC for further analysis.

With integrated PCMCIA technology, a 2-hour UPS capacity and individual TASKCards® for upgradable operations, the PP4300 provides four unique modes of operation:



- **SCOPE MODE®**: In the Scope Mode, the PP4300 allows real-time viewing of voltage and current waveforms and voltage and current phasor diagrams.



- **METER MODE®**: A 3-phase meter updates values every second for volts, amps, watts, VA, VAR, power factor, frequency, voltage unbalance, V&I total harmonic distortion, current crest factor, K factor, demand, energy and nth harmonics. Values are displayed by parameter or by channel.



- **EVENT RECORDER**: The PP4300 captures critical data in unique configurations, including event data by event; worst case or activity report; actual captured voltage and current waveforms; and power quality events classified to the IEEE 1159 standard for voltage disturbance. Limits and thresholds can be easily set to match equipment susceptibilities.

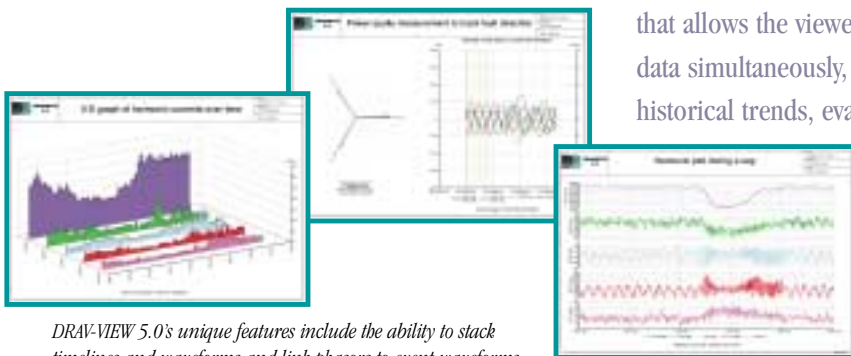


- **TIME PLOT**: Time plots can be displayed for as many as 16 different parameters and 8 individual channels to identify abnormalities before they become problems. It is linked to event reports for textual and waveform details. Zoom-in capabilities allow the display of detail to 0.1 sec/div.

DRAN-VIEW®

Underlying the PP4300 is DRAN-VIEW®, the industry-leading software that allows the viewer to scroll through event, timeline and waveform data simultaneously, zero in on captured disturbance waveforms, scan historical trends, evaluate statistics and perform harmonic and

interharmonic analysis—all with the click of a mouse. With its intuitive two-pane browser, complete report writing capabilities, Windows® interface and simple-to-use visualization and analytical capabilities, DRAN-VIEW turns every user into a power quality expert.



DRAN-VIEW 5.0's unique features include the ability to stack timelines and waveforms and link phasors to event waveforms.

Specifications

POWER PLATFORM® 4300

MEASURED PARAMETERS

PQ-LITE* 808

Voltage 4 fully differential channels Channels A, B, C range: 10-600 Vrms max. Channel D low range: 0.5-20 Vrms max. Channel D high range: 10-600 Vrms max. Accuracy: ±1% of reading ±0.05% full scale	■	■
Voltage Transients Channels A, B, C range: 50-1000 Vpk Channel D low range: 1-30 Vpk Channel D high range: 50-1000 Vpk Accuracy: ±10% of reading ±1% full scale Transient duration: 1 µs min.	■	
Current 4 independent input channels Channels A, B, C, D range: 10-200% of full scale current probe rating Accuracy: ±1% of reading ±0.05% full scale at fundamental frequency plus current probe accuracy	■	■
Current Transients Channels A, B, C, D range: 10-300% CT full scale Accuracy: ±10% of reading ±1% full scale Transient duration: 1 µs min.	■	
Phase Each voltage/current pair are sampled simultaneously to preserve phase relationship	■	■
Frequency Fundamental range: 30-450 Hz Accuracy: ±0.2% of reading	■	■
COMPUTED PARAMETERS		
Update Rate Power quality—cycle-by-cycle for V&I, & energy parameters: once per second Harmonic-based parameters: every 5 seconds	■	■
ABC Volts Calculated as the geometric mean of the three phases	■	■
ABC Amps Calculated as the sum of the three phases	■	■
Real Power Single Phase: Average of instantaneous power samples taken as the product of voltage and current samples. Includes sign to indicate direction of power flow Three Phase: Calculated as the sum of the three phases. Includes sign to indicate direction of power flow Accuracy: ±2% of Reading ±0.2% of full scale at fundamental frequency	■	■
Apparent Power Single Phase: Calculated as Vrms times Arms Three Phase: Calculated as the vector sum of VAR _{ABC} and W _{ABC} Accuracy: ±2% of reading ±0.2% of full scale at fundamental frequency	■	■
Power Factor Calculated as real power divided by apparent power. Includes sign to indicate leading or lagging load current Accuracy: ±0.05 typical	■	■
Reactive Power Single Phase: Calculated as the vector difference between VA and W. Includes sign to indicate capacitive or inductive Three Phase: Calculated as the sum of the three phases. Includes sign to indicate capacitive or inductive Accuracy: ±2% of reading ±0.2% of full scale	■	■
Demand Average power during a demand interval in W, VA, VAR Accuracy: ±0.2% of reading ±0.02% of full scale at fundamental freq.	■	■
Energy Summation of Watt-Hours for accumulated energy use Accuracy: ±0.2% of reading ±0.02% of full scale at fundamental freq.	■	■
Total Harmonic Distortion Calculated using the individual harmonic components derived from the FFT	■	■

*Single-phase PQ-Lite TASKCard—only channels A+D are enabled

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GENERAL SPECIFICATIONS

Dimensions Size (HxWxD): 12" x 2.5" x 8" (30cm x 6.4cm x 20.3cm) Weight: 3.8 pounds (1.8 kg)
Environmental Operating: 5 to 45°C (41 to 113°F) Storage: -20 to 55°C (4 to 131°F) Humidity: 10 to 90% non-condensing
System Time Clock Crystal controlled. 1 second resolution Time displayed in 24-hour format HH:MM:SS
Internal Memory 280 kb of standard non-volatile data RAM (event storage) expandable with optional memory card
Expansion Memory Card 2 MB to 4 MB depending on the optional card memory capacity for removable and/or extended memory
Power Requirements Charger/battery eliminator: 95-264 VAC 47-63 Hz
Display Type: negative transreflective liquid crystal display (LCD) with electroluminescent (EL) backlighting
Alarm Audible alarm of an error condition or event trigger

OPTIONAL ACCESSORIES

Current Probes An extensive selection of current probes is available for the Power Platform 4300, including: Model TR-2510 10-10 A; up to 0.47" conductors Model TR-2500 10-500 A; up to 1.8" dia. or 2.5" x 0.2" conductors (not rated for transient capture) Model TR-2520 300-3000 A; up to 2.56" dia. 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 Consult with factory
CT Cable Adapter (CA4300) Provides interface of Dranetz TR2021, 2019B, 2022 and 2023 (658 probes) to be used with PP4300. Also adapts Isolated CT termination box ISO-65X-5. One required for each probe
Voltage Cable Accessory Pack (VCP4300) Voltage measurement cable for direct connection to standard 120VAC single phase outlet. Includes four (4) jumper cables for various three phase connections
Soft Carrying Case (SCC4300) Rugged Condura nylon carry case, holds PP4300, voltage probes, CTs and manual
Field Replaceable Battery Pack (BP4300) Provides full operation for up to two hours. One included, standard, with unit
External Battery Charger (XBC4300) Provides charging of extra batteries when PP4300 is in use
Reusable Shipping Container (RSC4300) Protects the analyzer from damage during shipment. Complies with NSTA project 1A vibration and drop specifications. Includes space for accessories
Lockable Portable Case (LPC4300) Rugged, weatherproof case (NEMA 4X) for using PP4300 in harsh environments. Includes multi-conductor voltage measurement cable and AC power cable. Optional current probe interface available
Isolated Communications Module (PP4300RS232) Provides RS-232 serial interface between PP4300 and PC or printer. Terminates to 9 pin connector for PC connection. Includes DRAN-LINK™ 4300 communications utility software
Portable Field Printer (PPF4300) AC or battery powered for field printouts. Requires Isolated Communications Module PP4300RS232
Memory Cards (Card 2M, Card 4M) Removable 2MB and 4MB PCMCIA type I (PC card) SRAM card for data storage
Windows PC Software (DRAN-VIEW®) View and analyze PP4300 recorded data on a PC. Runs under Windows 3X, 95, 98 and NT
Video Training Program (VT4300) VHS videotape (95 minutes); workbook and floppy disk with sample setup and event data



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