

PQube® 3v Power Analyzer



Features

- Installs easily with an ultra-compact footprint
- Connects directly to voltages up to 690 V
- Certified for Class A power quality according to IEC 61000-4-30 Ed3
- Monitors DC power and process parameters with four additional AC/DC analog channels
- Detects and records high-frequency impulses at 4 MHz
- Measures in real time and records 2 kHz ~ 150 kHz emissions
- Auto-detects the mains frequency, wiring configuration and nominal voltage
- Holds years of data and thousands of events via 32 GB of internal flash memory

Overview

This compact instrument is simply the best voltage monitor and real-time sensor you can buy.

When voltage quality compliance is required – that’s when you need the PQube 3v.

Great for monitoring at the point of common coupling (PCC), as well as diagnosing equipment malfunction.

Easy to install, easy to use. Delivers ultra-precise results immediately to your inbox.

Results



- **Real-time readings via protocols:**
Modbus and SNMP
- **Events recordings and graphs:**
CSV, GIF, and PQDIF
- **Daily, weekly, monthly trends and graphs:**
CSV, GIF, and PQDIF

SPECIFICATIONS

PQube 3V TECHNICAL SPECIFICATIONS	
Dimensions (L x W x H)	4.33 in X 2.89 in X 3.08 in (11.0 cm X 7.34 cm X 7.82 cm), 1.8 in (3.5 cm) DIN rail mountable
Weight	10.5 oz (300g)
Operating Environment (temp., hum., alt.)	-4 to 149°F (-20 to 65 °C), 131°F (55 °C) with PM2 AUX load, 5 - 95% RH (inside use), <2000 m above sea level (for EMC immunity, overvoltage, and other conditions, see full specs)
Power Supply (AC)	24 VAC ±10% at 50/60/400 Hz, 1.5A max (Powerside's PM1 and PM2 modules supply PQube 3 compatible power at 100 to 240 VAC 50/60 Hz, and 120 to 370 VDC)
Power Supply (DC)	±24 to 48 VDC ±10% (polarity independent), 1A max. Power over Ethernet (PoE) compatible
Internal Memory	32 GB (holds over a year of data, depending on number of recorded events)
Data Backup	16 GB (up to 128GB) micro SD card or USB 2.0 thumb drive
Clock Synchronization	SNTP, NTP, GPS (optional)
Output File Types	GIF, text, CSV/Excel, and IEEE 1159-3 standard PQDIF
Communication Ports	10/100 Ethernet port (RJ-45) (optional wireless and cell modem)
Communication Protocols	Modbus/TCP, DNP 3.0, SNMP with traps, BACnet, FTP or HTTP (secure FTPS and HTTPS), and email

MEASUREMENT FUNCTIONS

VOLTAGE	
Sampling rate	512 samples per cycle at 50 Hz / 60 Hz (applies to voltage, current, and analog channels)
Number of Inputs	4 + Reference to earth (L1, L2, L3, N, E)
Range	0 - 750 VAC (L-N), 0 - 1300 VAC (L-L), impedance: 4.8MΩ
Voltage Magnitude*	L-L, L-N, L-E, and N-E. RMS over 1/2 cycle (Urms 1/2)
Frequency*	50 Hz, 60 Hz, 400 Hz, or 16.67 Hz
Unbalance (negative and zero sequence)*	IEC, GB, and ANSI methods
Flicker (Pinst, Pst, and Plt)*	IEC 61000-4-15
Voltage Harmonic & Interharmonic*	Volt or %H1, IEC 61000-4-7 Class 1, order up to 50 th
Total Harmonic Distortion (THD)	%, IEC 61000-4-7
High Frequency Impulse (voltage)	Records transient pulses on one channel (L1-E, L2-E, L3-E, or N-E) at 4 MHz sampling, or all 4 channels at 1 MHz, range: ± 6 kV
Conducted Emissions (2 - 9 kHz)*	Volts for L1-E, L2-E, L3-E : resolution 200 Hz bins, range 0 to 60 Vpk
Conducted Emissions (8 - 150 kHz)*	Volts for L1-E, L2-E, L3-E, and N-E: resolution 2000 Hz bins, range 0 - 60 Vpk

* Meets or exceeds IEC 61000-4-30 Ed. 3 Class A

ANALOG	
Number Of Outputs	4 single ended or 2 differential (A1, A2, A3, A4, E). Range: Low: ± 10 VDC, High: ± 100 VDC
Analog Magnitude	AN1-E, AN2-E, AN3-E, AN4-E or differential AN1-AN2, AN3-AN4 RMS refreshed 1/2 cycle
Power & Energy Configuration (Optional)	Power and energy meter 1 (AN1 X AN2), power and energy meter 2 (AN3 X AN4)
DIGITAL	
Number of Outputs	1 differential input (D+, D-). Digital threshold 1.5 V \pm 0.2 V typical
ENVIRONMENT	
Number of Inputs	2 ENV2 probe inputs (USB2, USB3). Uses Powerside's ENV2 EnviroSensor probe.
Temperature	-4 to 176 °F (-20 to 80 °C)
Humidity	0 to 100 % RH
Barometric Pressure	Resolution better than 0.001 hPa
Acceleration	(x, y, and z) ± 2 , ± 4 , or ± 8 gravity ranges, trigger on shock/vibration, seismic, or tilt
RELAY	
Number Of Outputs	1 output, trigger programmable
Activation Mode	Activated on sag/swell, over/under frequency, waveshape change, High Frequency Impulse, snapshot, and digital/analog events
Rating	RLY1 - 30 V AC or DC, 300mA max, activates for event duration or 3 seconds (whichever is longer), 20 ms delay

* Meets or exceeds IEC 61000-4-30 Ed. 3 Class A



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