

Power Quality Analyzes

The Future of Excellence in Power Quality Management

MAKE IN INDIA

ELMEASURE®
Possibilities...Infinite



Innovative Features for a detailed Power Quality Analysis

Power Quality Measurement
Compliance with IEC standards, offering detailed insights and storage capabilities.

Class S Metering
Ensuring consistency, reliability and accuracy in each and every reading as per the Class S IEC 61000-4-30 Edition 3 standard.

Harmonics Measurement
Advanced recording of Individual harmonics and Interharmonics up to the 63rd level, delivering unprecedented clarity.

Very High Sampling Rate
An impressive 512 samples/cycle for precise data capture and analysis.

Voltage Analysis
RVC, Voltage Sag, Voltage Swells and Interruptions, ensuring thorough monitoring.

Energy Trends & Efficiency
Monitor and manage energy usage with trend analysis and energy-efficiency metrics.

Global Standard Compliance
Adheres to global standards, including EN 50160, CEA Regulations 2019 and COMTRADE, for complete PQ analysis.

Demand Analysis
kW, kVA, kVAR Demand recording with timestamp. Includes forecast demand, maximum demand, and a detailed demand profile.

Dynamic Communication
Features simultaneous RS485 and Ethernet communications, ensuring seamless data transmission as per the site's requirements.

Communication
- Time synchronization via Network Time Protocol (SNTP)



Easily monitor your assets locally or globally.

PQ 8500 offers advanced features like built-in web server with powerful web dashboard and MQTT support for seamless and secure IoT cloud connectivity.

- Easily publish to **IoT Cloud** platform for **remote asset monitoring**
- **Secured** data transfer over **MQTT protocol**
- Supports up to **2 TCP client connections** simultaneously

Conduct Comprehensive Power Quality Monitoring on-the-go.



IoT Remote Monitoring

aws

Microsoft Azure

THEIOX

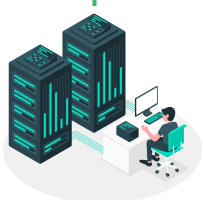
Secured IoT Cloud Platform



PQ 8500 Class S
Power Quality Meter



Industrial/Manufacturing Plants



Data Centers



Office Spaces/Commercial Malls

Parameters Monitored

Parameters	PQ 8500
ACCURACY CLASS	
Class 0.2S	✓
BASIC PARAMETERS	
V12, V23, V31	✓
V1, V2, V3, V(Average)	✓
A1, A2, A3, A(Average)	✓
Hz	✓
Angle V & A, RPM, Unbalance V & A	✓
Neutral Current Measurement *(Optional)*	✓
POWER PARAMETERS	
W, W1, W2, W3	✓
VA, VA1, VA2, VA3	✓
PF, PF1, PF2, PF3	✓
VAR, VAR1, VAR2, VAR3	✓
POWER QUALITY PARAMETERS	
V & A Individual Harmonics *(upto 50th in device, upto 63rd via web-browser)*	✓
VA, VA1, VA2, VA3	✓
PF, PF1, PF2, PF3	✓
K-Factor, Crest Factor	✓
High Low - Instantaneous	✓*
Voltage Dips/Swell (4 cycles), RVC, Interruptions	✓
High/Low - Last Minute	✓*
Power Cycles	✓
Total Even Harmonic Distortion (TEHD)	✓
Total Odd Harmonic Distortion (TOHD)	✓
Power THD	✓
Total Demand Distortion (TDD)	✓
INTEGRATED PARAMETERS	
Wh	✓
VAh	✓
VARh - Inductive	✓
VARh - Capacitive	✓
Load Hours	✓
Phase Energy & Load Hours	✓*
Received/Delivered (Import/Export)	✓
Wh - Total and Net	✓*
VAh - Total and Net	✓*
ON Hours	✓*
CO2 Emission	✓*
Volt Squared Hours	✓
Amp Squared Hours	✓
TOD PARAMETERS	
TOD Demand - Import (8 slots with programmable time)	✓*
TOD Energy - Import & Export (8 slots with programmable time)	✓*
DEMAND PARAMETERS	
Rising Demand (Sliding /Block - Programmable)	✓
Forecast Demand	✓
Maximum Demand	✓
Demand Profile - 4 High & 4 Low	✓*
ADDITIONAL FEATURES	
Load Efficiency, Energy Trends, Dynamic communication	✓*
Time synchronisation protocol: SNTP	✓*
2GB In-built Data Storage (12 Months data of all parameters at 5 min logging interval)	✓
USB Port	✓
COMMUNICATION	
RS485 (MODBUS)	✓
Ethernet (Default 1 port, 2 ports available as optional)	✓
OPTIONAL FEATURES	
Up to 2 Analog Inputs + 2 Digital Inputs + 2 Digital Outputs	✓



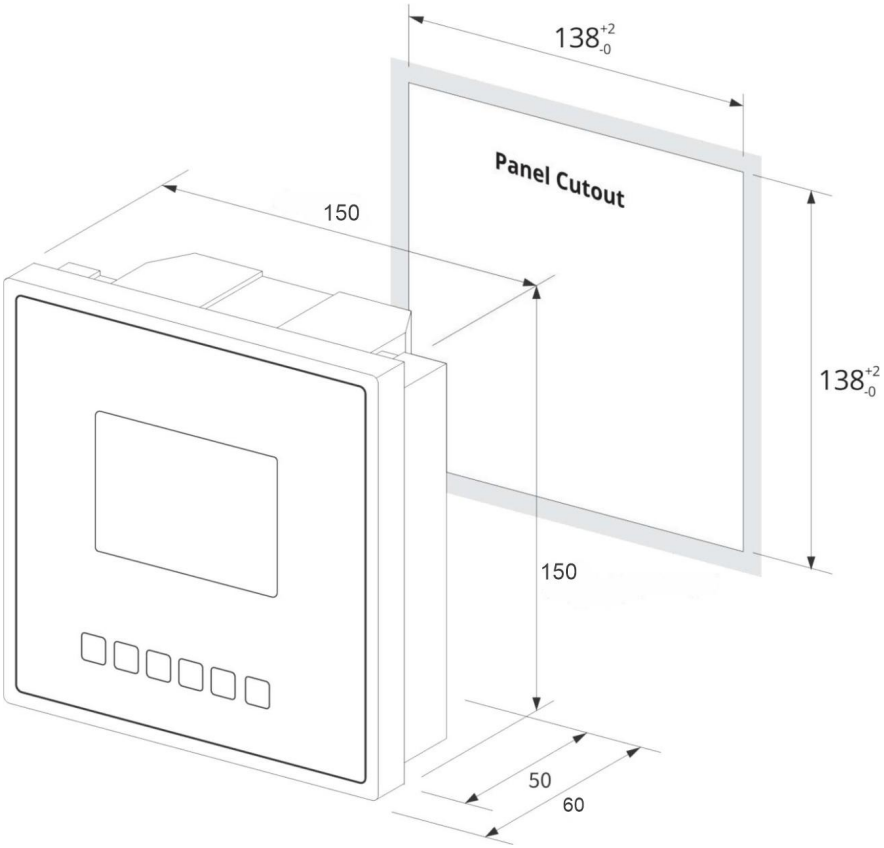
PQ 8500
Class S Power Analyzer

* Available only through communication port or the monitoring software.

Technical Specifications

Technical Parameters	Specifications
GENERAL CHARACTERISTICS	
Display type	3.5-inch TFT Display
Sensing / Measurement	True RMS AC Measurement, 4 Quadrant power & energy
Rated Voltage Input (4 differential voltage channels)	50–600 VLL AC, 415V LL Nominal & Primary Programmable upto 999 kV
Rated Current	10 mA–6A
Operational Frequency	45-65 Hz
Poles description	3P, 3P + N
Measured Accuracy Class	Class 0.2S as per IEC 62053-22
Permissible overload	120%, Burden: 0.2VA per phase
External fuse rating	2 A *(voltage input)*, 200 mA *(current input)*
CT/PT Ratio max.	2000 MVA *(Programmable)*
Auxiliary supply	80–300V AC/DC
Power Consumption	18VA at 415 VAC
Data update rate	200ms *(Basic and Power)*, 1 sec *(Other parameters)*
Wiring configuration	4-Wire, 3-Phase Wye, 3-Phase (Floating or Grounded) Delta
Power Quality Reporting	As per IEC 61000-4-30 (Edition 3), EN 50160
ENVIRONMENTAL CHARACTERISTICS	
Operating temperature	-10°C to +55°C (14°F - 130°F)
Storage temperature	-25°C to +70°C (-13°F - 158°F)
Humidity	5% to 95% non-condensing
Altitude	Below 2000 meters
Measurement category	CAT III (As per IEC 61010)
Pollution degree	2 (As per IEC 61010)
PROTECTION CLASS	
Ingress protection	IP 51 *(Front facia)*
COMMUNICATION	
RS485 Modbus	Device ID: 1-247, Parity: Odd/Even/None *(preferred Even)*
	Baud rate: 9600 bps to 115200 bps
	Isolation: 2000 volts AC isolation for 1 minute between communication & other circuits.
Ethernet	LAN port: 10/100 Base-T, Wi-Fi
	Protocol: TCP/IP, IPV4, MQTT, DHCP, DNS, Modbus TCP(Multi-client polling), Modbus RTU over TCP
	Configuration: Web server
	Protection Ethernet: Magnetic protection (Ethernet port 1.5 kV), Surge protection
	Data storage: 2GB

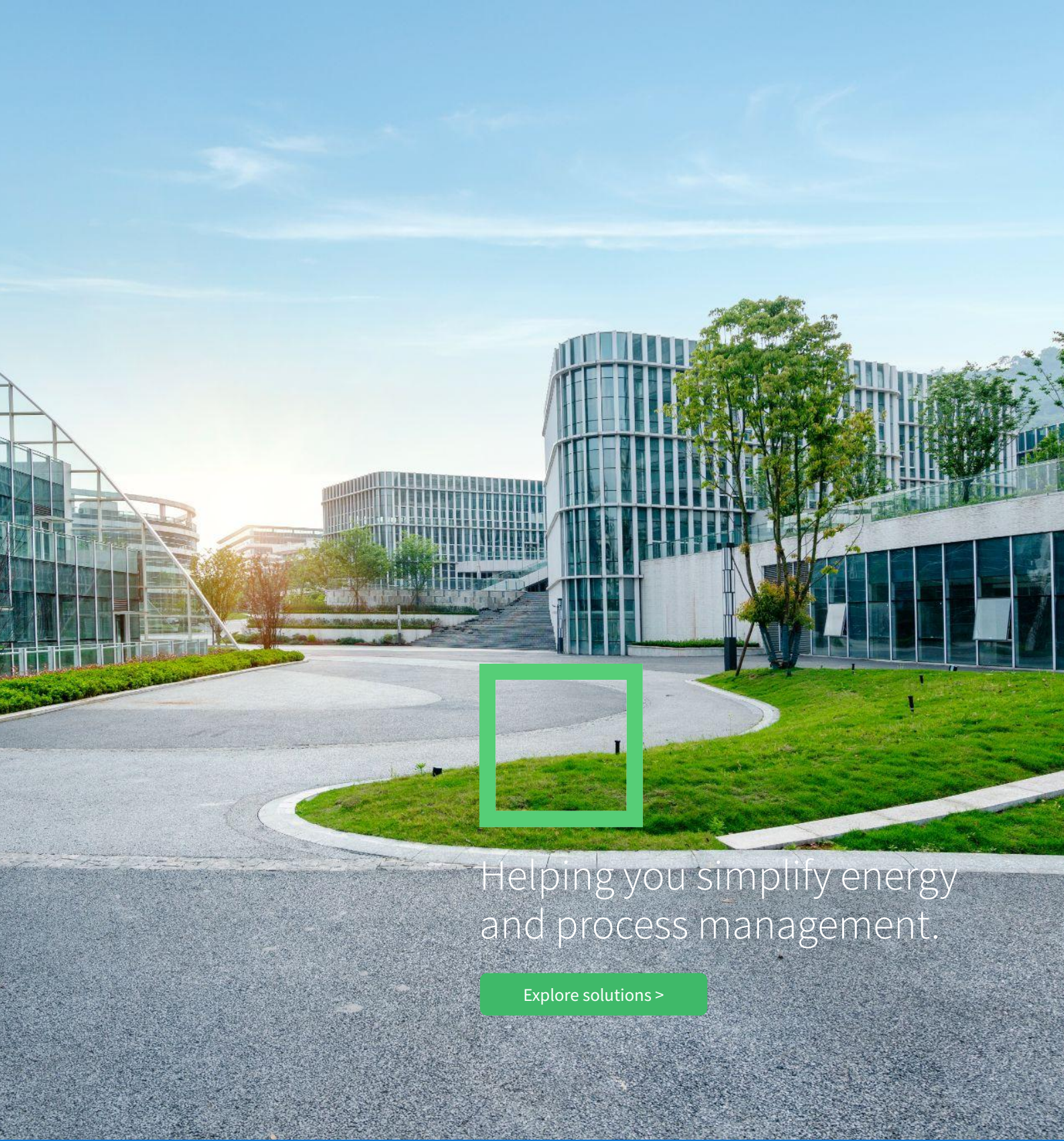
Mechanical Specifications



All dimensions in mm.

Parameters	Specifications
MECHANICAL CHARACTERISTICS	
Weight	Unpacked: 600g, Packed: 900g
Dimensions	150mm x 150mm x 60mm
Panel Cut-out	138mm x 138mm
Torque at terminals	0.5 N-m
Wire-gauge at terminals	16–12 AWG (2.5mm^2)
STANDARDS	
Construction	IEC/EN 61010-1 EDITION 3, CAT III, 300V LN/600V LL, Protection Class II
Standards	UL 61010-1, IEC/EN 62052-11
Power Quality Monitoring	IEC 61000-4-30, IEEE 519-2014, IEEE 519-2022, EN 50160, ITIC Curve
Harmonics/Interharmonics Monitoring	IEC 61000-4-7, IEEE 519-2014, IEE 519-2022
Harmonics Emissions	IEC 61000-3-6

ELECTROMAGNETIC COMPATIBILITY	
Electrostatic discharge	IEC 61000-4-2
Immunity to electromagnetic RF fields	IEC 61000-4-3
Conducted immunity	IEC 61000-4-6
Immunity to magnetic fields	IEC 61000-4-8
Immunity to voltage dips and interruptions	IEC 61000-4-11
Immunity to surge waves	IEC 61000-4-5
Conducted and radiated emission	CISPR-22



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PC-Class-S-PQ V3-1126