

## iPQMS-Pro Battery Monitoring System



*iPQMS-Pro Main Processing Unit*

### Advantages

- 24/7/365 Battery Monitoring
- Designed specifically around UPS battery systems
- Meets IEEE and NERC standard recommendations for battery monitoring
- Patented ripple-removing algorithm
- Injects minimal current for measurement
- Simple to install with custom, pre-assembled installation materials
- Alerts in real-time during alarm outbreak

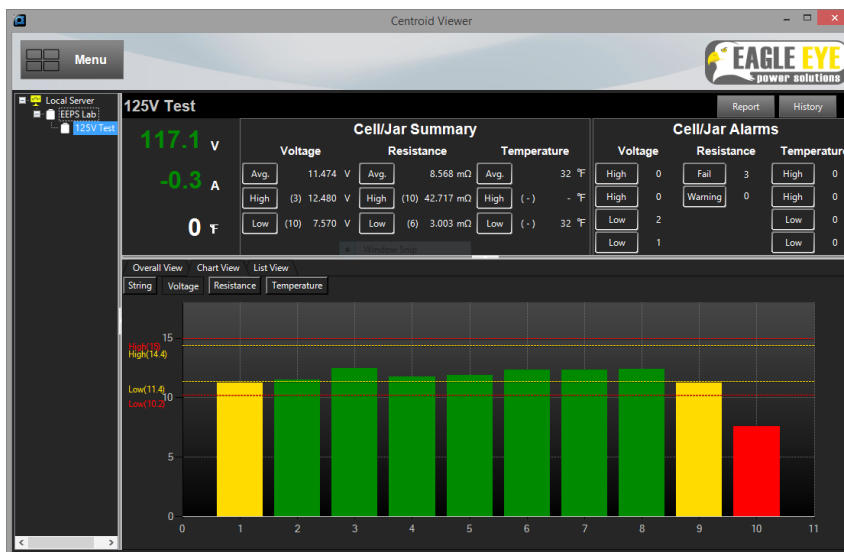
### Product Description

The **iPQMS-Pro Battery Monitoring System** is a scalable system designed to monitor the health of critical battery systems by measuring: string voltage and current, jar/cell voltage and impedance, connection resistance, and temperature. The iPQMS-Pro measures critical battery parameters via clamps connected to the battery connections. A single system includes an MPU (Main Processing Unit) and all required cables and clamps for installation. One MPU can connect to (48) cells, however up to ten MPU's can be configured in daisy-chain for monitoring of up to (480) cells. Measured data is communicated via TCP/IP or RS-232 back to the included **Centroid 2 Battery Management Software**.

The iPQMS-Pro records, trends, and reports data against user-defined tolerances. In the event that a measured parameter is out of tolerance, an outbreak alarm will occur in the software and Email/SMS alerts will be generated. The iPQMS-Pro is an ideal solution for monitoring and predicting the health and performance of UPS Cabinets, Telecom Systems, and other backup power systems.



*iPQMS-Pro Side Connections*



*Centroid 2 Battery Management Software*

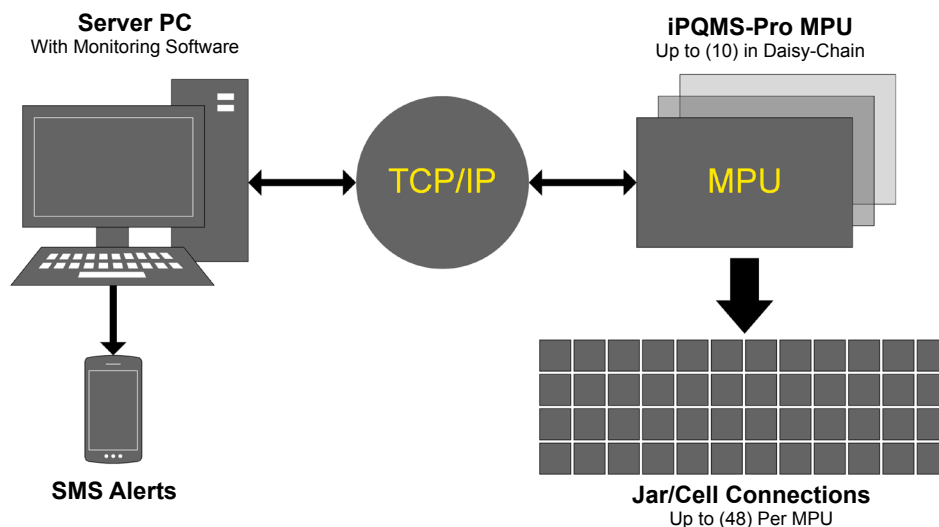
### Battery Management Software

- Displays and records string voltage, string DC current, cell voltage, cell I.R., & cell temperature for all battery systems
- Trending analysis of measured parameters on a string or jar/cell level
- Report generation & ability to export measured data to Excel
- Send commands to iPQMS systems
- Detailed log of alarm outbreaks with Email/SMS alerts
- Automatically record, save, & playback discharge & recharge events

### System Composition:

Components of iQMS-Pro between the server and battery system.

- Server and MPU(s) communicate via TCP/IP
- (1) MPU connects up to (48) cells
- Up to (10) MPUs can be connected in daisy chain for a total of (480) cells connections
- MPU's gather battery data through voltage & current sensing cables connected to each cell



### Technical Specifications

<b>Measurement Range:</b>	Battery Capacity: 10 – 6,000 Ah Jar/Cell Voltage: 0.1 – 16 VDC String DC Voltage: 0 – 900 VDC DC Current: 0 – 3000 Amps Internal Resistance: 0.001 – 99.999 mΩ
<b>Accuracy:</b>	DC Voltage / Current: $\pm 0.5\%$ / $\pm 1\%$ Temperature: $\pm 2\%$ Internal Resistance: $\pm 2\%$ Cell Voltage: $\pm 1\%$
<b>Resolution:</b>	DC Voltage / Current: 0.1 V / 0.1 Amps Cell Voltage: 10 mV Internal Resistance: 0.001 Ω Temperature: 0.1 °C (0.1 °F)
<b>Test Speed / Test Load:</b>	2 seconds per cell / Less than 2 Amps per cell
<b>Measuring Interval:</b>	Adjustable from 4 min. to once per day (voltage & resistance)
<b>Data Transfer:</b>	TCP/IP, RS-232
<b>Display:</b>	Status LED
<b>Operating Environment:</b>	Temperature: 0 - 65 °C (32 - 150 °F) Relative Humidity: Under 80%
<b>Power Requirements:</b>	40 – 60 VDC / 100 - 240 VAC
<b>Dimensions:</b>	370 x 230 x 60 mm (14.6 x 9 x 2.4 in)

### Applications

- UPS Cabinets
- Telecom/Communications
- Power Utilities and Distribution
- Financial Institutions
- Oil, Gas & Fuel
- Mining
- Government/Defense
- Transportation Operations
- Battery Suppliers and Manufacturers
- Medical/Biotechnology
- Generators

### System Includes

- Centroid 2 Battery Management Software
- iQMS-Pro with mounting kit
- O-Clamps for inter-cell cable connections
- C-Clamps for inter-cell busbar connections
- Cabling for string voltage measurement
- Cabling for cell voltage, cell I.R. and temp. measurement
- CT clamp for DC current measurement
- Power cabling
- **Optional:** Spare parts kit

### Ordering Information

No.	Model #	Description
1	IPQMS-Pro	Battery Monitoring Solutions: Up to 48 Jars (or 48 cells)