

iPQMS Battery Monitoring System

Common Applications: Power Utilities & Distribution, UPS Systems, Telecom/Communications



Main Processing Unit (MPU)

Product Description

The **iPQMS Battery Monitoring System** is designed to measure the aging status of up to 448 cells/units by measuring and recording: string voltage, string current, cell/unit voltage, internal resistance, and temperature. The iPQMS is intended for use on vented lead acid (VLA), valve regulated lead acid (VRLA), and nickel-cadmium (Ni-Cad) battery systems. Installation of the iPQMS is non-intrusive and can be completed while the battery system is online.

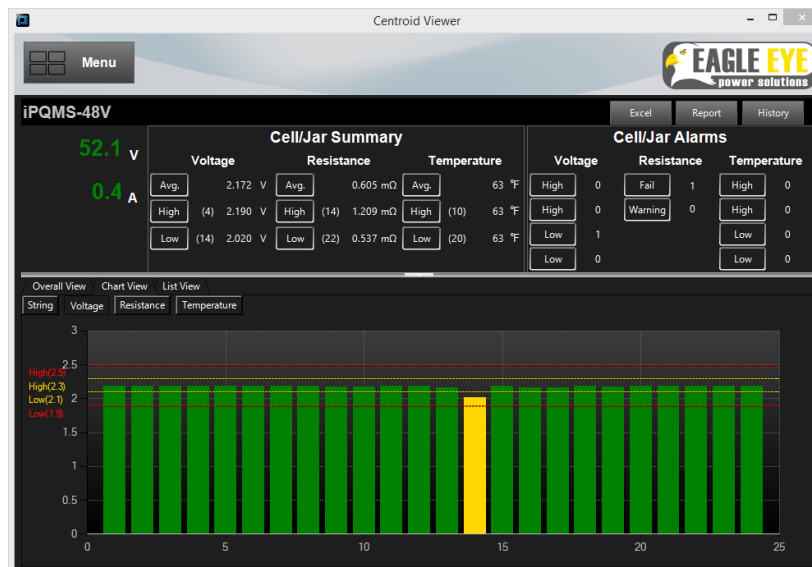
Standard communication includes Eagle Eye's **Centroid 2 Battery Management Software** for recording and trending measured parameters. Centroid 2 can be installed on a private network on multiple PC's. Networked systems can utilize SMS/Email alerts during alarm conditions. Alternatively, the iPQMS can be configured for Modbus output to an existing building management system or SCADA.

Product Advantages

- 24/7/365 Battery Monitoring.
- Comprehensive Battery Management Software.
- Installation while systems are online.
- Meets IEEE and NERC standard recommendations for battery monitoring.
- Patented ripple-removing algorithm to filter out noise from measurements.
- Injects minimal current for measurement.
- Simple to install with custom, pre-assembled installation materials.
- Can be powered by AC or DC.



iPQMS Installation on 125VDC Utility Battery System



Centroid 2 Battery Management Software

Battery Management Software

- Displays and records string voltage, string current, cell/unit voltage, internal resistance, temperature.
- Trending analysis of measured parameters on a string and cell/unit level with colored, easy to read graphs.
- PDF and Excel reporting.
- Detailed log of alarm outbreak history
- Email and SMS alerts
- Automatically record, save, & playback discharge & recharge events.

iPQMS System Composition

Typical iPQMS systems are configured with the following main components:

MPU (Main Processing Unit)

A single MPU per system processes all measurement data and handles communication. Allows on-site viewing of data with LCD.

RU (Relaying Unit)

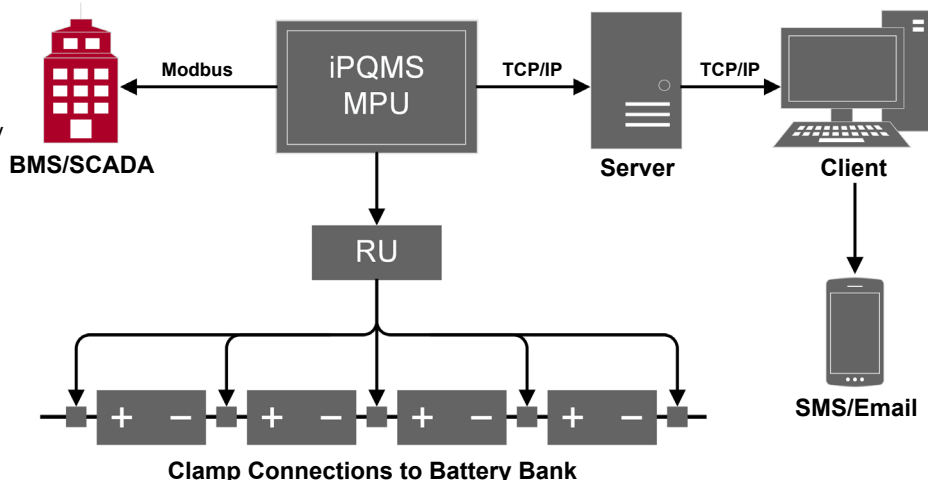
Up to 7 RUs per system wire directly to clamps fitted to the battery inter-cell connections. Performs measurement and relays data back to the MPU.

Connection Clamps

Physical connection to battery system. Installs to battery inter-cell cables or busbars.

Server & Client PC

Main computer which interfaces with the MPU. Runs Centroid Snet Server application. Client PC's installed on same network for additional users.



Technical Specifications

Measurement Range:	Battery Capacity: 5 – 6,000 Ah Nominal Cell/Unit Voltage: 1.2V, 2V, 4V, 6V, 8V, 12V String Voltage: 0 – 576 VDC String Current: ± 999.9 A
Accuracy:	String Voltage/Current: $\pm 0.5\%$ / $\pm 1\%$ Cell/Unit Temperature: $\pm 2\%$ Cell/Unit Internal Resistance: $\pm 2\%$ Cell/Unit Voltage: $\pm 1\%$
Resolution:	DC Voltage/Current: 0.1 V / 0.1 A Cell Voltage: 0.01 V Internal Resistance: 0.001 Ω Temperature: 0.1°
Test Speed / Test Load:	4 seconds per cell at less than 2 A per cell
Measuring Interval:	Adjustable from 10 min to 24 hours (cell/unit readings)
Data Transfer:	TCP/IP to proprietary software, Modbus
Internal Storage:	Approximately 1 month backup
Operating Environment:	Temperature: 0 – 65 °C (32 – 150°F), RH: Under 80%
Power Requirements:	Input: 43 – 250 VDC / 110 – 220 VAC Consumption: 15 W
Dimensions:	MPU: 290 x 280 x 90 mm (11.4 x 11 x 3.5 in) RU: 310 x 178 x 85 mm (12.2 x 5.9 x 3.3 in)

Applications

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

System Includes

- iPQMS hardware
- Centroid 2 battery management software
- All installation materials
- USB drive with software and support literature
- **Optional:** Spare parts kit

Ordering Information

No.	Model #	Description
1	iPQMS	Battery Monitoring Solutions: Up to 448 Cells/Units