

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 critical backup batteries by measuring and recording: system voltage, load current, unit voltage, internal resistance, and temperature. The iPQMS is intended for use on up to 448 vented lead acid (VLA), valve regulated lead acid (VRLA), or nickel-cadmium (Ni-Cad) batteries. Installation of the iPQMS is non-intrusive and can be completed while the battery system is online.

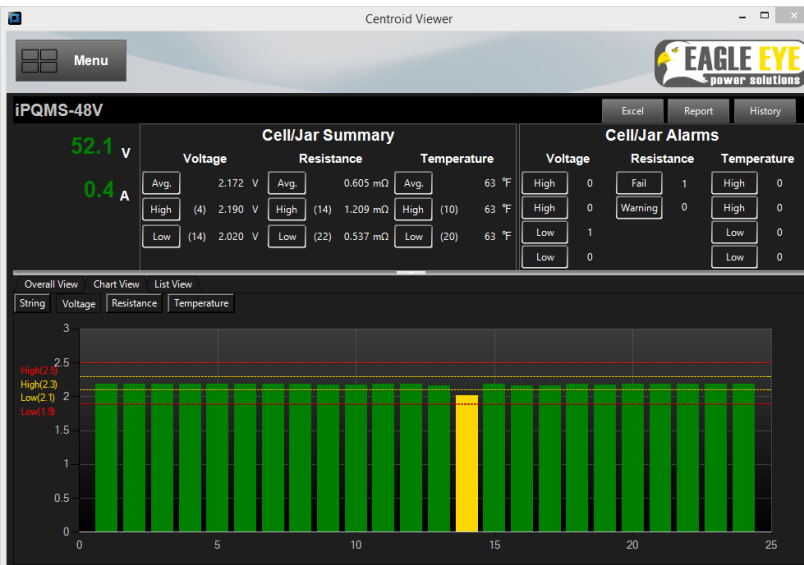
Standard communication includes Eagle Eye's **Centroid 2 Battery Management Software** for recording and trending measured parameters. Centroid 2 can be installed on a private network on multiple PC's. Networked systems can utilize SMS/Email alerts during alarm conditions. Alternatively, the iPQMS can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

Product Features

- 24/7/365 Battery Monitoring
- Comprehensive Battery Management Software
- Installation while systems are online
- Meets NERC and IEEE 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 system voltage, load current, 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)

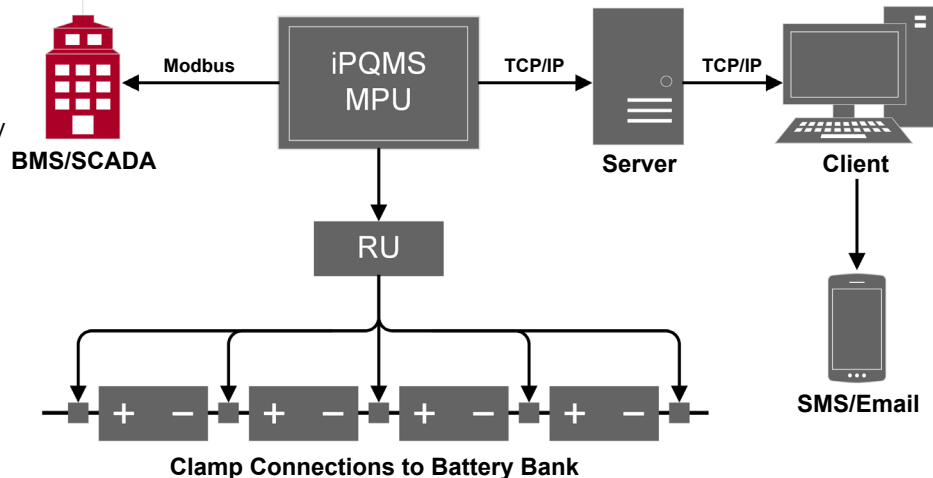
Up to 7 RUs per system wire directly to clamps fitted to the battery inter-cell connections. Performs measurement and relays data back to the MPU.

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 Unit Voltage: 1.2, 2, 4, 6, 8, or 12 Volts System Voltage: 0 – 576 VDC Load Current: ± 999.9 A
Accuracy / Resolution:	System Voltage: $\pm 0.5\%$ / 0.1 V Load Current: $\pm 1\%$ / 0.1 A Unit Voltage: $\pm 0.5\%$ / 0.01 V Internal Resistance: $\pm 2\%$ / 0.001 m Ω Unit Temperature: $\pm 2\%$ / 0.1 °
Test Speed / Test Load:	4 seconds per cell / less than 2 amps AC 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) Relative Humidity: Under 80%
Power Requirements:	Input: 43 – 250 VDC / 110 – 220 VAC
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
- Print manual
- **Optional:** Spare parts kit

Ordering Information

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