



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/connection 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.

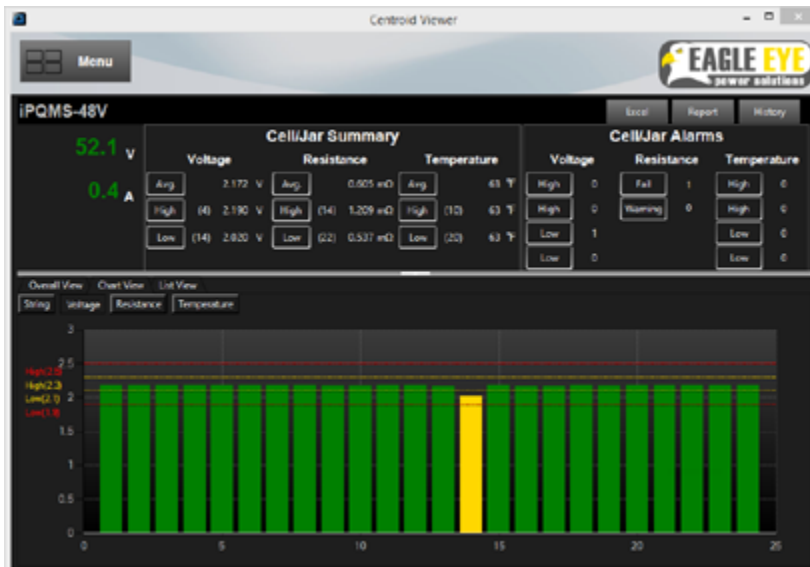
Standard communication includes Eagle Eye's **Centroid 2 Battery Management Software** for recording and trending measured parameters. Centroid 2 can be installed on a private network on multiple PC's. Networked systems can utilize SMS/Email alerts during alarm conditions. Through the software, the iPQMS can utilize Modbus protocol for integration to a distributed control system (DCS) or SCADA (some limitations apply).

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/connection 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)

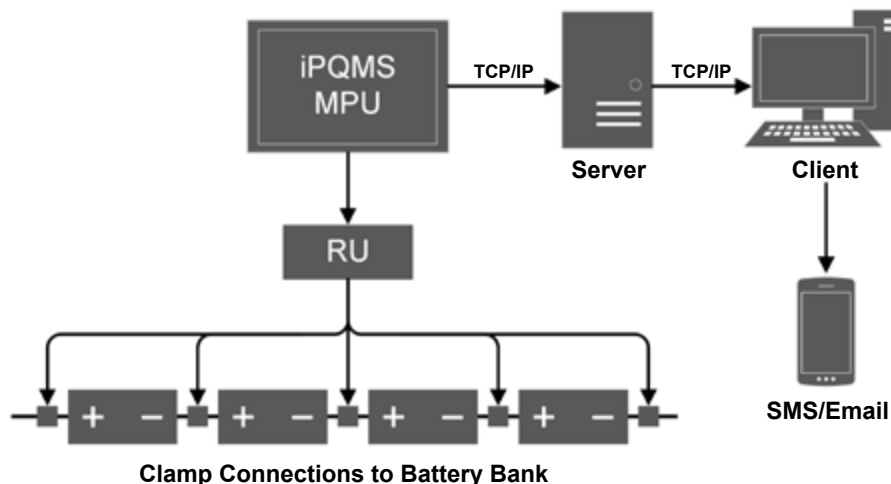
Up to 7 RUs per system wire directly to clamps fitted to the battery inter-cell connections. Performs measurement and relays data back to the MPU.

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 – 999 VDC Load Current: ±999.9 A
Accuracy / Resolution:	System Voltage: ±0.5% / 0.1 V Load Current: ±1% / 0.1 A Unit Voltage: ±0.5% / 0.01 V Internal Resistance: ±2% / 0.001 mΩ Unit Temperature: ±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 ⁽¹⁾
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.)

¹⁾ Modbus available from proprietary software only. It is not available directly from the iPQMS MPU. Contact Eagle Eye for further details.

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