

BQMS Battery Monitoring System

Common Applications: Data Centers, UPS Systems, Power Utilities & Distribution



Communication Control Unit (CCU)

Product Description

The **BQMS Battery Monitoring System** is designed to measure the aging status of up to 480 cells/units by measuring and recording: string voltage, string current, cell/unit voltage, internal resistance, cell/unit temperature and ambient temperature. The BQMS is intended for use on vented lead acid (VLA), valve regulated lead acid (VRLA), and nickel-cadmium (Ni-Cad) battery systems. Installation of the BQMS is non-intrusive and can be completed while the battery system is online.

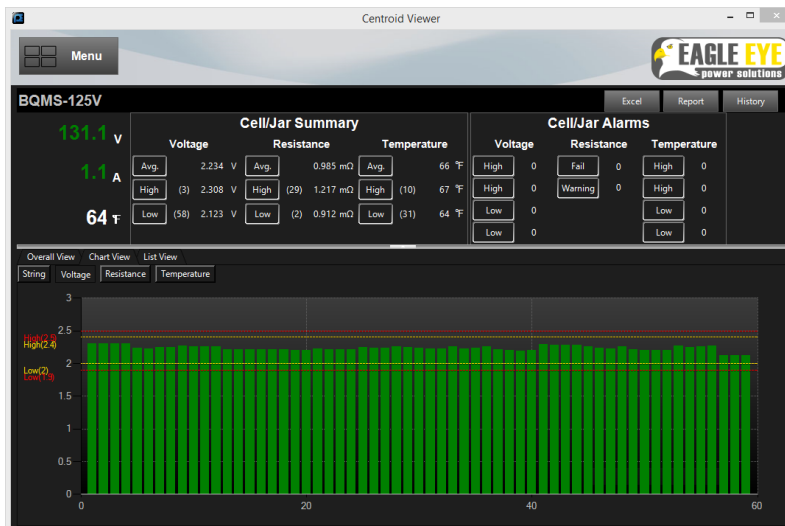
Standard communication includes Eagle Eye's **Centroid 2 Battery Management Software** for recording and trending measured parameters. Centroid 2 can be installed on a private network on multiple PC's. Networked systems can utilize SMS/Email alerts during alarm conditions. Alternatively, the BQMS can be configured for Modbus output to an existing building management system or SCADA. All BQMS systems have the option to include up to (13) dry contact relays for additional external alarming.

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.
- **Add-On Products Include:** ELM-Series for electrolyte level monitoring, GFM-100 for ground fault monitoring, and the HGD-2000 for hydrogen gas detection. See the **EE-NERC-Series** page for more information.



BQMS 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.

BQMS System Composition

Typical BQMS systems are configured with the following main components:

CCU (Communication Control Unit)

A single CCU per system processes all measurement data and handles TCP/IP communication and alarming via dry contacts.

Modules

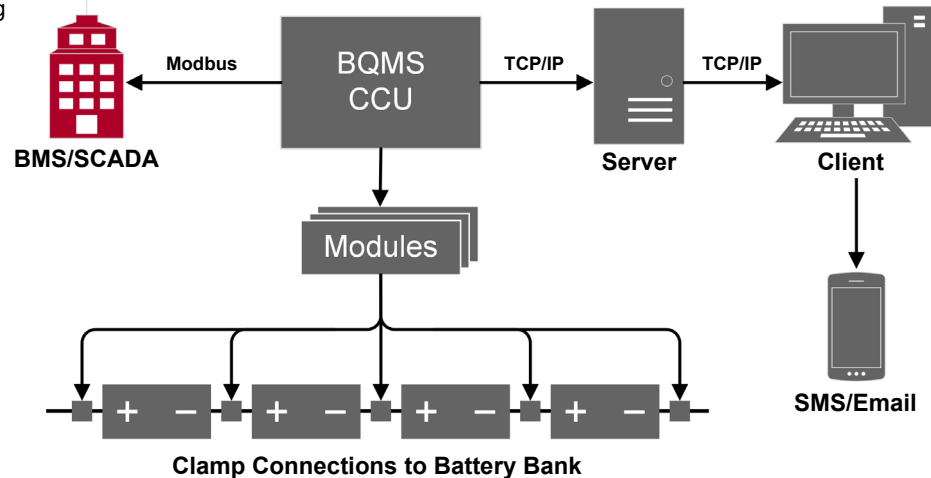
Connected in daisy chain and mounted on the battery rack. Wired directly to the battery connections for measurement of cell/unit parameters.

Connection Clamps

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

Server & Client PC

Main computer which interfaces with the CCU. 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: ±10,000 Temperature: 0 – 80°C (32 – 176°F)
Accuracy:	String Voltage/Current: ±0.5% / ±1% Cell/Unit Temperature: ±2% Cell/Unit Internal Resistance: ±2% Cell/Unit Voltage: ±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:	30 seconds per bank 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
Alarming	Up to (13) Form C outputs and (8) inputs
Operating Environment:	Temperature: 0 – 65 °C (32 – 150°F), RH: Under 80%
Power Requirements:	Input: 43 – 250 VDC / 110 – 220 VAC Consumption: CCU: 10W, Modules: 3W
Dimensions:	CCU: 210 x 76 x 200 mm (8.25 x 3 x 7.9 in) Module: 114 x 70 x 39 mm (4.5 x 2.75 x 1.5 in)

Applications

- UPS Systems
- Power Utilities and Distribution
- Telecom/Communications
- Data Centers
- Oil, Gas & Fuel
- Mining
- Government/Defense
- Transportation Operations
- Battery Suppliers and Manufacturers

System Includes

- Centroid Viewer Battery Management Software
- BQMS CCU
- Measuring Modules
- C-Clamps for inter-cell busbar connections
- O-Clamps for inter-cell cable connections
- Cabling for all measurement connections
- CT for string current measurement
- **Optional:** Spare parts kit

Ordering Information

No.	Model #	Description
1	BQMS	Battery Monitoring Solutions: Up to 480 Cells/Units