BQMS Battery Monitoring System

Common Applications: Power Utilities & Distribution, Data Center UPS

Communication Control Unit (CCU)

Product Description

The **BQMS Battery Monitoring System** is designed to measure the aging status of critical backup battery systems by measuring and recording: system voltage, load current, cell voltage, internal/connection resistance, cell temperature and ambient temperature. The BQMS is intended for use on up to 480 vented lead acid (VLA) and valve regulated lead acid (VRLA) 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 or DNP3 output to an existing building management system or SCADA. All BQMS systems have the option to include up to (13) Form C contacts for additional external alarming.

Product Features

- Comprehensive battery management software for 24/7/365 battery monitoring
- Installation possible while battery is online
- Meets NERC and IEEE standard recommendations for battery monitoring
- Utilizes a patented ripple-removing algorithm to filter noise from measurement results
- Injects minimal, non-intrusive current for battery 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 to 120VDC Battery System

Centroid 2 Battery Management Software

Battery Management Software

- Displays and records system voltage, load current, unit voltage, cell resistance, unit & ambient 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 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.

Module Units

Units connected in daisy chain. 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 and runs Centroid Snet Server application. Client PC's installed on same network for additional users.

Clamp Connections to Battery Bank
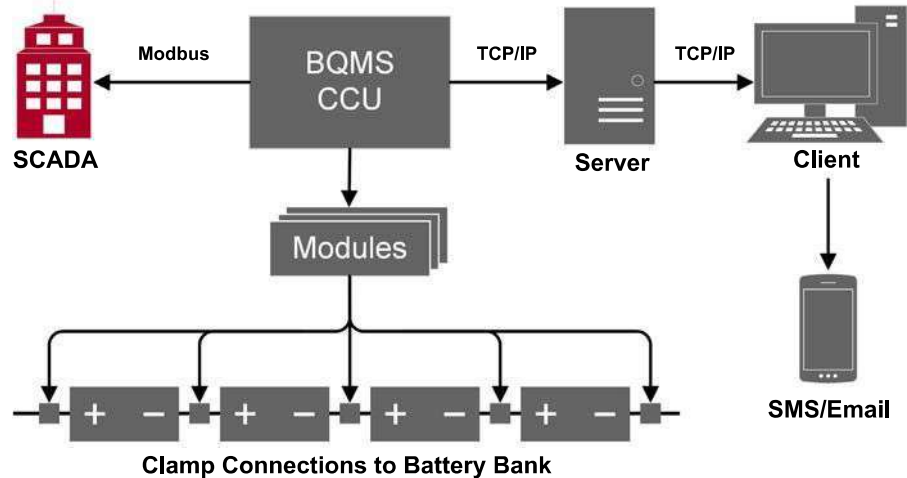
Technical Specifications	
Measurement Range	Battery Capacity: 5 – 6,000 Ah System Voltage: 0 – 576 VDC Unit Voltage: 2, 4, 12 Volts Load Current: ±10,000 A Temperature: 0 – 80° C (32 – 176° F)
Accuracy / Resolution	System Voltage: ±0.5% / 0.1 V Load Current: ±2% / 0.1 A Unit Voltage: ±0.5% / 0.01 V Internal Resistance: ±2% / 0.001 mΩ Unit Temperature: ±2% / 0.1 °
Test Speed / Test Load	30 seconds per bank at less than 2 A per cell
Measurement Interval	Adjustable from every 10 minutes to once per day for unit voltage and internal resistance
Data Transfer	TCP/IP to proprietary software, Modbus, DNP3
External Alarming	Up to (13) Form C contacts
Operating Environment	Temperature: 0 – 65 °C (32 – 150 °F) Relative Humidity: Under 80%
Power Requirements	Input: 43 – 250 VDC / 110 – 220 VAC
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
- Battery Suppliers and Manufacturers

System Includes
- BQMS hardware
- Centroid 2 battery management software
- All installation materials
- Print manual
- USB drive with software and support literature

Optional Components
- Electrolyte level, ground fault, & hydrogen gas monitoring
- Enclosure
- On-site computer
- Spare parts kit

Ordering Information

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