BQMS Battery Monitoring System

| Utilities | Distribution | Data Centers | UPS |

BQMS CCU

Product Description

The BQMS Battery Monitoring System is designed to measure, record, and trend key parameters of critical backup battery systems, including: string voltage, string current, cell voltage, internal/connection resistance, cell temperature and ambient temperature. The BQMS is compatible with all VRLA, VLA, and NiCad battery types, up to 480VDC nominal. Installation of the BQMS is non-intrusive and can be completed while the battery system is online, eliminating the need for a temprary backup.

All measured parameters are displayed and stored in Eagle Eye's Centroid 2 Battery Management Software. Typically installed on a PC or Server at a cental office, Centroid 2 can manage hundreds of BQMS systems installed across a large geographic region. The software provides a detailed view of all battery parameters, as well as historical trending from the day of installation through the full life of the battery. Alternative to the software, the BQMS can be configured for Modbus or DNP3 communication to an existing building management system or SCADA. The BQMS also comes standard with dry contact outputs for alarming.

Product Features

- Includes comprehensive battery management software for 24/7/365 monitoring and trending
- Installation possible while battery systems are online, with no intrurruption to DC
- Meets IEEE and NERC standard recommendations for battery monitoring
- Utilizes a patented ripple-removing algorithm to filter noise from measurement results
- Injects minimal, non-intrusive current for resistance measure-ment
- **Expandable:** Can be included as part of a complete NERC kit, with electrolyte level and ground fault monitoring - See our EE-NERC-BMS Solution

Centroid Snet 2
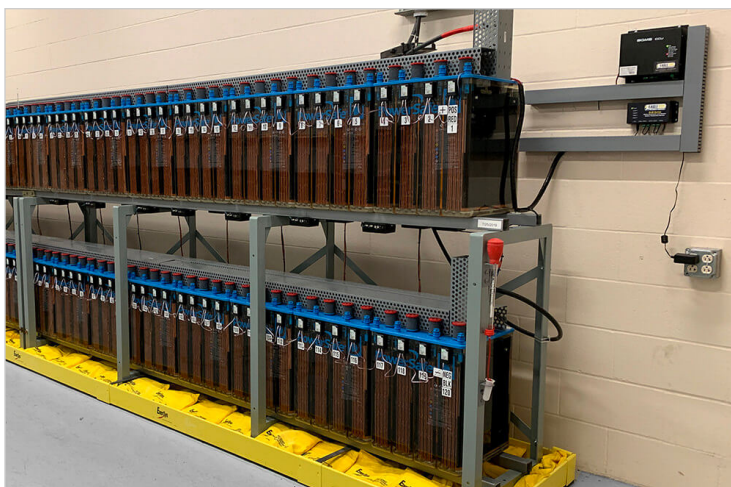
Battery Management Software

- Displays and records string voltage, strig current, cell/unit voltage, internal/connection resistance, cell/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/SMS alerts
- Automatically record, save, & playback discharge events

System Components

- **CCU (Communication Control Unit)**: Connects to network, includes dry contact outputs
- **MU (Module Unit)**: Module that measures 2-4 cells depending on cell/unit voltage
- **Clamps**: Physical hardware for connection to battery system. C-Type clamp for bus bar and O-Type clamp for cable connections
- **Sensing Cables**: Cable harnesses that connect from the MU to the Clamps for battery measurement
- **CT**: Hall-effect CT for measuring charge and discharge current

BQMS Battery Connection - C-Type Clamps

Product Specs				
Measurement Characteristics	**Parameter**	**Range**	**Accuracy**	**Resolution**
	String Voltage	0 − 576 VDC	±1%	0.1V
	String Current	±4,000A	±2%	0.1A
	Cell/Unit Voltage	1.6 − 16 VDC	±1%	0.001V
	Cell/Conn. Resistance	0 − 99mΩ	±2%	0.000mΩ
	Cell Temperature	0 − 80°C (32 − 176°F)	±2%	0.01°C
Battery Types	Chemistry: VLA, VRLA, NiCad[1]		Nominal voltages: 2V, 4V, 6V, 12V	
Operating Environment	Temperature: 0 − 65 °C (32 − 150°F)		Relative Humidity: Under 80%	
Dimensions W x D x H	CCU: 210 x 76 x 197mm (8.25 x 3 x 7.75in) (159mm/6.25in height w/o mounting brackets)		Module: 114 x 70 x 39 mm (4.5 x 2.75 x 1.5 in)	
CCU Power Requirements	**AC**	**DC: 48V**[3]		**DC: 120/240V**[3]
	85 − 264 VAC	36 − 72 VDC		120 − 370 VDC
	3.75W	15W		3.75W
Module Power Requirements[4]	**2V Model (3-4 cells)**	**4V Model (3 units)**		**12V Model (2 units)**
	4.5 − 18 VDC	9 − 18 VDC		18 − 36 VDC
	Sleep mode: 0.714W		Test Mode: 0.892W	
Communication Protocols	TCP/IP (to proprietary software), Modbus, DNP3			
Communication Ports	(1) RJ45 (Ethernet), dry contact outputs for alarming			
Dry Contact Ratings	Nominal: 2A at 60V AC/DC, Max: 0.5A at 250VAC / 0.27A at 220VDC			
Internal Storage	BQMS CCU does not store data, all data is stored in the software on a PC or Server			

(1) Nominal 1.2V NiCad cells must be measured on 2.4V level, with a minimum combined low end voltage of 1.6V
(2) DC power can be from connected battery voltage or external DC source
(3) Nominal input voltages of 24V, 340V, and 480V require external power supply
(4) Modules must be powered by connected battery DC voltage
(5) When using Modbus or DNP3, proprietary software is not available.

Ordering Information

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