Proactive Wireless Battery Monitoring System

- Lifecycle management — in real time
- Low cost
- Ease of installation
- Alarm via email & dry contact
- Graphic LCD touch screen
- Battery cycling data collection
- History databases
- Colorful bar/curve diagrams
- Provides ethernet/RS485 for remote monitoring

Full Two Year Warranty

www.stacoenergy.com
Your tailored power solutions provider
Proactive real-time monitoring

The wireless Staco FirstLine® BMS Battery Monitoring System consists of a Data Collector on which information is displayed through curves and bar graphs on the FirstLine® BMS easy-to-read 6.4" LCD touch screen monitor; a Battery Measurement Kit for each battery cell to measure terminal voltage; a String Measurement Kit to measure total system voltage, current and battery string voltage; and a Power Supply. Also available are optional Hall Current Transformers and Temperature Sensors.

The system continuously monitors UPS batteries and provides real-time information, ensuring that batteries are ready when needed to support mission critical functions.

This easy to install battery monitoring system measures and records critical elements including battery cell voltage, battery string voltage, battery string current, battery room temperature, battery cell impedance, as well as battery terminal temperature.

Armed with this critical battery status information, managers can ensure that capacity conditions are continually met as well as the permanent availability of high quality energy. Because it is wireless, the FirstLine® BMS easily integrates into existing applications and can be installed in half the time with less cost than traditional, wired battery monitoring systems.

Real-time status is compared to battery configuration settings and network parameter settings with deviations recorded in an events log and used to trigger e-mail or dry contact alarms. With a battery monitoring system, you can schedule battery replacement at convenient times and ensure that the system is fully charged and operational for peak or high-demand occasions.

The Staco FirstLine® BMS is ideal for monitoring all UPS batteries, especially those in mission critical areas like data centers, computer rooms, network closets, healthcare environments, assembly lines, life safety systems and more.

Two Year Warranty

Full Two Year On-site Warranty (Continental U.S.)

Extended warranties, customized service plans and preventive maintenance are also available.

Please refer to our warranty statement for complete details.
### General Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>0° to 40°C / 32°F to 104°F</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>95% without condensing</td>
</tr>
<tr>
<td>Altitude</td>
<td>Up to 6,600 ft.</td>
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<tr>
<td>Wireless Frequency</td>
<td>2.4GHz</td>
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<tr>
<td>Distance of Wireless</td>
<td>Up to 164 ft. for open site / 98 ft. is recommended</td>
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</tbody>
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### Battery Measurement Kit

#### FLU-BMS-BMK-002A
- **Cell Voltage Options**: 2V, 6V, 12V
- **Cell Voltage Measurement Range**: 1.48-4.00V, 4.2-8.0V, 8.5-16.0V
- **Accuracy**: ±0.1%
- **Battery Impedance Resolution**: 0.01m/Ω, 0.03m/Ω
- **Cut Off Voltage**: 1.48V-1.55V (Default 1.5V), 4.2V-4.5V (Default 4.5V), 8.5V-9.3V (Default 9.0V)
- **Start Up Voltage**: 1.65V, 4.8V, 9.6V
- **Temperature Measurement Range**: 0 - 100°C / 32 - 212°F
- **Humidity**: 95%
- **Power Consumption**: ≤ 0.5W
- **Input Impedance**: 1MΩ
- **Transmitting Interface**: RF 2.4G Wireless
- **Sampling Rate**: 1Hz (or 1 sampling interval per second)
- **Dimension (H x W x D)**: 1.07” x 3.94” x 2.75”
- **Weight**: 3.4 oz

#### FLU-BMS-BMK-006A
- **Battery Impedance Resolution**: 0.03m/Ω, 0.10m/Ω
- **Start Up Voltage**: 4.8V, 9.6V
- **Temperature Measurement Range**: 0 - 100°C / 32 - 212°F
- **Humidity**: 95%
- **Power Consumption**: ≤ 0.5W
- **Input Impedance**: 1MΩ
- **Transmitting Interface**: RF 2.4G Wireless
- **Sampling Rate**: 1Hz (or 1 sampling interval per second)
- **Dimension (H x W x D)**: 1.07” x 3.94” x 2.75”
- **Weight**: 3.4 oz

#### FLU-BMS-BMK-012A
- **Battery Impedance Resolution**: 0.03m/Ω, 0.10m/Ω
- **Start Up Voltage**: 9.6V
- **Temperature Measurement Range**: 0 - 100°C / 32 - 212°F
- **Humidity**: 95%
- **Power Consumption**: ≤ 0.5W
- **Input Impedance**: 1MΩ
- **Transmitting Interface**: RF 2.4G Wireless
- **Sampling Rate**: 1Hz (or 1 sampling interval per second)
- **Dimension (H x W x D)**: 1.07” x 3.94” x 2.75”
- **Weight**: 3.4 oz

#### FLU-BMS-BMK-012B
- **Battery Impedance Resolution**: 0.10m/Ω
- **Start Up Voltage**: 9.6V
- **Temperature Measurement Range**: 0 - 100°C / 32 - 212°F
- **Humidity**: 95%
- **Power Consumption**: ≤ 0.5W
- **Input Impedance**: 1MΩ
- **Transmitting Interface**: RF 2.4G Wireless
- **Sampling Rate**: 1Hz (or 1 sampling interval per second)
- **Dimension (H x W x D)**: 1.07” x 3.94” x 2.75”
- **Weight**: 3.4 oz

### Data Collector

- **Model**: FLU-BMS-DC-LCD
- **Input Power Supply options**: 12Vdc/48Vdc
- **Receiving Interface**: RF 2.4G for wireless
- **Communication Ports**: Ethernet x 1, RS 485 x 1
- **Operating Temperature**: 0 - 50°C / 32 - 122°F
- **Humidity**: 95%
- **Power Consumption**: Maximum 12W
- **Input Impedance**: 1MΩ
- **Transmitting Interface**: RF 2.4G Wireless
- **Sampling Rate**: 1Hz
- **Dimension (H x W x D)**: 9.83” x 14.9” x 3.2”
- **Weight**: 6.6 lbs.

### STRING MEASUREMENT KIT

- **Model**: FLU-BMS-SMK-0620
- **Voltage Measurement Range**: 0 to 620Vdc
- **Normal Voltage Range Accuracy**: ±0.2% of normal voltage
- **Current Measurement Range Accuracy**: ±3%
- **Temperature Measurement Range Accuracy**: ±1°C / 1.8°F
- **Operating Temperature**: 0 to 50°C / 32 to 122°F
- **Humidity**: 95%
- **Input Power Supply range**: 35 - 60Vdc
- **Power Consumption**: Maximum 3W
- **Input Impedance**: 1MΩ
- **Transmitting Interface**: RF 2.4G Wireless
- **Sample Rate**: 1Hz
- **Dimension (H x W x D)**: 1.07” x 3.94” x 2.75”
- **Weight**: 3.1 oz

### Temperature Sensor

- **Model**: FLU-BMS-TES
- **Measurement Range**: 0 - 100°C / 32 - 212°F
- **Length**: 118”
- **Safety**: UL, CE, NCC, FCC Part 15

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Service Options
With our ServiStar® program, a wide range of planned maintenance and extended service options are offered to maximize equipment life and reliability of your FirstLine® UPS. Through an extensive network of factory trained professionals you receive:

- Annual Service Plan
- 24/7 Emergency Service
- Preventative Maintenance
- Programs tailored to meet your needs

About Staco Energy Products
Since 1937, customers worldwide have been relying on Staco Energy Products Company to deliver voltage control and power quality solutions tailored to their needs.

As a leading power quality resource, we offer our customers world-class support; from our thorough applications assessment, to our ability to design and deliver a solution that is tailored to the specific needs of our customers; through delivery and commissioning.

Our professional, factory trained service team is in place to ensure that our customers’ revenues are protected, and their investment provides them with many years of trouble free operation.

Staco develops total power solutions for OEM and end user applications.

In addition to the FirstLine® BMS we offer a wide array of power quality products, including:

- Uninterruptible Power Supplies
- Power Conditioners
- Voltage Regulators
- Power Factor Correction and Harmonic Mitigation
- Active Harmonic Filters
- Variable Transformers
- Custom Engineered Test Sets

Staco Energy Products

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