Battery Monitoring System

Battery Sentinel

Battery Sentinel is designed to protect and enhance your investment in backup emergency power systems. Utilizing state of the art electronic “ohmic value” testing and monitoring, the Battery Sentinel provides the added assurance that when emergencies happen, the power will be available when it’s needed.

Incorporating wireless or wired components, the system is easy to install, easy to operate, and easy to maintain. Battery voltage, string voltage, string current, cabinet temperatures, battery terminal temperature and battery impedance are measured, stored and displayed in the touch screen Data Collector. The Battery Sentinel is designed to detect impending failures long before they become an operating risk, and long before a technician might discover them during a routine maintenance check or during an emergency.

The Battery Sentinel includes a Data Collector utilizing a touch screen interface, along with wireless and wired components designed for simplicity of installation and accurate reporting.

When failure is NOT an option, the Battery Sentinel needs to be part of the plan.
Wireless Battery Monitoring System

**Distance of Wireless:** Up to 50 m. (164 ft.) for open site. Less than 30m (98 ft.) is recommended.

**Wireless Frequency:** 2.4 GHz

**Operating Temperature:** 0˚ to 100˚C (32˚ - 212˚F)

**Relative Humidity:** <95% without condensing

**Altitude:** Up to 2,000 meters / 6,600 ft.

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### SM: Single String Monitoring

**SM (String Monitor)**

- **Data Collector**
  - **Voltage Range:** Upto 750V
  - **Input Power Supply:** 120V (provided by Customer)
  - **Accuracy:** ±0.2%
  - **Power Consumption:** 18W, Max.
  - **Current Range:** Upto 3000A
  - **Max. Monitoring Kits:** Ethernet TCP/IP, RS485, Alarm Output Contact x1, External Trigger Contact x1
  - **Resolution:** ±3%
  - **Temp. Range:** 32˚ to 212˚F (0˚ - 100˚C)
  - **Display:** 6.4” LCD Touchscreen
  - **Store Media:** SD/MMC Flash Memory Card
  - **Input Power Supply:** 120V (provided by Customer)
  - **Power Consumption:** 3.0 Watt Max.
  - **Dimensions:** 15” W x 9.8” H x 3.2” D

**Real-time Monitoring Information:** Block Voltage, Battery Impedance, String Voltage, String Current, and Temperature

- **Chart:** Curve, Bar graph, Average
- **Battery Test:** Battery Voltage, Battery Impedance, Battery String Voltage, Battery String Current, Environment Temperature, Curve

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### SM: Single String Monitoring

**SM-1** Base Single String Monitor

Single String Monitoring Including Data Collector + Connection Accessories + Temperature Sensor

**SM-2** Additional String Monitor

One String Monitoring module + Connection Accessories + Temperature Sensor

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### BM (Battery Monitor)

**BM** Battery Monitor

**Part # BMK (1 ea. per battery)**

- **Block Voltage:** 12V
- **Voltage Range:** 9 - 16V
- **Impedance**
  - **Battery Capacity:** <65Ah <66Ah
  - **Resolution:** 0.01 mΩ 0.03 mΩ
- **Temp. Range:** 32˚ to 212˚F (0˚ - 100˚C)
- **Power Consumption:** 0.5 Watt Max.

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### BM (Battery Monitor)

**Ordering Guide**

<table>
<thead>
<tr>
<th>Part #</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-1</td>
<td>Base Single String Monitor</td>
<td>Single String Monitoring Including Data Collector + Connection Accessories + Temperature Sensor</td>
</tr>
<tr>
<td>SM-2</td>
<td>Additional String Monitor</td>
<td>One String Monitoring module + Connection Accessories + Temperature Sensor</td>
</tr>
<tr>
<td>BM</td>
<td>Each individual Battery Monitor</td>
<td>Battery Monitoring module + Connection Accessories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>for additional room separation (for touch screen to extend its range beyond 100ft)</td>
</tr>
<tr>
<td>Antenna</td>
<td>Antenna</td>
<td>Battery Monitor Temp. Sensor</td>
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<tr>
<td></td>
<td></td>
<td>each individual battery temp. sensor (if temperature reading is required per battery jar)</td>
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**Battery Facts**

- Undetected battery failure is the leading cause of 75% of Battery Backup System failure.
- 95% of undetected battery failures occur after the battery warranty period expires.
- Quarterly maintenance alone is inadequate in critical applications.
- Any string of batteries is only as good as its weakest battery.
- Failing batteries can compromise the expected usable life of the entire string of Batteries.
- Batteries near end-of-life have lost 20% of the original load capacity and 50% of their original runtime capacity.

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**Specifications are subject to change without prior notification.**