# Battery Monitoring System

### MONITOR • RECORD REPORT • TREND

- Measure and record battery voltage, string voltage, string current, cabinet temperature and battery impedance.
- User selectable measurements interval (secondhour-daily) monitors each battery's ohmic value
- Maximizing battery life of your investment
- Eliminate unpredicted backup power failure during a emergency due to undetected battery failure.





# **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

HCT

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</li>
Altitude: Up to 2,000 meters / 6,600 ft.

BM: Battery Monitor HCT: Hall Current Transducer SM: String Monitor TS: Temperature Sensor

	SM: Single String Monitoring							
	SM (String Monitor)		Data Collector					
Voltage	Range	Up to 750 V	Input Power Supply	120V (provided by Customer)				
	Accuracy	±0.2%	Power Consumption	18W, Max.				
Current	Range	Up to 3000 A	Max. Monitoring Kits	Ethernet TCP IP, RS485, Alarm Output Contact x1, External Trigger Contact x1				
	Resolution	±3%	Mux. Molilioning Kils					
Temp.	Range	32° to 212°F (0° - 100°C)	Display         6.4" LCD Touch screen           Store Media         SD/MMC Flash Memory Card					
	Accuracy	±1.8°F						
Imput Power Supply		120V (provided by Customer)	Dimensions	15" W x 9.8" H x 3.2" D				
Power Consumption		3.0Watt Max.	Real-time Monitoring Information: Block Voltage, Battery Impedance, String Voltage, String Current, and Temperature					
Dimensions		4" W x 1" H x 2.75" D						
Additional String Monitor need for more string of batteries. See ordering guide.			<ul> <li>Chart: Curve, Bar graph, Average</li> <li>Battery Test: Battery Voltage, Battery Impedance, Battery String Voltage, Battery String Current, Environment Temperature, Curve</li> </ul>					

Data.

Collector

Ordering Guide								
	Part #	Name	Description					
String Monitoring	SM-1	SM-1 Base Single String Single String Monitoring Including Do Monitor + Connection Accessories + Tempero						
Monitoring	SM-2 Additional String One String Monitoring module + Monitor Accessories + Temperature		One String Monitoring module + Connection Accessories + Temperature Sensor					
Battery Monitoring         BM         Each individual Battery Monitoring         Battery Monitoring Accessories		Battery Monitoring module + Connection Accessories						
	Antenna	Antenna	for additional room separation (for touch screen to extend its range beyond 100Ft)					
Temp. SensorBM-TSBattery Monitor Temp. Sensoreach individual battery temp. se ture reading is required per bat		each individual battery temp. sensor (if tempera- ture reading is required per battery jar)						

If Data Collector is located in separate room optional Antenna is available.

Specifications are subject to change without prior notification.

Smart

Phone

Computer

Battery Backup

System

BM (Battery Monitor) Part # BMK (I ea. per battery)								
Block Voltag	е	12V						
Voltage	Range	9 - 16V						
volluge	Accuracy	±0.1%						
Impedance	Battery Capacity	<65Ah	<66Ah					
impedunce	Resolution	<b>0.01</b> mΩ	<b>0.03</b> mΩ					
Tomn	Range	32 ° to 212 ° F (0 ° - 100 ° C) ±1.8 ° F						
Temp.	Accuracy							
Power Cons	umption	0.5Watt Max.						
Dimensions	•	4" W x 1" H x 2.75" D						

#### **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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