



BMS



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BMS Wireless battery analysis, monitoring and protection system

The voltage equalization function between the individual blocks guarantee the lowest installation and operating cost, maximum performance and battery system life.

Applications

- Server rooms
- Data centres
- Telecommunications equipment
- Industrial automation systems
- TV broadcast equipment
- Video surveillance equipment
- Electrical panels and cabinets
- Electromedical equipment
- Energy storage systems

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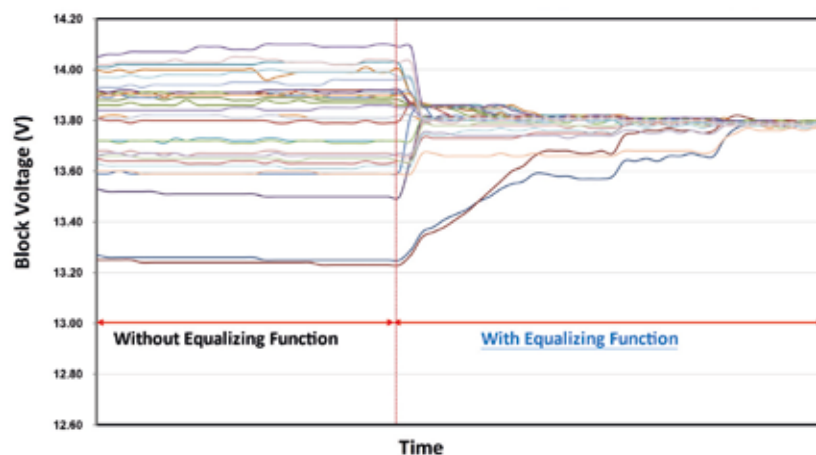
- Total flexibility with 2.4 GHz wireless communication technology that requires no preventative design and allows rack and cabinet configurations to be changed at any time.
- Everything easily under control: the most important parameters of each battery block are measured, including impedance, voltage, current and temperature.
- Very simple and fast installation ensures good savings.
- Each block has an equalization function to prevent spikes and maximise battery life and performance.
- Each ENERBATT system can monitor and protect up to 750 blocks.
- Automatically disables the measurement instrument if the end-of-discharge voltage is reached in order to safeguard the batteries.
- The measurement instruments are re-enabled automatically when the charging current is restored.
- Update frequency of 1 Hz ensures accurate measurements.
- Simultaneous management of batteries of different capacities and types (e.g. VRLA, AGM, NiCd, OPTS, OPZV, etc.) and mixed voltage configurations (e.g. 48 V and 240 V battery systems).
- Colour touch screen display to clearly see configurations and parameters, including diagrams and voltage trend plots.
- Programmable alarm level.
- Alarm alerts via email and dry contact.
- Removable SD card for event storage.
- RS485 port for communication between the receiver and control panel for monitoring large plants.
- Ethernet port and additional RS485 port for remote monitoring.

Key options

- Temperature sensor for each block.
- Sensor kit for use with Ni-Cd batteries.
- Additional antenna for each battery string meter (BMS-SMK) to extend the wireless range.
- Dedicated software for remote monitoring and data storage.

Battery voltage equalizer

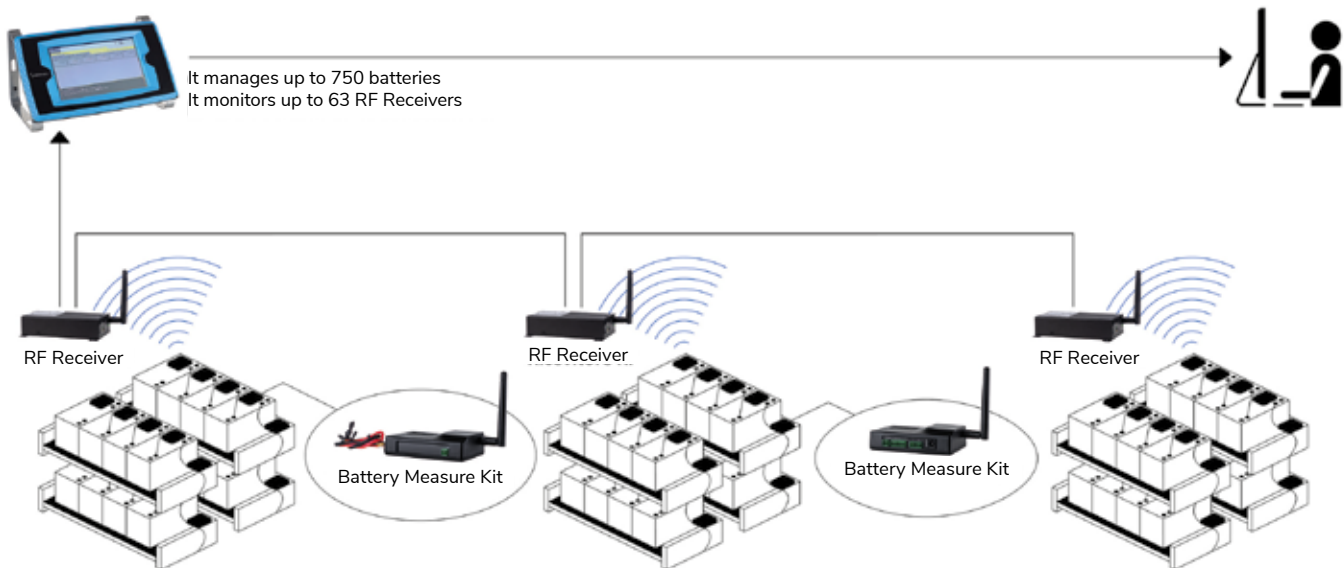
Continually equalizes the end-of-charge voltage of the batteries to the optimal level in order to prevent overcharging and ensure the best performance and durability. With the equalization function active, the voltage of each battery block is continually kept at the ideal value.



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Wireless Battery Monitoring System

- **Easy**
The wireless design simplifies installation and makes maintenance cost effective.
- **Flexible**
No pre-design is needed, it can be adapted easily to any further configuration changes.
- **Intelligent**
Real-time monitoring via graphic LCD touch screen or web, programmable email alarms.
Guarantees savings in investment and operating expenses (CAPEX and OPEX).
- **Powerful**
One collector for up to 750 batteries of any type and 63 RF receivers. Battery protection is always active thanks to the equalisation functions.



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BMS TECHNICAL DATA SHEET

MODEL		SPECIFICATIONS				
BMS-DC-LCDII (Central Unit)	User interface	7" colour LCD touch screen display				
	Supply voltage	12 Vdc				
	Power consumption	≤ 9 W				
	Communication ports	Ethernet, 2 RS485 Modbus RTU, dry relay contacts (1 in/3 out)				
	RF receiver monitoring	Up to 63 RF receivers				
	Wireless devices that can be connected	Up to 750				
	Storage capacity	SD memory card up to 16 gigabytes				
	Dimensions (WxDxH) mm	260x57x150				
	Weight (kg)	0.85				
BMS-RFR (RF receivers)	Supply voltage	12 Vdc				
	Power consumption	≤ 3 W				
	Operating frequency	RF 2.4 GHz (wireless)*				
	Wireless devices that can be connected	Up to 256				
	Dimensions (WxDxH) mm	129x70x35.5				
	Weight	0.4				
BMS-BMK (Battery meter)	Voltage	1.2V (Ni-Cd)	2 V	6 V	12 V	
	Measurement range	0.95–2.00 V	1.48–4.00V	4.2–8.0V	8.5–16.0V	
	Tolerance	±5 mV			±10 mV	
	Impedance measurement accuracy	2 μΩ		10 μΩ	>65 Ah 15 μΩ	<65 Ah 25 μΩ
	Measurable temperature**	0–100°C ±1°C				
	Power consumption	≤ 0.5 W				
	Input impedance	≥ 1 mΩ				
	Dimensions (WxDxH) mm	100x70x27				
	Weight (kg)	0.1				
BMS-SMK (Battery Monitoring System) SMK (String meter)	Measurement range	0–120 V		120–750 V		
	Tolerance	±0.2%				
	Measurable temperature	0–100°C ±1°C				
	Measured current range***	0–3000 A				
	Supply voltage	12 Vdc				
	Power consumption	≤1.5 W				
	Input impedance	≥1 mΩ				
	Dimensions (WxDxH) mm	100x70x27				
	Weight (kg)	0.09				

* The maximum transmission distance is estimated to be 50 m if there are no obstacles. A distance of less than 20 m is recommended for optimal performance.

** The optional temperature sensor (TES) is required in order to measure the temperature.

*** The optional Hall-effect current transformer (HCT) is required in order to measure the battery current.



**Innovative solutions
for maximum protection,
control and unparalleled
power quality**



ESP
Active filters

STS



ATS
Active transfer switches



BMS
Battery monitoring system



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