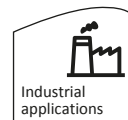


BATTERY MONITORING

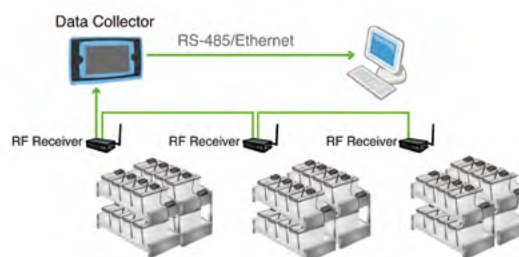


Features

- 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.
- Good savings due to very simple and fast installation.
- Spikes are prevented and battery life and performance are maximised by equalization functions for each block.
- Each BMS system can monitor and protect up to 750 blocks.
- The batteries are protected by automatically disabling the measurement if the end-of-discharge voltage is reached. 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 LCD 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.
- RS-485 ModBus port for communication between the receiver and control panel for monitoring large plants.
- Ethernet port and additional RS-485 ModBus port for remote monitoring.

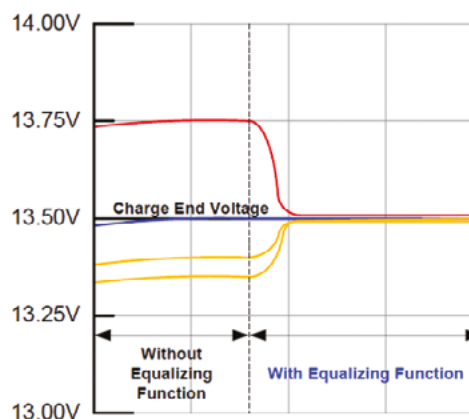
Key options

- Temperature sensor for each block.
- Sensor kit for use with Ni-Cd batteries.
- Additional antenna for each BMK (Battery Measure Kit) to extend the wireless range.
- Dedicated software for remote monitoring and data storage.



Battery voltage equaliser

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.



WIRELESS BATTERY ANALYSIS, MONITORING AND PROTECTION SYSTEM

The lowest installation and operating cost,
maximum performance
and battery system life is guaranteed by the
voltage equalisation function.

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 contact relays (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	260x150x57			
	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	1.48–4.00 V	4.2–8.0 V	8.5–16.0V
	Tolerance	±5 mV			±10 mV
	Impedance measurement accuracy	2μΩ		10μΩ	>65 Ah 15 μΩ
	Measurable temperature**	0–100°C ±1°C			
	Power consumption	≤ 0.5 W			
	Input impedance	≥ 1 mΩ			
	Dimensions (WxDxH) mm	100x27x70			
	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	100x27x70			
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.