



 Build-in Webpage monitoring software

 5 years history data storage

 4G wireless upload to the third party

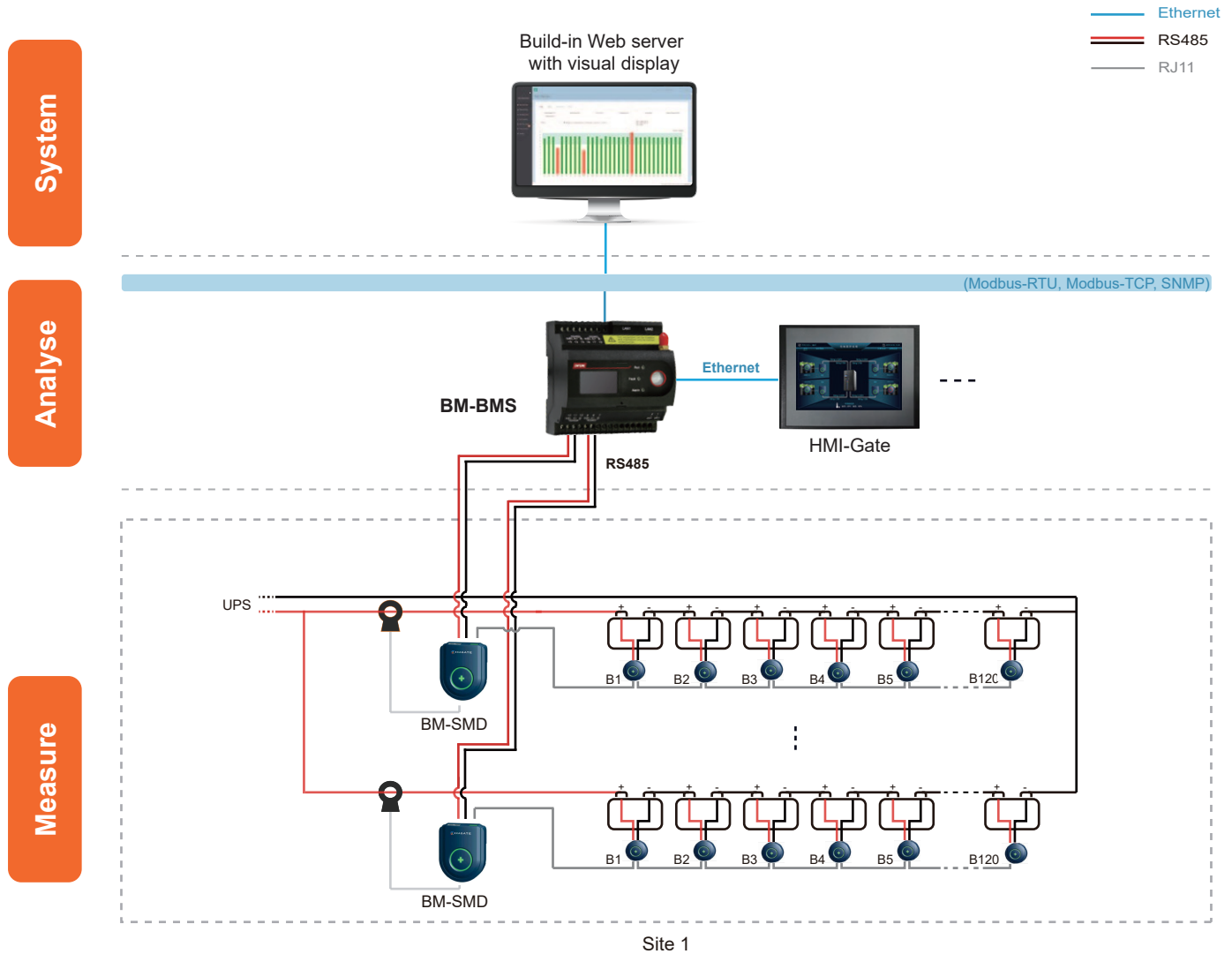
Feature

- Apply to UPS and data center
- 24/7 hours on-line monitoring & remote alarms notification
- Monitor Max. 4 string, in total of 480 batteries
- Measure Lead-Acid battery
- Anti-interference design, support to connect with high-frequency UPS
- Auto-sensing for the battery sensor's ID address
- Multi-communication protocol (MODBUS-TCP, SNMP)
- Support 4G sending SMS alarm or wireless upload to cloud
- Comply with IEEE 1188-2005



BM-BMS for Small-scale Data Center

System Structure



Management Layer

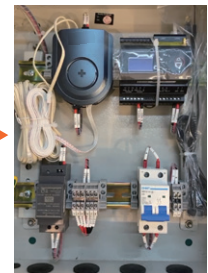
BM-BMS Battery Monitoring System Main Controller

- Real-time monitoring 1 set UPS with Max. 480 batteries
- Data logging for all measuring data for 12 months
- Build-in web server with bar chart and trend curve analysis for voltage, charge and discharge current, internal temperature, impedance
- Report for battery string voltage & current, individual battery voltage, temperature, impedance, support export PDF, CSV etc. document
- Setpoint alarm for cell voltage, internal temperature, impedance, SOC, SOH (upper limit / lower limit) and string voltage, current, SOC (upper limit / lower limit)
- Optional sensor for 2 AI ports for ambient temperature & humidity sensor, 1 DO port for sound and light alarm, 4DI ports for digital input connecting
- Support SNMP, Modbus TCP protocol
- Support HTTP protocol (RESTful API, JSON, XML format)
- Support SMS/Email alarm
- Support 4G data upload to the 3rd party



BM-BMS

All-in-one



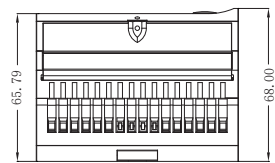
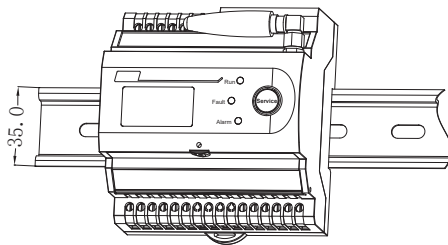
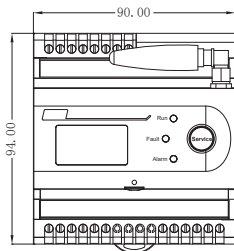
Pre-install & pre-wiring for BM-BMS, BM-SMD

BM-BMS for Small-scale Data Center

Technical Specification

CPU	ARM cortex-A8 800MHz	Dimension	90mm x 94mm x 68mm
Memory	512MB flash, 8G TF memory card	Operating system	Embedded linux
Flash	Nand flash 512MB	Communication	Type1 4 RS485 serial ports, 2 Ethernet ports
MTBF	≥ 50,000 hours		Type2 2 RS485 serial ports, 2 Ethernet ports
Display	OLED	Power consumption	< 5W
Weight	650g	Optional function	4 DI, 2 AI, 1 DO
Baudrate	1200 ~ 115200bps	Operation temperature	-15°C ~ 55°C
Power supply	18 ~ 36VDC	Operation humidity	10% ~ 95% Non-condensing

Dimension and Installation



Unit: mm

Battery String Sensor

BM-SMD Battery String Sensor

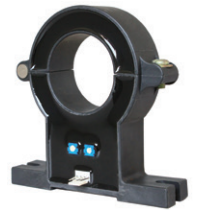
- Monitor battery string voltage, charge and discharge current
- Calculate battery status of charge (SOC)
- Auto-balancing
- Data acquisition
- Auto-sensing for whole battery string sensor's ID address
- Accessories:
 - 1) Hall sensor and cable: range from 0 ~ ±1000A with 2m cable
 - 2) Communication cable : 5m with RJ11 port



Running status



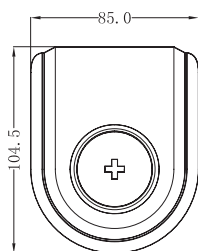
Alarm status



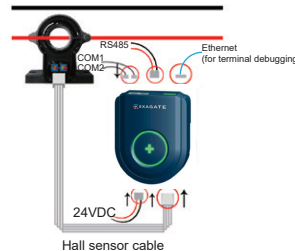
Hall sensor

Item	Measuring range		External power supply	Power consumption
	Voltage	String current		
BM-BMS	0 ~ 800VDC (±0.5%)	-1000 ~ 1000A by hall sensor (±2.0%)	12 ~ 36VDC	1W

> Dimension and Installation



Unit: mm



Battery Cell Sensor

BM BCS-02 & BM BCS-06 & BM BCS-12 Battery Cell Sensor

- BM BCS-02 for 2V battery, BM BCS-06 for 6V battery, BM BCS-12 for 12V battery
- Monitor individual battery voltage, internal temperature (negative pole), Impedance(ohmic value)
- Auto-balancing



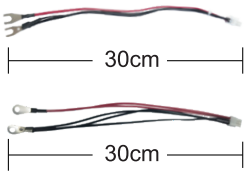
Running status



Abnormal status

Item	Rated input voltage	Measuring range			
		Voltage	Internal temperature	Impedance	Power consumption
BM BCS-02	02V	1.6 ~ 2.6V (±0.2%)	-20°C ~ 85°C (±0.5%)	Range: 0.1mΩ~50mΩ Repeatability error: 1.0%±25μΩ Conformity error: 1.5%±25μΩ	Running: <110mW Sleeping: <12mW
BM BCS-06	06V	4.8 ~ 10V (±0.2%)			Running: <90mW Sleeping: <10mW
BM BCS-12	12V	7.5 ~ 15.6V (±0.2%)			Running: <90mW Sleeping: <10mW

> Dimension and Installation



Battery measuring cable	Item	Description
	Length	30cm
	Terminal & Size	U type, hole diameter: 8mm O type, hole diameter: 8mm

