GERCHAMP

Monitoring cell internal resistance Ω

LITHIUM BATTERY BMS
FOR DATA CENTER

CELL INTERNAL RESISTANCE MONITORING | ACTIVE EQUALIZATION | FAST DATA UPDATE

G-BP lithium battery BMS is tailor-made for green data center, the system adopts 2+1 level structure, providing data acquisition, data analysis, logic processing, data mapping integrated system solution, which can provide overcharge, overdischarge, overcurrent, overtemperature and short-circuit protection for the battery pack, real-time detection of battery safety status, fault diagnosis and early warning, and accurate estimation of SOC/SOH to ensure safe and stable operation of data center backup power system.

SYSTEM CONFIGURATION

GBMU MODULE

Using 32-bit automotive-grade MCU chip+AFE collection + CAN communication architecture; the whole device is over 90% domestic, using 2-channel bidirectional IO ports and secondary lock terminals to realize multi-BMU loop automatic address coding;

GRCU MODULE

Using ARM-M3 chip+2-channel total voltage collection+2-channel large/small range current sensors + CAN communication architecture, the whole device is over 80% domestic, insulation collection optimal design, to avoid the influence of Y capacitors in PCS;

GMM-10 MODULE

Receive, display and set the information collected by the GSCU module; TF card data storage for data and fault analysis; Support online program upgrade or upgrade via USB; Support the local storage of system operation data; Support 10inch display, capacitive touch screen;

HIGH VOLTAGE BOX

Battery cluster voltage, battery cluster current acquisition; Battery cluster circuit relay control and protection; Supply power to GBMU module and battery fan; data status processing and charge/discharge control and management of packs in the same battery cluster; Support circuit breaker single cluster manual de-clustering;

TOPOLOGY
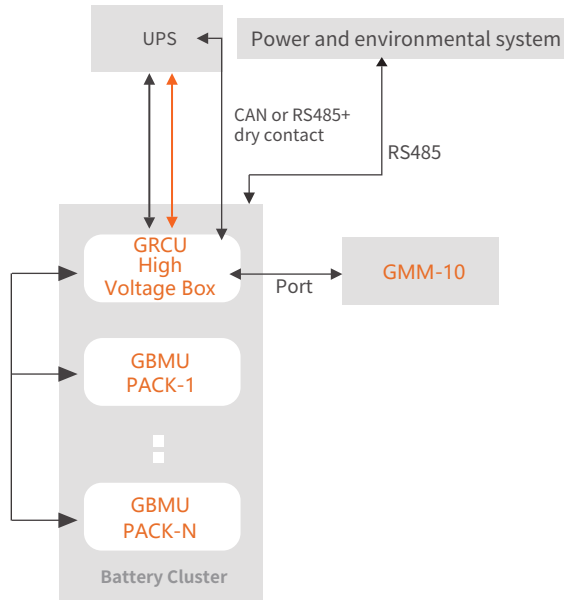
SPECIFICATIONS

Item	Parameter	Item	Parameter
Cell internal resistance accuracy	3%	Voltage collection range	0V~1500V
Temperature measurement accuracy	≤1℃	Maximum operating humidity	5%~95%RH (without condensation)
Temperature sampling cycle	100ms	System voltage measurement accuracy	±0.3%
Cell voltage measurement range	0V~5V	System voltage sampling cycle	100ms
SOC estimation accuracy	<5%	Thermal management mode	Air cooling
Cell voltage measurement accuracy	0.1%	System current measurement accuracy	0.1%
Operating voltage range	9-32Vdc	System current sampling cycle	50ms
Cell voltage measurement cycle	100ms	Insulation state monitoring	Yes
System voltage measurement range	-20℃~+65℃	Temperature detection range	-40℃~+125℃