GX-CN-BMS-B002 Product Manual



*The images are for reference only.

1. Overview

The Level 4 BMS (EMU) is a control host designed for the Battery Management System (BMS) of energy storage power plants. Through communication with lower-level hosts, it obtains battery module data such as voltage, current, temperature, and SOC in real time.

It also monitors the operating status of equipment such as air conditioning systems, fire protection systems, and circuit breakers through network communication, and performs functions including related data analysis, alarm processing, automatic parameter configuration and modification, and event recording.

Furthermore, it works together with PCS (Power Conversion System) hosts and EMS (Energy Management System) to achieve automatic control and coordinated operation through optimized load control strategies based on actual output requirements and the SOC of each battery group. This ensures safe and stable operation of the power plant while promoting extended battery service life.

2. Function Description

① Information Monitoring

- Manages information of up to 36 battery pack clusters
- Monitors and displays voltage data of individual cells
- Monitors and displays cluster voltage and current

- Displays SOC and SOH data of battery cells, clusters, and stacks
- Monitors and displays temperature data of individual cells

② Alarm Functions

- Overvoltage and undervoltage alarms for individual cells
- Communication fault alarms
- Cluster overvoltage, undervoltage, overcurrent, and insulation fault alarms
- High-temperature and low-temperature alarms for individual cells

③ Protection Functions

- Overvoltage and undervoltage protection for individual cells
- Battery cluster overvoltage, undervoltage, short-circuit, and overcurrent protection
- High-temperature and low-temperature protection for individual cells
- Relay sticking detection
- Online insulation detection, fault detection, thermal management control, and protection functions

④ Parameter Settings

- Device parameter settings
- Communication parameter settings
- Basic equipment parameter settings
- Battery group parameter settings
- Serial port settings
- Host login permission settings

3. Technical Parameters

GX_CN_EMU_V1.13	
CPU (Central Processing Unit)	Rockchip RK3568J / Quad-core Cortex-A55 @ 1.8GHz
Memory	2GB + 16G
Operating System	Linux
SD Card Storage	Supports up to 128G
M.2 Solid-State Storage	Supports up to 256G
Number of Detectable Batteries	36 clusters
Data Recording Interval	≤60 Seconds
Query Method	On-site panel query and remote computer query

Alarm Method	Alarm display
Communication Interfaces	4 × 100M LAN (RJ45), 3 × isolated CAN, 5 × isolated RS485
Event Log Database	Multiple event records including fault type, occurrence time, and protection actions
Power Supply	DC 24V
Communication Baud Rate	115200bps/RS485、250Kbps/CAN、100Mbps/LAN
DI Input / DO Output	DI×12 / DO×8
Dimensions	290 × 169.57 × 29.3 mm
Material / Processing Method	Injection molding + aluminum housing
Insulation Resistance	＞10 MΩ ＠2500VDC
Power Frequency Withstand Voltage	1080V AC
Operating Environment	Ambient temperature: -20 to +65℃ Relative humidity: ＜95% (non-condensing) Ambient magnetic field: ＜400A/m No corrosive, flammable, or explosive gases in the surrounding environment.