GX-CN-BMS-B001 Product Manual



*The images are for reference only.

1. Overview

The Level 3 BMS (BAMU) is a control host designed for the Battery Management System (BMS) of energy storage power plants. Through communication with lower-level controllers, it obtains battery cluster information such as voltage, current, temperature, and SOC in real time.

It also monitors the operating status of auxiliary equipment, including air conditioning systems, fire protection systems, and circuit breakers, and performs functions such as data analysis, alarm processing, independent parameter configuration and modification, and event log storage.

Furthermore, the system works together with the PCS (Power Conversion System) host and EMS (Energy Management System), automatically adjusting according to actual output requirements and load control strategies based on SOC optimization of each battery group. This enables coordinated control of the entire power plant, ensuring safe and stable operation while extending battery service life.

2. Function Description

① Information Monitoring

- Manages information of up to 12 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
- Cluster overvoltage, undervoltage, short-circuit, and overcurrent protection
- High-temperature and low-temperature protection for individual cells
- Emergency stop signal detection
- Connection and management of auxiliary control equipment
- Online insulation detection, fault detection, thermal management control, and protection functions

④ Parameter Settings

- Local network parameter settings
- TCP/IP and MODBUS communication parameter settings
- Basic equipment parameter settings
- Battery pack parameter settings
- Serial port configuration parameter settings
- Host login permission settings

3. Technical Parameters

GX_CN_BAMS_V1.01	
CPU (Central Processing Unit)	ARM platform, Cortex-M4 core
Memory (RAM)	1M
Operating System	RTOS
SD Card Storage	Supports up to 32G

Number of Detectable Batteries	Maximum 416 cells × 12 groups (clusters)
LCD Display	10.1-inch TFT LCD, resolution (1024 × 600)
	7-inch TFT LCD, resolution (800 × 480)
Data Recording Interval	≤60 Seconds
Query Method	On-site panel query and remote computer query
Alarm Method	Indicator alarm and alarm display
Communication Interfaces	2 × 10/100M LAN (RJ45), 3 × Isolated CAN, 3 × Isolated RS485
Event Log Database	More than 5,000 event records (including fault type, occurrence time, and protection actions)
BAMS Power Supply	DC24V
BAMS Power Consumption	＜5W
Communication Baud Rate	9600bps/RS485、250Kbps/CAN、100Mbps/LAN
DI Input / DO Output	DI*5/DO*5
Dimensions / Weight	231.0×125.0×28.0mm / 1.8kg
Material	Sheet Metal
Processing Method	Conventional Coating
Insulation Resistance	＞10 MΩ 1000VDC
Power Frequency Withstand Voltage	3100V AC
Operating Environment	Ambient temperature: -10 to +55 ℃, relative humidity: ＜95% (non-condensing) Ambient magnetic field: ＜400A/m; no corrosive, flammable, or explosive gases in the surrounding environment