GS125-261LS Datasheet

Safe, Reliable, and Efficient Outdoor Energy Storage Cabinet for Industrial and Commercial

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Zhuhai Virtual Power Plant Technology Co., Ltd

Declaration

This manual contains information specific to this product and is an integral part of this product and service. Some of this information may involve patents held by our company. Therefore, unauthorized reproduction or other commercial purposes are prohibited. Updates may occur without further notice. Please contact us for confirmation before placing an order.

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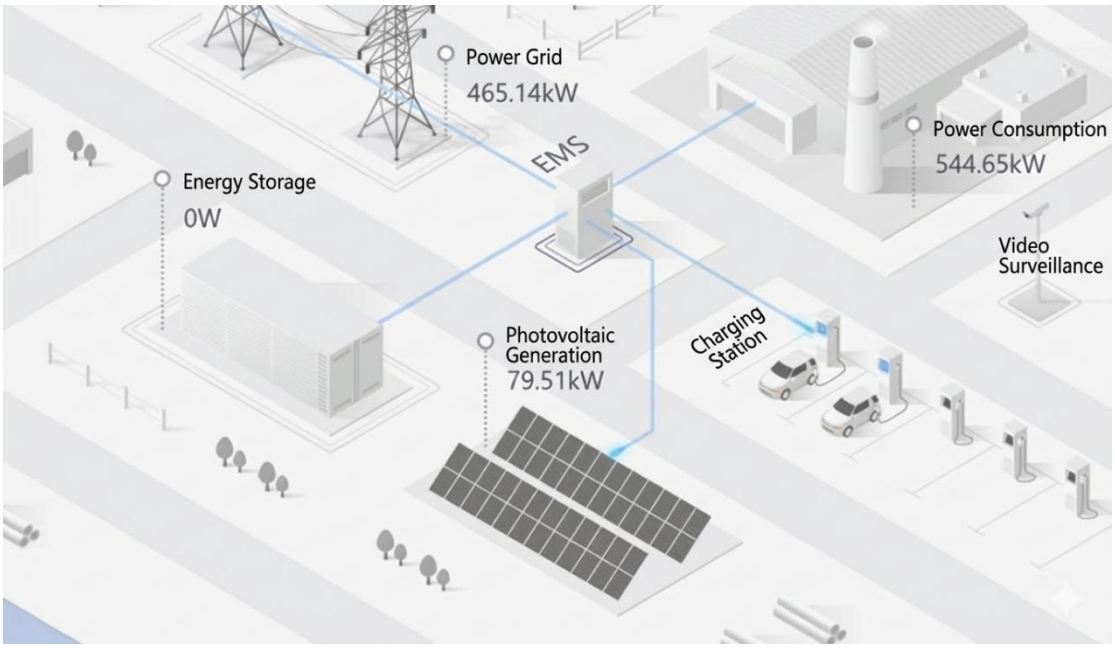
1 Overview

1.1 Introduction



The GS125-261LS is a highly integrated outdoor energy storage cabinet for commercial and industrial use. The product features an integrated design, with a battery system, PCS, and ECS integrated internally. This product enables local management of energy storage systems and can be integrated with cloud-based EMS for remote monitoring and operation via computers or mobile devices.

In the same application scenario, when multiple energy storage cabinet products are needed, each centralized area can set up one ECS of the energy storage cabinet as the master, while other energy storage cabinets act as slaves, thereby achieving the expansion of the energy storage system.

The specifications of this product are 125kW and 261kWh, integrated into an outdoor cabinet. The built-in liquid cooling unit ensures that the battery system operates at a more suitable working temperature to achieve long-lasting performance.

1.2 System Advantages

- **Safer**: Adopting a preventive approach that combines prevention and extinguishing; Comprehensive safety risk detection and correction, with 24-hour advance warning for safety risks; point-to-point precise firefighting at the cell level, supporting external water firefighting.;
- **More Reliable**: Reliability verification and testing throughout the entire process of research and development, procurement, and production; multi-level software fault diagnosis and electrical safety protection;
- **More Profitable**: Comprehensive reduction of product lifecycle costs, providing various intelligent complementary control revenue models to maximize customer investment returns;
- **Longer Lifespan**: Dedicated energy storage lithium iron phosphate battery with 6000 cycles;
- **More flexible**: Modular design for easy installation, transportation, and maintenance; supports parallel expansion of power and capacity, suitable for multiple application scenarios;
- **More intelligent**: Integrated cloud-edge architecture, independently developed AI algorithms to enhance product safety, profitability, and maintenance experience, while reducing maintenance costs.

1.3 Application Scenarios

- Peak and valley arbitrage in electricity pricing;
- Energy time-shifting, demand management;
- Capacity control, distribution capacity enhancement;
- Voltage support, reactive power compensation;
- Virtual Power Plant Scheduling and Control;
- Microgrid system management and control;
- System black start;
- Multiple revenue model complement.

2 Product Configuration

Project	Model/Specification	Quantity
Battery Pack	166.4V/314Ah（52.250kWh）	5
HV Box	HV250-01	1
PCS	EPCS125-AM-F	1
ECS Controller	ECS1.0（only in the primary cabinet） EMW50HFNC1A	1
Liquid Cooling Unit	YF2.5/2.5N-HHS ， 3kg Fire Extinguishing Agent	1
Perfluorohexane Firefighting System	YF2.5/2.5N-HHS ， 3kg Fire Extinguishing Agent	1
Energy Storage Cabinet	1000*1400*2280mm	1

3 Key Components

3.1 Battery Pack

Projects	Parameters

Cell	LFP 3.2V/314Ah
Battery Pack Specifications	166.4V/314Ah(1P52S)
Rated Capacity	52.250kWh
Operati LFP ng Voltage	145.6~187.2V
Max. Charge and Discharge Power	26.124kW (0.5P)
Operating Temperature Range	Charge: 0~55℃; Discharge: -30~55℃
Storage Temperature	20 ~ 45℃
Storage Humidity	≤70%RH
Dimensions	790×247.7×1140mm
Weight	345kg

3.2 HV Box

Projects	Parameters
Operating Voltage	220Vac
Specifications	1000V/250A
Output Voltage	24Vdc
Output Power Line Interface	B+，B-；P+，P+

Communication Method	CAN*2
Operating Temperature Range	-20~55℃
Operating Humidity	0~95%RH
Dimensions	564(excluding hanging ears)×177×785mm
Weight	TBD

3.3 PCS

Projects	Parameters
Rated Power	125kW
DC Voltage Range	650~950V
Max. AC Current	200A
Grid Frequency	50Hz / 60Hz
Power Factor	-1~1
Wiring Method	Three-phase Four-wire + PE
Max. Output Current	200A
Max. Output Power	137.5kW（Long-term）
Max. Efficiency	98.5%

Communication Interface	RS485/ CAN
Operating Temperature	-30 ~ 55 ° C (> 45℃ derating)
Operating Humidity	0~95%RH，no condensation
Dimensions	500×232×785 mm
Weight	66.5kg

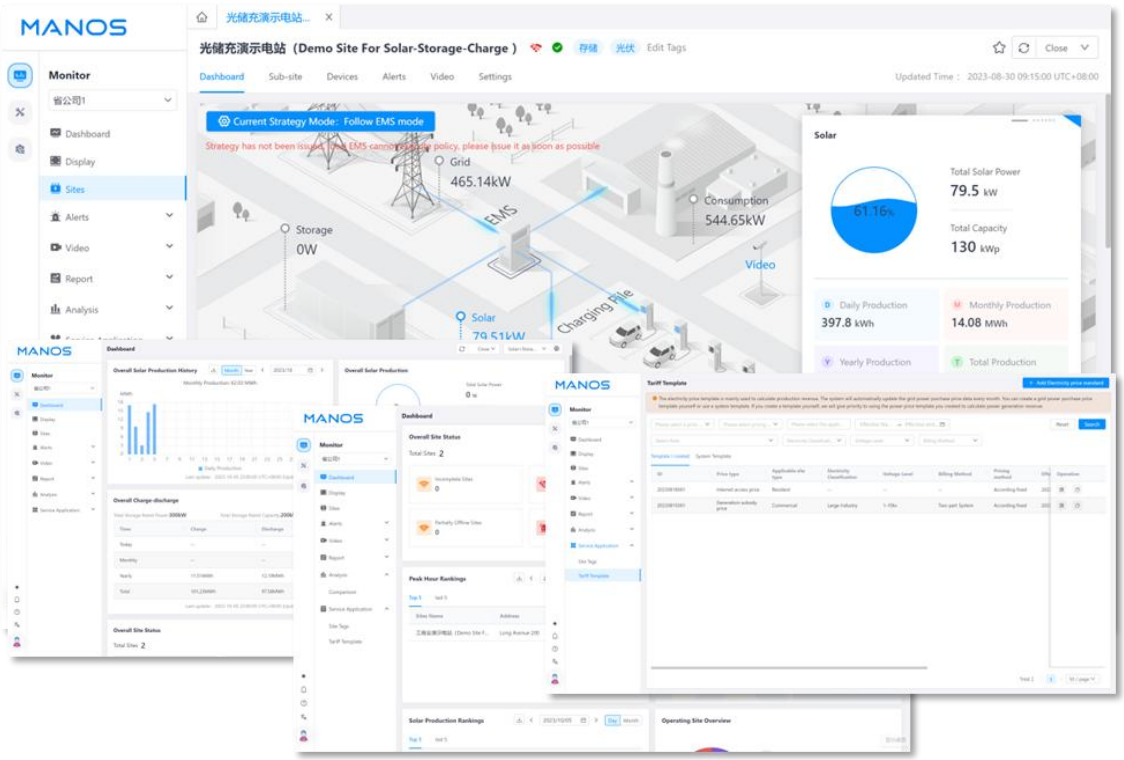
3.4 Liquid Cooling Unit

Projects	Parameters
Model	EMW50HFNC1A
Operating Voltage/Frequency	220Vac/50Hz
Cooling Capacity@L35 L35	5000W
Cooling Rated Power	2500W
Heating Capacity	2000W
Refrigerant	R134a

Circulation Water	46.5L/min
Operating Temperature	-30～+55℃
Noise	75dB(A)
Protection Level	IPX5
Dimensions	245*700*900mm
Weight	62kg

4 Cloud EMS

The MANOS Microgrid Energy Management System Cloud Platform allows users to conveniently monitor the operational status and alarm information of the microgrid system remotely via computer or mobile app at any time and perform necessary safety controls.



5 Technical Specifications

Model	GS125-261AS
AC Side Parameters	
Rated Power	125kW
Output Voltage	400 V / 230V (-15%~+15%)
Grid Frequency	50Hz / 60Hz
Power Factor	-1~1
Wiring Method	Three-phase Four-wire + PE
Max. Output Current	200A
Max. Output Power	137.5Kw(Long-term)
Max. Efficiency	98.5%
DC Side Parameters	
Cell Type	LFP 3.2V/314Ah
Rated Capacity	261kWh
Depth of Discharge	100%DOD
Voltage Range	650~950V
Max. Current	200A
Battery Pack Specifications	166.4V/314Ah(1P52S)
Number of Current Groups	5 PCs
System Parameters	
Operating Temperature	-30～55℃（derating required above 45℃）

Relative Humidity	0～95%，no condensation
Altitude	3000m，(derating required above 2000m)
Communication Method	LAN，4G, Wifi(Optional）
Protection Level	IP54
Cooling Method	Liquid Cooling
Isolation Method	Non-Isolated
Overall Efficiency	>87%
Fire Protection Methid	Cell-levelepoint-to-pointeperfluoroketoneefireextinguishing + water firefighting (energy storage cabinet)
Third-party Certification	IEC 62619 / IEC 60730-1 H / IEC 61000-6-2 / IEC 61000-6-4 / IEC 62477-1 / UN38.3 / EN 50549-1（PCS） / C10/11（PCS） / IEC 61439-1 & -2; GB 44204；GB/T 36276；GB/T 34131
Dimensions (W*D*H)	1000*1400*2280mm
Weight	2350kG

Notes

Product dimensions and specifications may be updated or upgraded without prior notice. We recommend that you contact a ZVPP sales representative for consultation before making a purchase.

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