GS105-229LS Datasheet

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

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Zhuhai Virtual Power Plant Technology Co., Ltd

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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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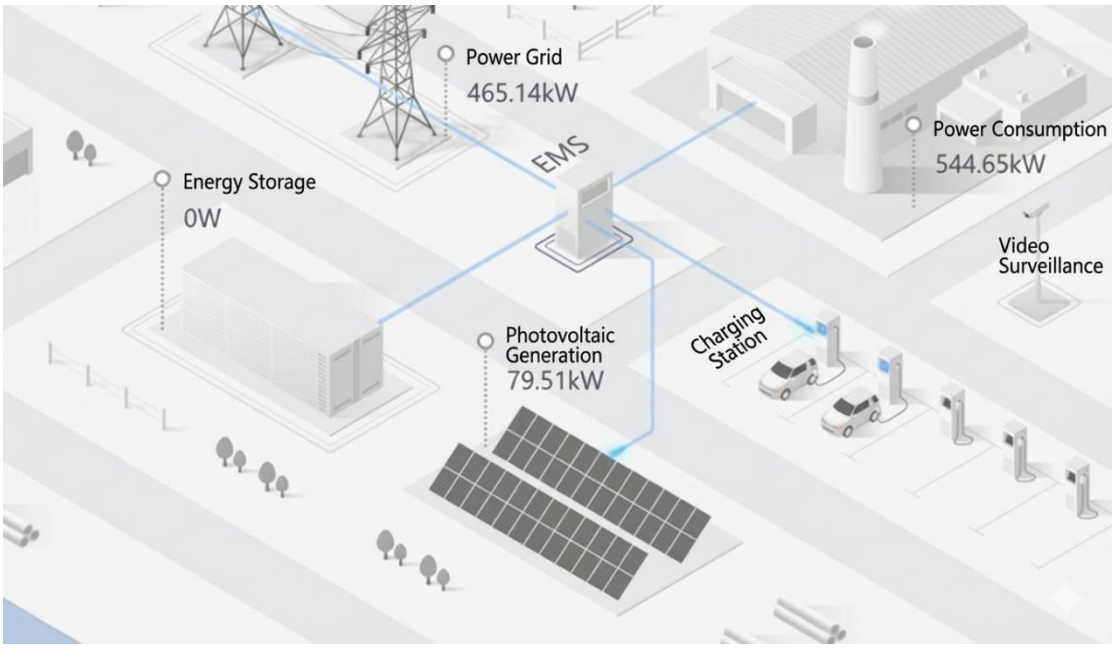
1 Overview

1.1 Introduction



The GS105-229AS 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 105kW and 229kWh, integrated into an outdoor cabinet. The built-in air 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

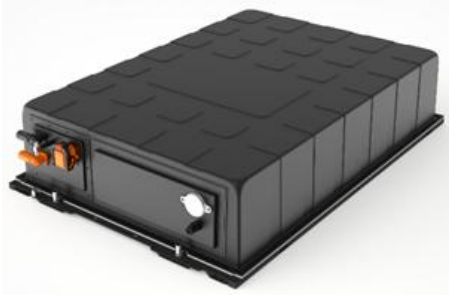
- Peak and valley arbitrage in electricity pricing;
- Energy time-shifting, demand management;
- Capacity control, distribution capacity enhancement;
- Voltage support, reactive power compensation;
- Virtual Power Plant Scheduling and Control;
- Microgrid system management and control;
- System black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

2 Product Configuration

Project	Model/Specification	Quantity
Battery Pack	51.2V/280Ah	15/16
PCS	EPCS105，105kW	1
ECS Controller	ECS1.0	1
Air Cooling Unit	VCE003UFAE111，3kW cooling capacity	1
Perfluorohexane Firefighting System	YF2.5/2.5N-HHS ， 5kg Fire Extinguishing Agent	1
Energy Storage Cabinet	1460*1200*2280mm	1

3 Key Components

3.1 Battery Pack



Projects	Parameters
Cell	LFP 3.2V/280Ah

Battery Pack Specifications	51.2V/280Ah(1P16S)
Rated Capacity	14.336kWh
Operati LFP ng Voltage	44.8~57.6V
Max. Charge and Discharge Power	7.16kW (0.5P)
Operating Temperature Range	Charge: 0~45℃; Discharge: -20~55℃
Storage Temperature	-20 ~ 45℃
Storage Humidity	≤70%RH
Dimensions	410(excluding hanging ears)×237×715mm
Weight	116kg

3.2 HV Box

Projects	Parameters
Operating Voltage	220Vac
Specifications	1000V/200A
Output Voltage	24Vdc
Output Power Line Interface	B+，B-；P+，P+

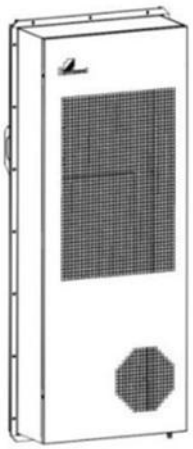
Communication Method	CAN*2
Operating Temperature Range	-20~55℃
Operating Humidity	0~95%RH
Dimensions	442(excluding hanging ears)×221.45×715mm
Weight	TBD

3.3 PCS

Projects	Parameters
Rated Power	105kW
DC Voltage Range	615~950V
Max. AC Current	170A
Grid Frequency	50Hz / 60Hz
Power Factor	-1~1
Wiring Method	Three-phase Four-wire + PE
Max. Output Current	200A
Max. Output Power	116kW（long-term）
Max. Efficiency	98.5%

Communication Interface	RS485/ CAN
Operating Temperature	-30 ~ 55 ° C (> 45℃ derating)
Operating Humidity	0~95%RH
Dimensions	500×620×270 mm
Weight	60kg

3.4 Liquid Cooling Unit

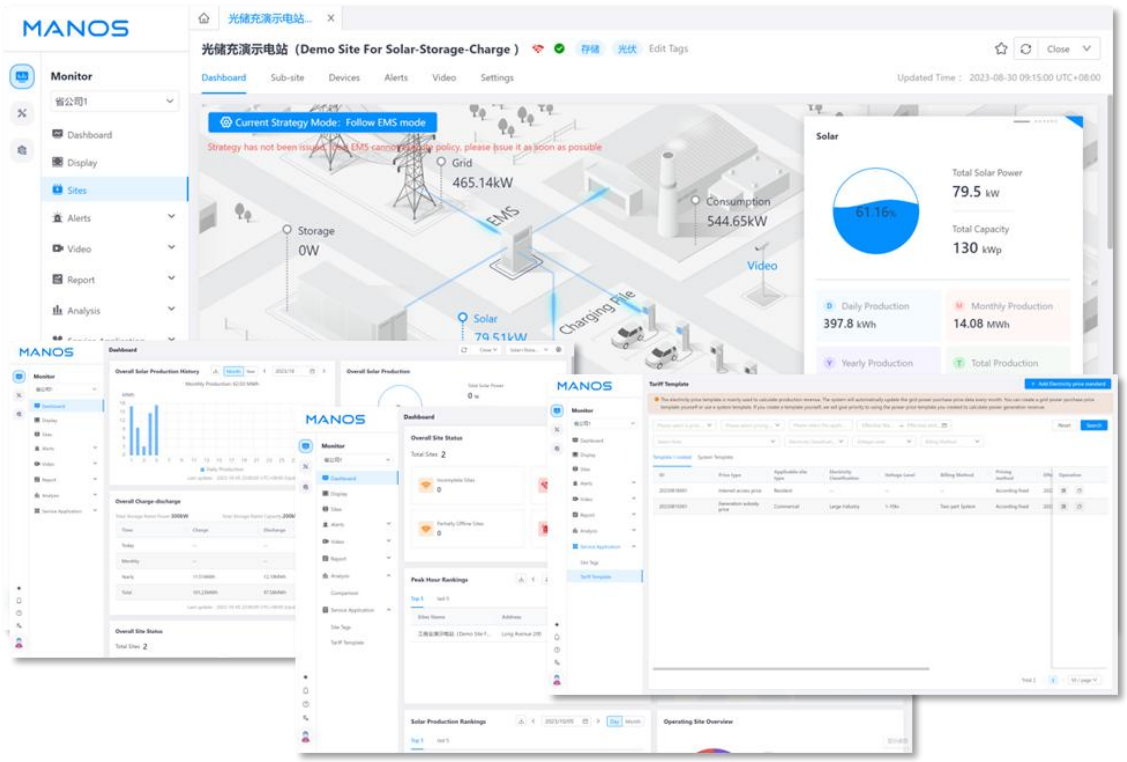


Projects	Parameters
Model	MC30HDNC1A
Operating Voltage/Frequency	220Vac/50Hz
Cooling Capacity@L35 L35	3000W
Cooling Rated Power	1100W
Heating Capacity	2500W
Refrigerant	R134a
Circulation Water	700m ^{3} /h

Operating Temperature	-40～+55℃
Noise	75dB(A)
Protection Level	IPX5
Dimensions	550*250*1350mm
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	GS105-229AS
AC Side Parameters	
Rated Power	105kW
Output Voltage	400 V / 230V (-20%~+15%)
Grid Frequency	50Hz / 60Hz
Power Factor	-1~1
Wiring Method	Three-phase Four-wire + PE
Max. Output Current	200A
Max. Output Power	110Kw(Long-term)
Max. Efficiency	98.2%
DC Side Parameters	
Cell Type	LFP 3.2V/280Ah
Rated Capacity	229kWh
Depth of Discharge	100%DOD
Voltage Range	615~950V
Max. Current	180A
Battery Pack Specifications	51.2V/280Ah(1P16S)
Number of Current Groups	16PCs
System Parameters	
Operating Temperature	-20～55℃（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	Industrial air conditioning + forced air 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)	1500*1200*2280mm
Weight	2650kG

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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