



OASIS A200

120~200kWh Battery Cabinet

Product Specification

Preface

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1. Introduction

1.1 Overview

OASIS A200 industrial and commercial series products are high-security, high-reliability, standardized series products developed for industrial and commercial application scenarios. It adopts modular system configuration to flexibly match all kinds of industrial and commercial scenarios, and with a variety of energy storage inverters, it can support on-grid, off-grid, and on-off grid scenarios; and it supports parallel expansion, which is convenient for system expansion, and it can realize the shift of peaks and valleys and the staggered peaks of electricity consumption, and alleviate the pressure on the power grid.

Products include battery box, control box,, battery management system, fire protection system, etc.

1.2 Application Scenarios

Primarily used in commercial and industrial energy storage settings, including but not limited to: Industrial parks\ Financial institutions\ Educational facilities\ Commercial buildings\ Gas stations\ Residential complexes. Matching with energy storage inverters of different power bands can flexibly realize the functions of peak shaving and valley filling, emergency power backup and peak frequency regulation.

2. Product Overview

2.1 Specification

This product adopts integrated cabinet design, which is composed of PACK, fire protection, air conditioning and other devices. The nominal capacity of this energy storage cabinet is up to 200kWh, the electric core connection in single PACK adopts 1P20S, and the maximum support is 10 PACK in series connection, adopting 314Ah Li-FePO₄ cell, the capacity of one PACK is 20kWh, and it can be reduced according to the needs of different configurations. PACK, the minimum capacity is 120kWh, 6 PACK, the whole machine can support parallel expansion. The side of the cabinet with bracket can support the installation of wall-mounted inverters.



Figure 2.1.1 Product Rendering Diagram

2.2 Technical Parameter

Product Series	OASIS A200		
Product Model	CIESS-120	CIESS-160	CIESS-200
Battery Side Parameters			
Cell Type	LFP		
Cell Specification	3.2V 314Ah		
PACK Capacity	20kWh		
PACK Quantity	6	8	10
Nominal Capacity	120kWh	160kWh	200kWh
Nominal Voltage	384V	512V	640V
Voltage Range	348~432V	464~576V	580~720V
System Parameters			
Communication Interface	RS485、CAN		
Display	Touchscreen, Cloud Platform		
Protection Rating	IP55		
Cooling Method	Industrial Air Conditioning		
Installation Type	Outdoor		
Corrosion Resistance	C3		
Ambient Temperature	-25°C~55°C (>45°C derating)		
Humidity	0 ~ 95% (non-condensing)		
Noise	<75dB		
Altitude	3000m		
Size (W×D×H)	1150*1375*2200mm		
Weight	<2400kg		

3. Product Specification

3.1 Battery Cell

The LiFePO₄ (lithium iron phosphate) prismatic aluminum-shell cell (3.2V/314Ah) features a rigid casing to resist mechanical impacts and human misuse, ensuring intrinsic safety. Each cell integrates a pressure relief vent to safely release internal pressure during overcharging, over-discharging, short circuits, or thermal runaway, preventing explosions and minimizing hazards.



Figure 3.1.1 Schematic of 3.2V 314Ah LiFePO₄ Cell

Single Cell Specification

NO.	Parameter	Specification
1	Cell Chemistry	LiFePO ₄
2	Nominal Capacity	314Ah
3	Nominal Voltage	3.2V
4	Nominal Energy	1004.8Wh
5	Operating Voltage Range	2.5~3.65V
6	Nominal Charge/Discharge Rate	0.5C
7	Max. Charge/Discharge Rate	1C
8	Storage Temperature	-40°C~60°C
9	Charging Temperature	0°C~60°C
10	Discharging Temperature	-30°C~60°C
11	Size (W×D×H)	174*72*207mm
12	Weight	5.6kg
13	Energy Density	179Wh/kg
14	Calendar life	9000次 (25°C, 0.5C/0.5C, 90%DOD, 70%EOL)

3.2 Battery PACK

The modular battery PACK is designed for rapid installation, maintenance, and safety:

- (1) Modular Design: Enables quick deployment and servicing.
- (2) Terminal Identification: Clear "+/-" markings on terminals for easy connection and inspection.
- (3) Laser Welding: Low-impedance, high-strength connections ensure reliability.
- (4) BMS Passive Balancing: Cost-effective solution with proven field performance.
- (5) Safety: Dedicated expansion space above pressure relief vents to prevent explosive pressure buildup during thermal runaway.
- (6) Thermal Management: Forced air cooling maintains optimal operating temperatures.

PACK Parameter

Model Name	B064314S01
Configuration	64V, 314Ah
Nominal Voltage	1P20S
Nominal Energy	64V
Nominal Charge/Discharge Current	20kWh
Max. Charge/Discharge Current	157A
Voltage Range	252A/280A
Storage Temperature	58~72V
Charging Temperature	-30°C~55°C
Discharging Temperature	0°C~55°C
Cooling Method	-30°C~55°C
Size (W×D×H)	Air-cooled
Weight	923*420*250mm
Model Name	141±3kg



Figure 3.2.1 PACK Schematic Diagram

3.3 Battery Cluster

This product contains one battery cluster, which can support 6 ~ 10 packs, with a capacity range of 120 ~ 200 kWh.

Cluster Features:

- (1) Single-cluster series configuration supports high-voltage output and eliminates circulating current risks.
- (2) The cabinet adopts a frame structure, and the battery packs are connected by high-voltage power copper rows and low-voltage communication harnesses which meet the electrical isolation requirements.
- (3) The structure is safe and reliable, and the mechanical strength is sufficient to ensure that there is no shaking or deformation of the equipment after installation.
- (4) The electrical clearance and creepage distance are designed with full consideration of the system operating voltage, overvoltage category, pollution level and insulation materials.

Cluster Parameters

No.	Parameter	Specification		
		6	8	10
1	Configuration	6	8	10
2	Series-Parallel Topology	1P120S	1P160S	1P200S
3	Nominal Charge/Discharge Rate	0.5C		
4	Max. Charge/Discharge Rate	0.5C		
5	Nominal Energy (kWh)	120	160	200
6	Nominal Voltage (V)	384	512	640
7	Operating Voltage (V) Range	348~432	464~576	580~720
8	Communication Protocol	CAN、RS485		
9	Balancing Method	Passive Balancing		

3.4 Battery Management System

The product adopts a three-tier architecture, which consists of a Battery Management Unit (BMM), a Battery Cluster Management Unit (BCM), and a Local Control Unit (LCU) from the bottom to the

top.

Each battery insertion box is equipped with a set of BMM, each BMM is responsible for collecting the single cell voltage and temperature of each battery box, and has the function of equalization. the BMM communicates with the BCM using CAN bus, and the BCM collects the data of the BMM in polling mode.

Each battery cluster is equipped with 1 set of BCM, which is installed in the high-voltage control box, summarizes the data detected by BMM through CAN protocol, analyzes the total voltage and current of the battery cluster, and then interacts with the higher-level equipment based on CAN communication.

Each battery cluster is equipped with a set of LCU, which is installed on the cabinet door, integrates display and control functions, supports CAN/RS485/LAN communication, and is used for real-time monitoring of the energy storage system, energy deployment, safety management and data analysis.

The battery management system is capable of realizing functions such as battery status monitoring, operation status control, insulation monitoring, equalization management, protection alarm and communication, etc. Through real-time supervision of the battery system, it ensures normal, stable and safe operation of the system. Battery management system includes:

First-level management (BMM): with the function of monitoring the voltage and temperature of single cell within the battery module. BMM is the smallest component management unit of the battery management system (BMS), and provides the internal information of the battery module to the battery cluster management system (BCM) through the communication interface.

Second-level management (BCM): It is a real-time monitoring and management system composed of electronic circuit equipment, which can effectively manage the charging and discharging process of the battery pack in a safe manner, and provide alarm and emergency protection against possible failures, so as to ensure the safe, reliable and stable operation of the battery.

Three-level management (LCU): for energy storage system data acquisition and collaborative management, charging and discharging strategy and energy scheduling to improve economic

efficiency. Acquisition and analysis of fire signals and other signals in the cabinet, fault warning and diagnosis, to ensure system safety.

3.5 Control Box

The Control box serves as the power control unit for the battery cluster, integrating critical components such as: BCM (Battery Cluster Manager), relays and contactors, fuses, hall current sensors, circuit breakers. It ensures circuit protection (on/off control) and is essential for the safe and functional operation of the battery cluster.

Control Box Parameters

Rated Voltage	1000Vdc
Maximum Current	350A
Communication Interfaces	CAN、RS485、LAN
Protection Rating	IP20
Size (W×D×H)	420*923*250mm
Weight	40kg



Figure 3.5.1 Schematic Diagram of Control Box

3.6 Fire Protection System

3.6.1 Temperature Sensor + Smoke Sensor + Flood Sensor

Built-in temperature sensor, smoke sensor and flood sensor, when the detected temperature, smoke and humidity reach a certain threshold, trigger the system alarm.

3.6.2 Aerosol Fire Protection

Cabinet fire-fighting, aerosol fire extinguishing device is installed in the cabinet, using gas thermal

runaway detector for detection, electric + thermal dual-start mode, rapid response and fast action.

3.6.3 Explosion-proof Valve + Water Fire Fighting Interface

In order to guarantee the reliability of fire fighting, our company is equipped with explosion-proof valve and water fire fighting interface. When the cabinet is overcharged, over-discharged, short-circuited, thermal runaway and other explosions, the explosion-proof valve can be the first time to respond to maintain the balance of pressure within the cabinet at the same time to avoid an explosion, but also through the cabinet door fire fighting interface to inject cold water, the shortest possible time to control the system temperature of the cabinet, to avoid the accident from further expanding.

3.7 Temperature Control System

Battery working environment temperature requirements are high, in order to ensure that the battery works in the best environmental temperature, the cabinet is equipped with a wall-mounted industrial air conditioner which can ensure the battery box dissipate heat uniformly, and ensure that the ambient temperature inside the cabinet is controlled within the range suitable for the cell temperature. The built-in air conditioner thermostat can be set up in accordance with the highest and lowest temperature values, automatically start the refrigeration and heating function. In order to ensure that the air conditioner can dissipate heat evenly to each battery box, a special cooling duct is set up to ensure that the temperature inside the cabinet is balanced.

In order to solve the heat dissipation problem, mainly take two ways:

- (1) Battery module design heat dissipation channel, and in front of the module with the appropriate power of fan, to ensure the temperature inside the module quickly transferred to the outside.
- (2) The high-voltage box is located at the lower layer of the cabinet and is isolated from the upper battery box in a separate compartment. It adopts independent air cooling for heat dissipation to ensure reliable operation.
- (3) The outdoor cabinet is equipped with industrial-grade air-conditioning and cooling channels to ensure the ambient temperature inside the whole cabinet.

The power supply voltage of the air conditioner is AC 220V, which is provided by the utility power; the main communication mode of the air conditioner is RS485, and the signal is output to the control box to communicate with the system.

Air Conditioning Parameter

Item	Parameter	Note
Power Supply	220V±15%, 50Hz	
Maximum Running Current	12A	
Cooling Power	3000W	
Heating Power	2500W	
Communication Port	RS485	
Size(W*D*H)	550*250*1350mm	
Weight	62kg	

3.8 Outdoor Cabinet

3.8.1 Basic Overview

Battery clusters, air-conditioning, fire fighting and other equipment are integrated into the cabinet with independent self-power supply system, temperature control system, fire fighting system and other automatic control and safety guarantee devices to ensure that the system is always in a good temperature and optimal performance operating state.

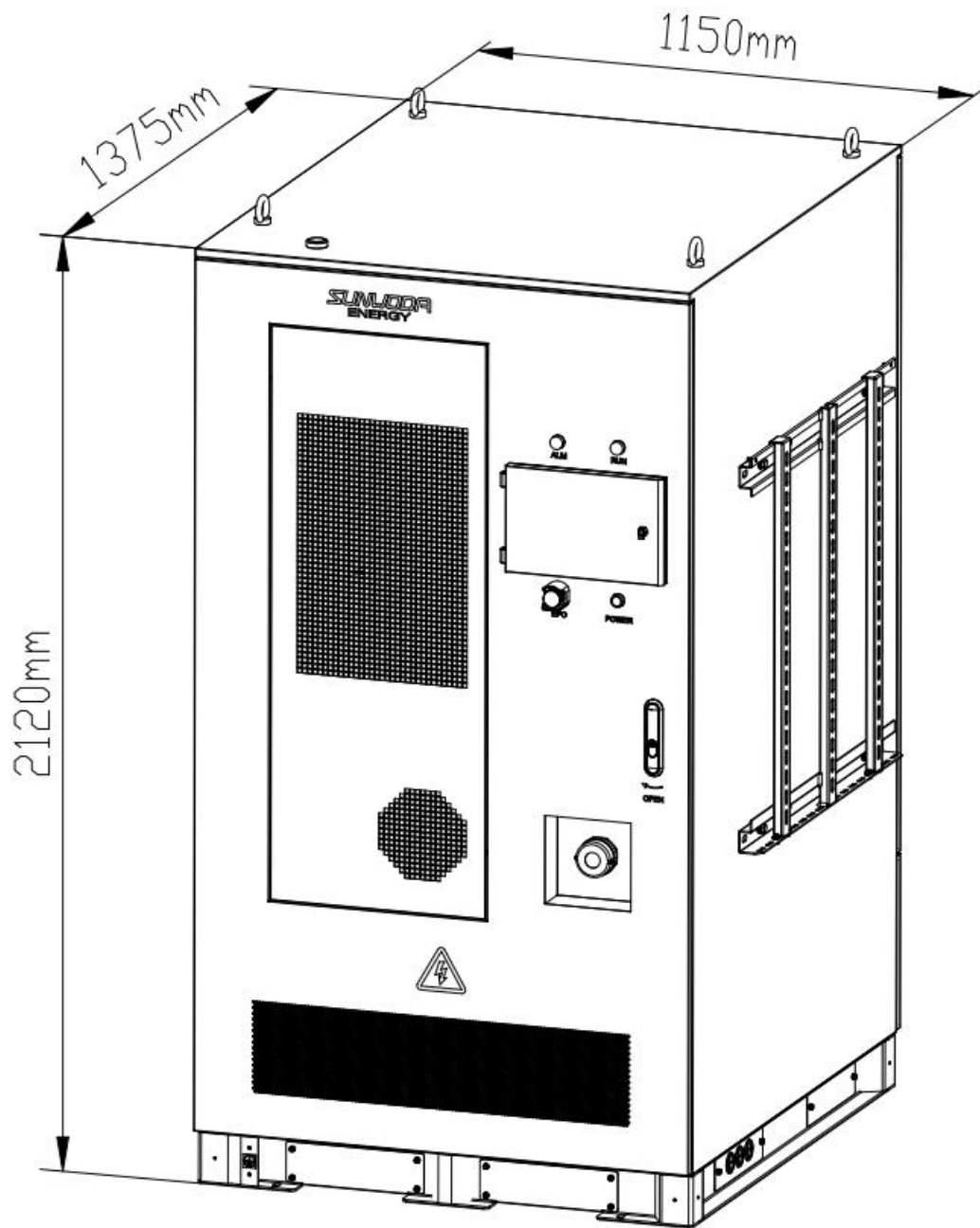
3.8.2 Cabinet Design

In order to ensure sufficient strength and 10-year design life requirements, SGCC plate thickness of the cabinet is made into 1.5mm, and the double-layer design of zinc-rich primer powder coating and top powder coating is designed to make the shell have good anticorrosion and weathering performance. Outdoor cabinet shell tape in the range of 200°C will not produce residual glue.

Outdoor cabinet has excellent fireproof performance, cabinet protection grade IP55, with the ability to prevent sand, water, moisture, salt spray, etc.; seismic performance to meet the requirements of transportation standards.

The power and non-main power cables inside the cabinet have good insulation and high flame retardant performance.

3.8.3 Diagram of External Dimension





Sunwoda Energy Technology Co., Ltd

Sunwoda Industrial Park, No.18 Tangjia South Road, Guangming New District, Shenzhen, China

www.sunwodaenergy.com