Alice Series

Integrated Energy Storage System

SPECIFICATION

1.1. Model Description

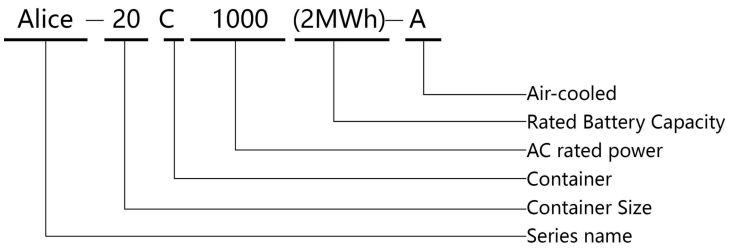

Figure 1-1 Model Identification

1.2. Product Features

The system integrates energy storage converter, storage battery, isolation transformer, cooling, fire protection, power distribution, dynamic loop monitoring and energy management, friendly grid adaptability, accepting grid scheduling, active and reactive power compensation, supporting peak shaving and valley filling, demand-side response, and assisting in new energy grid-connected applications, etc. The IP54 protection level adapts to the harsh outdoor environment, which is perfectly suited to the needs of industrial and commercial energy storage.

In common application scenarios, the operation strategies of energy storage systems are as follows:

Peak shaving and valley filling:

During off-peak hours of time-of-use electricity pricing: The energy storage unit automatically charges and goes into standby mode after being fully charged.During peak hours of time-of-use electricity pricing: The energy storage unit automatically discharges, realizing arbitrage based on the price difference between peak and off-peak hours, thereby enhancing the economic benefits.

1.3. Electrical Wiring Diagram

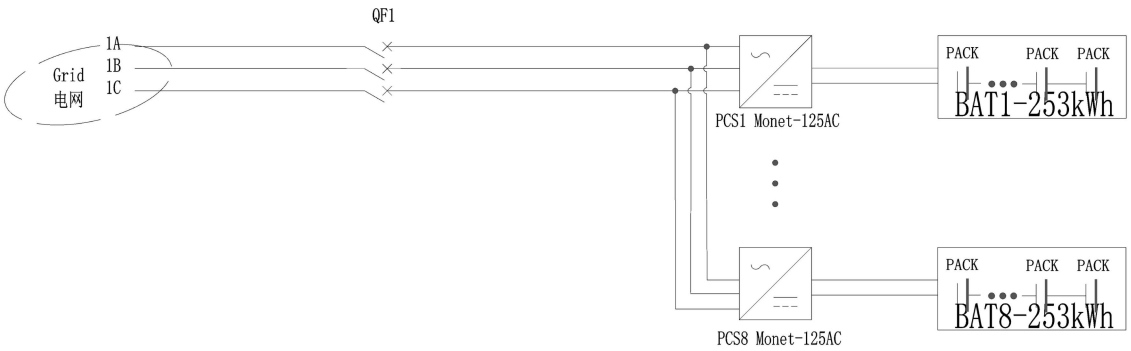

Figure 1-2 Electrical primary diagram

1.4. Product Function

- Diverse Functions: It supports peak shaving and valley filling, demand-side response, backup power supply, and other major functions; it enables remote updates of operational strategies and firmware upgrades, resulting in lower operation and maintenance costs;
- High Integration: The system is productized, integrating energy storage batteries, PCS (Power Conversion System), power distribution, temperature control, fire protection, water immersion door sensors, and monitoring communication, providing comprehensive control over the system's operational status and risks; one-stop delivery shortens the on-site installation and commissioning period of the project;
- Flexible and Convenient: Modular PCS allows for linear expansion of battery units and bidirectional energy storage inverter units; it possesses independent charging and discharging control capabilities for multiple battery packs, enhancing battery utilization and safety;
- Safe and Intelligent: A fault escalation handling mechanism responds to preset fault scenarios; customized BMS (Battery Management System) provides comprehensive measurement and protection functions; it supports cloud-based dispatching and operational report analysis.

1.5. Product Parameters

The following are typical configuration parameters for containerized energy storage systems, the actual supply is subject to the technical agreement.

Table 1-1 Parameters Table

Model	***Alice-20C-1000(2MWh)-A***
DC Side Parameters	
Operating Voltage Range	*580~1000V*
Maximum DC Current	*200A*8*
Compatible Batteries	*Lithium-ion/Lead-acid/Photovoltaic modules*
Charging Method	*Follows BMS commands/Three-stage/MPPT*
Operating Mode	*Constant current, constant power, MPPT, AC voltage source, DC voltage source*
AC Side Parameters (Grid-Connected)	
Rated/Maximum AC Power	*1000/1100 kW*
Rated AC Current	*180 A * 8*
Rated AC Voltage	*400 V, 3W + PE*
Rated AC Frequency	*50/60 Hz ± 5 Hz*
Total Harmonic Distortion (THDi)	*<3% (rated power)*
Power Factor	*-1 leading to +1 lagging*
Battery Side Parameters	
Battery Rated Capacity	*253.2 kWh*8*
Battery Rated Voltage	*806.4 V*
Battery Voltage Range	*705.6~907.2 V*
Number of Battery String Groups	*8P*18S*14S*
Compatible Batteries	*LFP*
Cell Capacity	*314 Ah*
General Parameters	
Protection Rating	*IP54*
Operating Temperature	*-25°C~60°C (derating above 45°C)*
Relative Humidity	*0~95% (No condensation)*
Fire Suppression System	*Perfluorohexane/Heptafluoropropane pipe-type fire suppression system*
Battery Compartment Cooling Method	*Air conditioning and refrigeration*
Electrical Compartment Cooling Method	*Intelligent air cooling*
Altitude	*3000m (Derating above 2000m)*
Communication Interface	*RS485 / CAN*
Dimensions (W×D×H) mm	*6058*2438*2591mm*
Weight (approx.)	*28.5t*

1.6. Appearance Diagram