

Alice Series

Integrated Energy Storage System

SPECIFICATION



1.1. Model Description

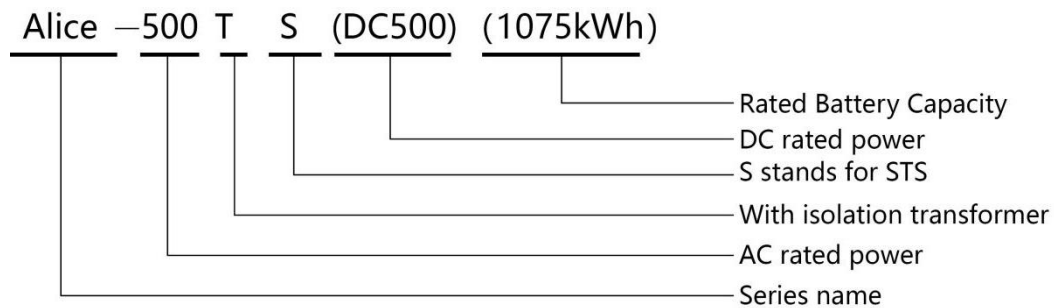


Figure 1-1 Model Identification

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 IP55 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 of the photovoltaic (PV) + energy storage + charging system.

PV and energy storage integration:

Real-time monitoring of local load power is conducted, with PV power generation prioritized for self-consumption, and excess power stored. If the PV power generation is insufficient to meet local load demand, battery storage is preferentially utilized. When the off-grid battery discharges to the set lower limit of the State of Charge (SOC), manually trip the grid power switch and close the diesel generator switch to start the diesel generator and continue supplying power to the load. When grid power is restored, manually trip the diesel generator switch and close the grid power switch, allowing the system to operate in grid-connected mode.

1.3. Layout plan

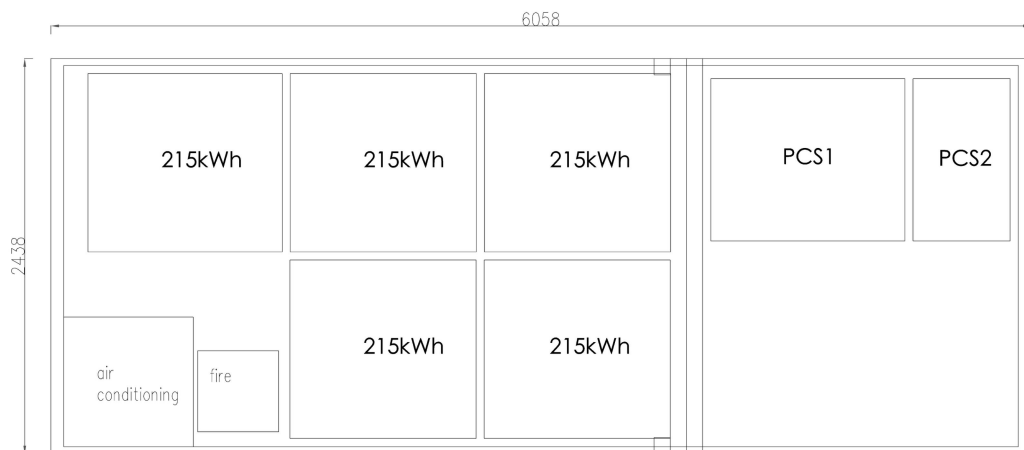


Figure 1-2 Electrical primary diagram

1.4. Electrical Wiring Diagram

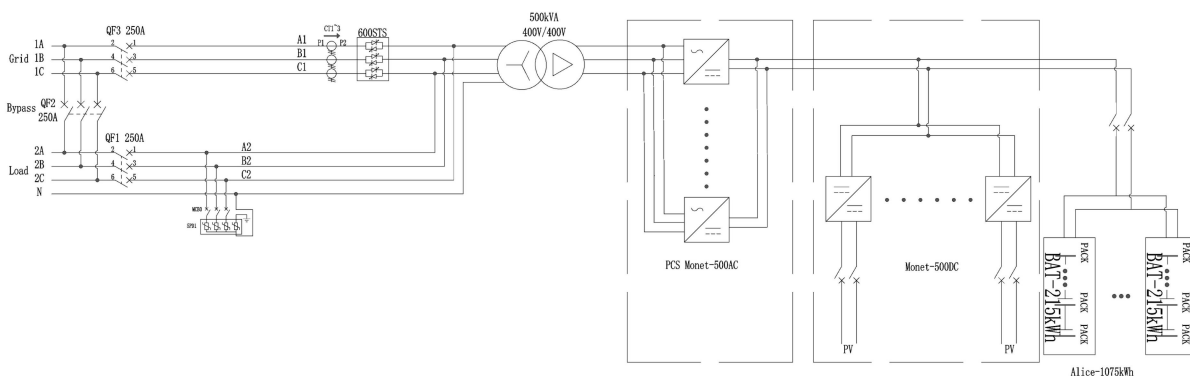


Figure 1-2 Electrical primary diagram

1.5. 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.

1.6. 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 Integrated Energy Storage System Parameters Table

Model	Monet-500TS
DC-side parameters	
<i>Operate voltage range</i>	<i>580~1000V</i>
<i>Maximum DC current</i>	<i>200A*4</i>
<i>Adaptive battery</i>	<i>Lithium/lead-acid/Solar panel(MPPT)</i>
<i>Charging mode</i>	<i>According to BMS instructions/three-stage/MPPT</i>
<i>Operating mode</i>	<i>Constant current, constant power, MPPT, AC voltage source, DC voltage source</i>
AC-side parameters (On-grid)	
<i>Rated Max.AC power</i>	<i>500/550kW</i>
<i>Rated AC current</i>	<i>180A*4</i>
<i>Rated AC voltage</i>	<i>400V,3W+N+PE</i>
<i>Rated AC frequency</i>	<i>50/60Hz±5Hz</i>

<i>THDi</i>	< 3% (Rated power)
<i>Power Factor</i>	-1leading to +1 lagging
AC-side parameters (Off-grid)	
<i>Rated AC voltage</i>	400V
<i>Rated AC frequency</i>	50/60Hz
<i>THDv</i>	< 3% (Linear Load)
<i>Overload capacity</i>	110%, normal operation; 120%, 1 minute
General parameters	
<i>Degree of protection</i>	IP21(Indoor)
<i>Protective Class</i>	I
<i>Isolation method</i>	Transformer isolation
<i>Shutdown self-discharge</i>	<0.1% of rated power(without transformer)
<i>Display</i>	LCD
<i>Relative humidity</i>	0 ~ 95% (no condensation)
<i>Noise</i>	< 78dB
<i>Ambient temperature</i>	-25°C to +60°C(derating above 45°C)
<i>Cooling mode</i>	Intelligent air-cooled
<i>Altitude</i>	3000m (> 3000m reduction)
<i>Communication interface</i>	RS485/CAN/Ethernet
<i>Dimensions (W * D * H)</i>	1200*1000*2100mm(Indoor)
<i>Weight (approx.)</i>	2250kg(Indoor)

Table 1-2 DC Converter Parameters

Model	Monet-(DC500)
Photovoltaic(PV) port	
<i>PV voltage range</i>	250~500V (MPPT)
<i>Max.PV input current</i>	10*160A
<i>MPPT quantity</i>	1/5/10
Battery port	
<i>Battery voltage range</i>	600~950V
<i>DC side bus power</i>	500kW
<i>Number of DC side inputs</i>	1
General Parameters	
<i>Degree of protection</i>	IP21 (Indoor)
<i>Protective Class</i>	I
<i>Shutdown self-discharge</i>	< 0.1%Rated Power (Without transformer)
<i>Display</i>	LCD
<i>Relative humidity</i>	0 ~ 95% (No condensation)
<i>Noise</i>	< 78dB
<i>Ambient temperature</i>	-25°C to +60°C(Derating above 45°C)
<i>Cooling mode</i>	Intelligent air-cooled
<i>Altitude</i>	3000m (> 3000m reduction)
<i>BMS Communication</i>	CAN

<i>EMS Communication</i>	<i>RS485 / CAN/Ethernet</i>
<i>Dimensions (W*D*H)</i>	<i>1200*1000*2100mm (Indoor)</i>
<i>Weight (approx.)</i>	<i>650kg (Indoor)</i>

Model	Alice- (1075kWh)
Battery parameters	
<i>Battery rated capacity</i>	<i>215kWh*5</i>
<i>Battery rated voltage</i>	<i>768V</i>
<i>Battery voltage range</i>	<i>672~864V</i>
<i>Series of Battery</i>	<i>5P*20S*12S</i>
<i>Adaptive battery</i>	<i>LFP</i>
<i>Cell Capacity</i>	<i>280Ah</i>
General parameters	
<i>Degree of protection</i>	<i>IP55</i>
<i>Ambient temperature</i>	<i>-25℃ to +60℃(derating above 45℃)</i>
<i>Relative humidity</i>	<i>0 ~ 95% (no condensation)</i>
<i>Fire extinguishing system</i>	<i>Perfluorohexane/heptafluoropropane pipeline fire extinguishing system</i>
<i>Battery compartment cooling method</i>	<i>Air Conditioning</i>
<i>Electrical compartment cooling method</i>	<i>Intelligent Air Cooling</i>
<i>Altitude</i>	<i>3000m (> 2000m reduction)</i>
<i>Communication interface</i>	<i>RS485 / CAN</i>
<i>Dimensions (W * D * H)</i>	<i>6058*2438*2591mm</i>
<i>Weight (approx.)</i>	<i>12t</i>

1.7. Appearance Diagram

