

# Blue Carbon

## All-in-one Commercial & Industrial Energy Storage Cabinet



# 175kWh

### "Storage as the Source, Users as the Grid"

The traditional centralized power grid is facing capacity limits due to the proliferation of high-power appliances. Blue Carbon's mission is "to enable utility customers to participate in and benefit from the energy transition, making solar+storage a stable and affordable power source." We are building the concept of an independent power station based on "Storage as the Source, Users as the Grid," breaking through the barriers of energy dependency and transmission.



Automotive-grade Lithium Iron Phosphate (LFP) battery cells,  
Cycle life  $\geq 6600$  times



Supporting off-grid/on-grid modes,  
with dynamic expansion based on  
demand



Multiple charging sources: Solar PV,  
Grid Power, and Diesel Generator



Highly integrated all-in-one design

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## Applicable Regions & User Characteristics

### Peak Shaving and Demand Management:

For users and regions with time-of-use (TOU) or tiered electricity pricing, the solar+storage system intelligently controls charging and discharging. It prioritizes using stored energy during peak-rate hours and stores low-cost energy during off-peak hours, thereby optimizing total electricity consumption under tiered pricing and reducing costs by arbitraging peak-valley price differences.

### Critical Load Backup and Operational Continuity:

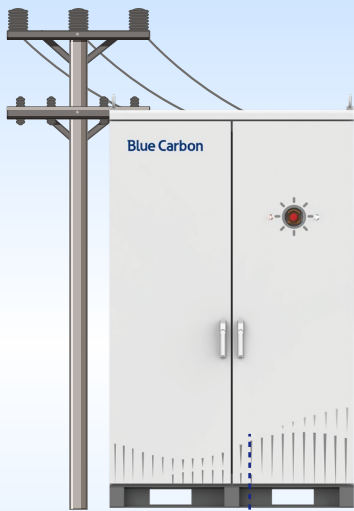
During power fluctuations or outages, it quickly switches to battery power to ensure the stable operation of critical facilities such as data base, hospitals, and telecom tower.

### No Need Time Fast Switching of Multiple Power Inputs:

It performs an automatic and seamless transition to backup power, ensuring zero-interruption operation.



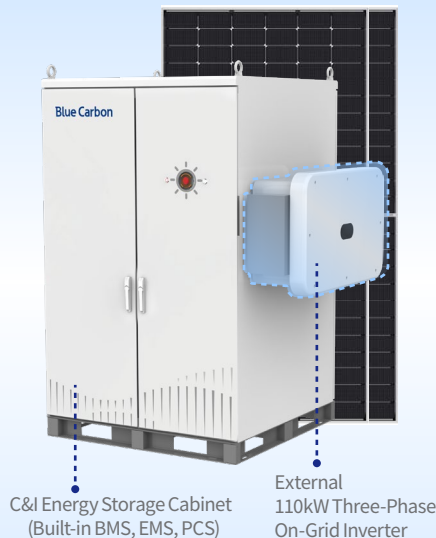
### Grid Peak Shaving and Valley Filling Solution Parameters



C&I Energy Storage Cabinet  
(Built-in BMS, EMS, PCS)

Product Configuration:  
C&I Energy Storage Cabinet

### Off-Grid Solution



C&I Energy Storage Cabinet  
(Built-in BMS, EMS, PCS) External  
110kW Three-Phase  
On-Grid Inverter

Product Configuration:  
C&I Energy Storage Cabinet  
110kW Three-Phase  
On-Grid Inverter

### Hybrid Solution



C&I Energy Storage Cabinet  
(Built-in BMS, EMS, PCS) External  
110kW Three-Phase  
On-Grid Inverter

Product Configuration:  
C&I Energy Storage Cabinet  
110kW Three-Phase  
On-Grid Inverter

## C&I Energy Storage Cabinet Parameters

### DC-Side Parameters

Cell Specification	C15 245Ah
Nominal Capacity	175kWh
Nominal Voltage	716.8V
Battery Current	167A
Depth of Discharge (DoD)	93%
DC Component	<0.5%
Battery Temperature Control Method	Air Cooling

### AC-Side Parameters

Connection Type	Three-phase Four-wire
Daytime AC Side Voltage Range	230V/400V $\pm$ 15%
Power Factor	0.99 /-1~1
Daytime AC Side Rated Power	215kW
Daytime AC Side Max. Power	236.5kW
Daytime AC Side Rated Voltage	400Vac
Daytime AC Side Max. Current	342A
Nighttime AC Side Rated Power	105kW
Nighttime AC Side Max. Power	115.5kW
Nighttime AC Side Rated Voltage	400Vac
Nighttime AC Side Max. Current	167A
Rated Grid Frequency	50/60Hz
Cooling Method	Forced Air Cooling
System Communication Interface (External)	RS485/CAN/DIDO/4G
System Communication Protocol (External)	Modbus-RTU/Modbus=TCP/ 1EC61850
Max. Efficiency	98.5%

### System Parameters

C-rate (Charge/Discharge)	$\geq$ 0.5C
Cycle Life	6600
IP Rating	IP55
Operating Temperature Range	-30~50°C
Operating Humidity Range	0~95%RH(Non-condensing)
Operating Altitude	2000m
Dimensions (W×D×H)	1332(W)mm × 1328(D)mm × 2142(H)mm
Fire Suppression System	Smoke Detection / Heat Detection + Aerosol
Grid Input Voltage	AC 400V
Grid Input Frequency	50Hz/60Hz
Grid Charging Power	80kW

### DC Input Parameters

Max. Input Voltage	1100V
Start-up Voltage	250V
Rated Input Voltage	620V
MPPT Voltage Range	180V~1000V
Number of MPPT Trackers / Number of Strings per MPPT	8/2
Max. Input Current per MPPT	40A
Max. Short-circuit Current per MPPT	50A

### AC Output Parameters

Max. Output Current	175A
Rated Output Power	110kW
Max. Active Power	121kW
Rated Output Frequency	50Hz/60Hz
Rated Grid Voltage	230Vac/400Vac, 3L/N/PE, 3L/PE

### Protection

DC Reverse Polarity Protection	Yes
Anti-islanding Protection	Yes
Output Short-circuit Protection	Yes
Leakage Current Detection	Yes
Insulation Resistance Detection	Yes
Ground Fault Detection	Yes
Grid Detection	Yes
String Current Detection	Optional
Surge Protection	Type II
DC Arc-fault Protection	Optional

### Display and Communication

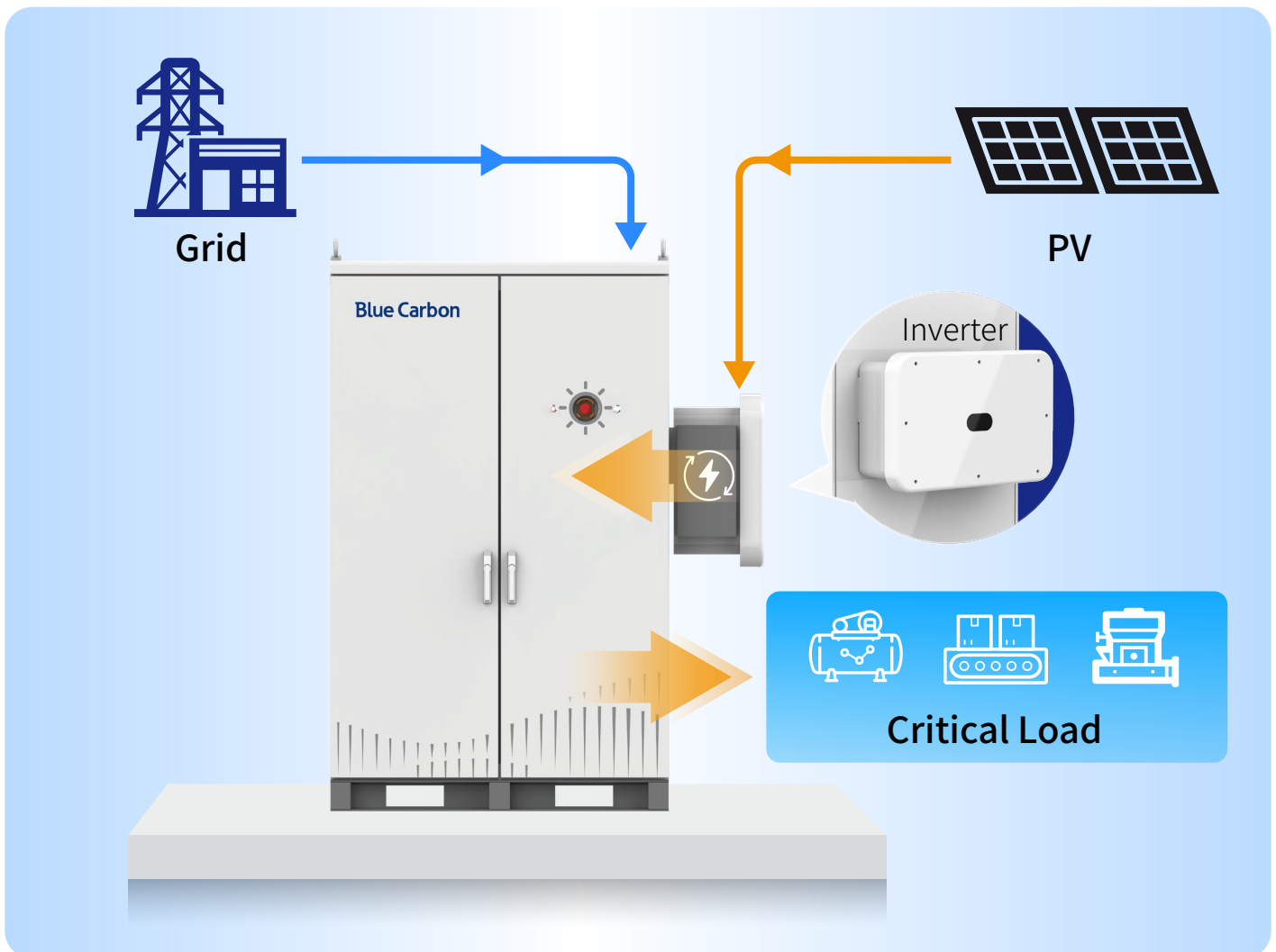
Display	LCD/LED+APP
Communication	RS485/Bluetooth /WiFi

### General Parameters

Dimensions (W×H×D)	1040(W)mm×650(H)mm×350(D)mm
Weight	85kg
Operating Temperature Range	-30°C~+60°C
Cooling Method	Intelligent Air Cooling
IP Rating	IP66
Max. Operating Altitude	4000m
Relative Humidity	0~100%

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## Hybrid Solution topology diagram



### Forced Air Cooling

- No liquid leakage risk, safer
- No need for liquid refilling, more hassle-free
- Smoother & Faster Customs inspection



### Liquid Cooling Mode

- Liquid leakage risk exists
- Requires regular liquid refilling
- More complex customs inspection



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## Application Scenarios



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## Application Scenarios

