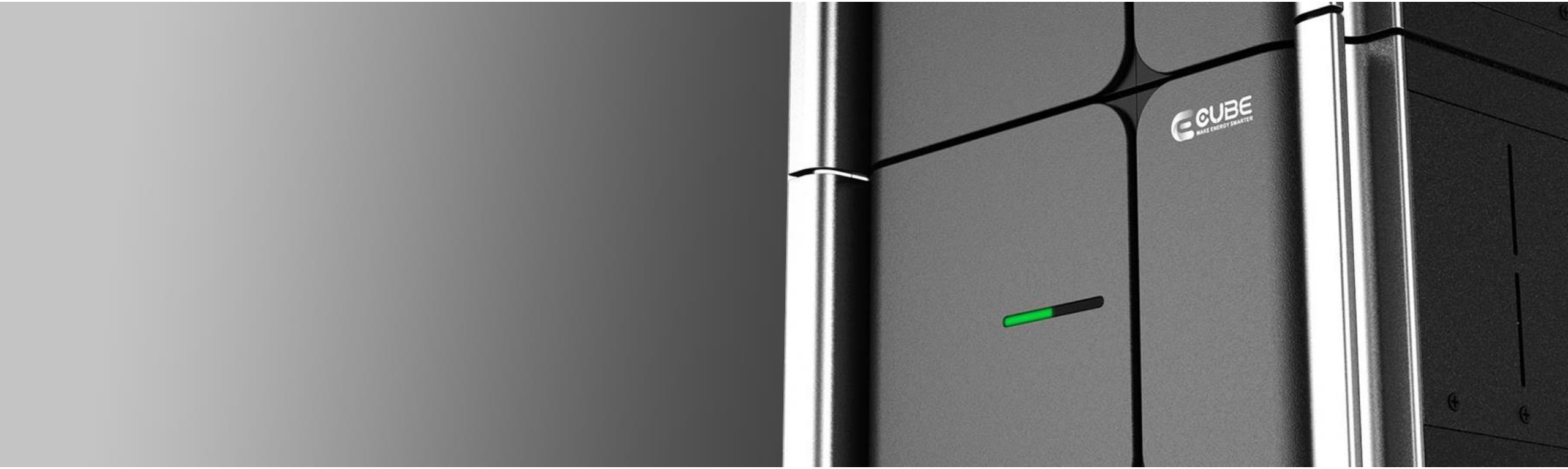

Power Conversion System

WIPS-50/50

WIPS-100/50

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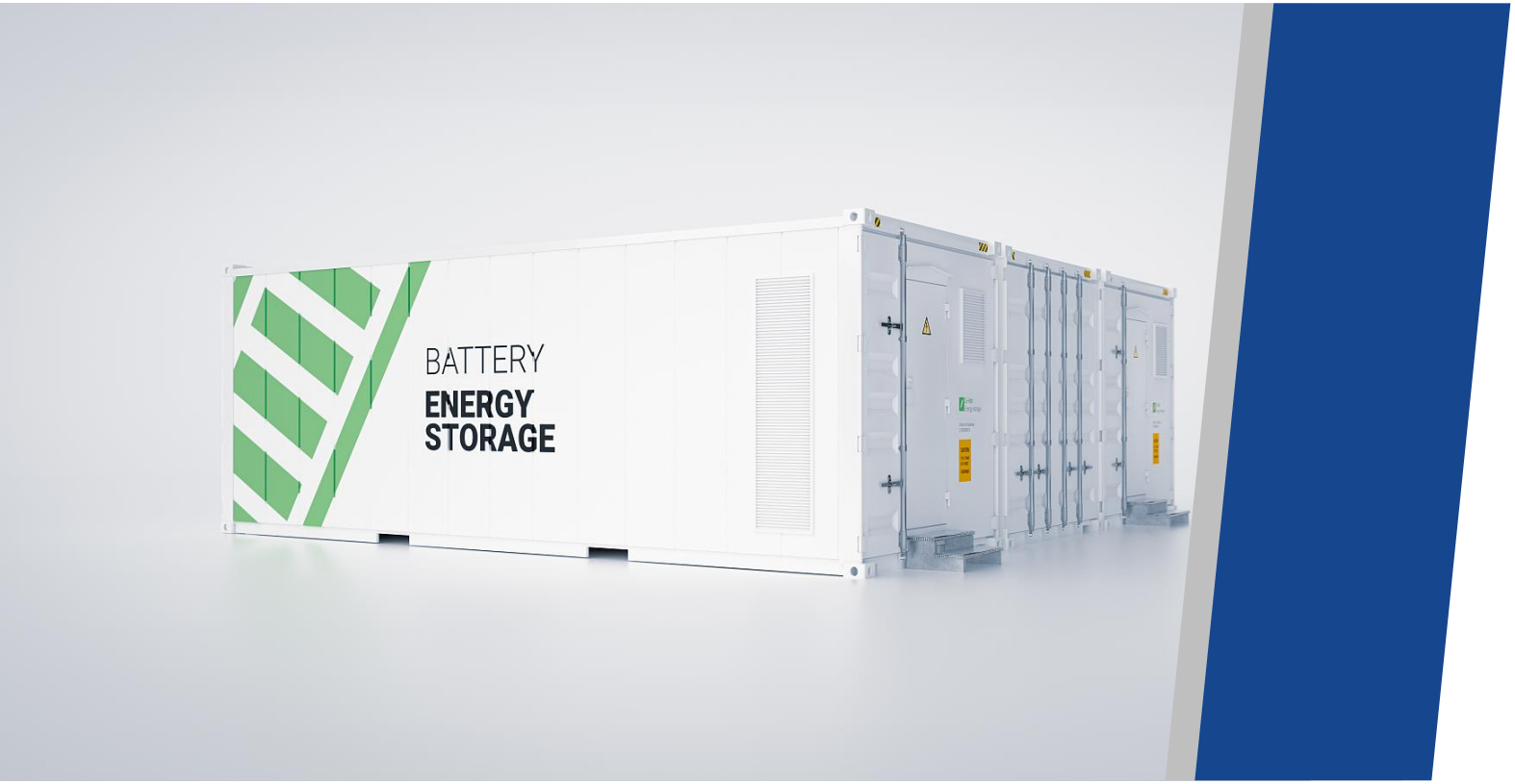
About US



Headquartered in Shijiazhuang,Hebei Ecube New Energy Technology Co., Ltd., with a registered capital of 100 million yuan, is a high-tech enterprise specializing in energy storage and lithium battery system integration. Relying on the technical team of the leading enterprises in the power electronics industry, Ecube has built a core technical team with more than ten years of experience in the development and application of lithium battery and power supply products, and independently developed the industry-leading battery management system with excellent security, stability and balance capabilities.

The products cover four business sectors: Industrial and commercial energy storage system, renewable integration, uninterrupted power lithium battery system and residential energy storage system. In recent two years, the project cases have spread to key overseas markets such as South Korea, Russia, the Netherlands, Germany, the Middle East, etc

Outstanding developers and suppliers of intelligent energy storage system.

Power Conversion System

Overview

The multi-functional bi-directional converter can realize the bi-directional conversion from DC to AC and from AC to DC. It can not only convert AC into DC to charge the battery, but also convert DC into AC to supply power to the load or feed back to the grid. The system adopts advanced digital control technology, which optimizes the control performance and improves the reliability of the system. It can realize seamless switching between grid-connected discharge, grid -connected charging and off grid operation modes. The system has a wide DC input range, 220V-900V,which can better meet the charging and discharging requirements of different battery combinations.

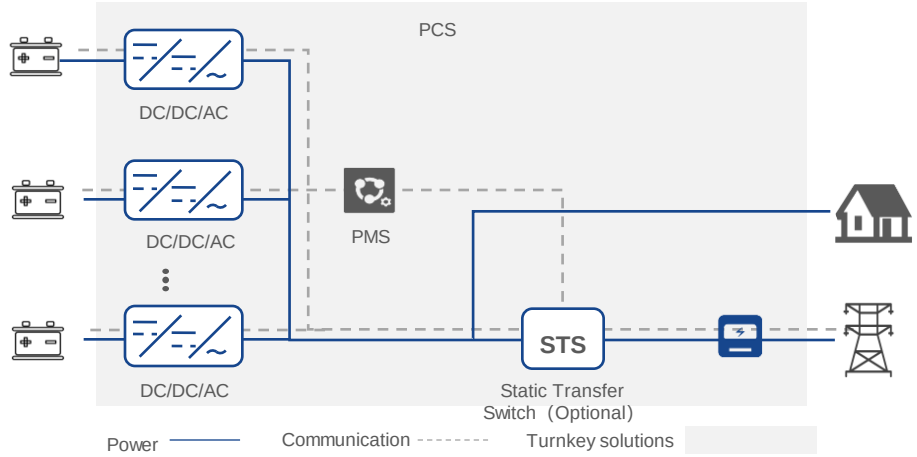
System configuration

AC/DC Module
Bidirectional AC / DC converter can realize the bidirectional conversion from DC to AC and AC to DC. It can not only convert AC to DC to charge battery, but also convert DC to AC to supply power to load or feed back to power grid.

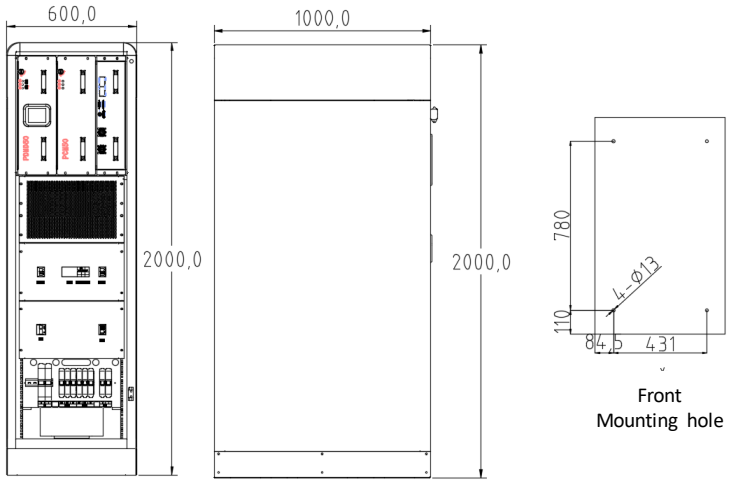
Static Transfer Switch (optional)
Under normal working condition, the static switch is closed. When the power supply is interrupted, the static switch is immediately disconnected. The system turns to off grid power supply, and the battery is discharged for the load.

Power Management System
System operation data monitoring, operation strategy management, historical data record, system status record, etc.

System topology



Dimension



Key product features and benefits

- Multiple working modes
- RS485、CAN、Ethernet communication modes;
- Functions of low voltage ride through and reactive power compensation;
- 100% unbalanced load capacity in off grid operation;
- Continuous 105% rated output power
- AC and DC dual input redundant power supply
- Modular design and flexible product
- High efficiency，high reliability
- Batterytechnology independence

Applications

Industrial and commercial demand management, peak shaving

Power quality improving, and backpower supply at user side

Peak and frequency regulation, smoothing new energy generation

Building microgrid system

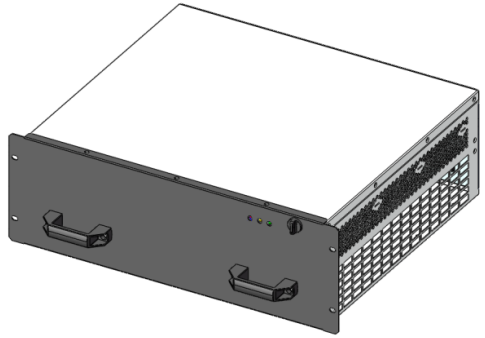
Parameters

Model		WIPS-50/50	WIPS-100/50
Battery interface parameters	Voltage range	DC220V-900V	
	Full ;oad voltage range	DC350V-DC900V	
	Max DC channel Qty	1	2
	Single channel maximum current	142A	
AC grid-connected parameters	Output line	3W+N+PE/3W+PE	
	Rated power	50KW	100KW
	Rated voltage	AC 380V/400V/415V	
	Rated Current	75A	151A
	Voltage range	-15%～+10%	
	Rated frequency	50Hz/60Hz	
	Frequency range	±2Hz	
	Power factor	1	
	Output harmonics	≤3%	
AC off-grid parameters	Output line	3W+N+PE/3W+PE	
	Rated power	50KW	100KW
	Rated voltage	AC 380V/400V/415V	
	Rated frequency	50Hz/60Hz	
	Rated Current	75A	151A
	Voltage accuracy	1%	
	Frequency accuracy	±0.2Hz	
	Output voltage harmonics	3%@ linear full load	
	Unbalanced load capacity	100%	
	Overload capacity	105-120%：running time≥10min；>120%：stop	
Environment	Working temperature	-20℃～55℃（>45℃derating）	
	Storage temperature	-40℃～70℃（No battries）	
	Relative humidity	0%RH～95%RH，No condensation	
	Working altitude	<45℃，2000m；2000m～4000m Derating	
	Noise	< 75dB	
Others	Comminication	CAN/RS485	
	Isolation	Transformer isolation optional	
	Protection	IP20	
	Cooling	Air cooling, intelligent fan regulation	
	Maximum efficiency	98.5%（no transformer）	
	Dimension W*D*H	600*800*2000	
	Weight	320kg	370kg

AC/DC/DC Module

Overview

Bidirectional AC / DC converter can realize the bidirectional conversion from DC to AC and AC to DC.By integrating a DC/DC, the module has a wider DC voltage range, which can cover 220-900VDC, and the AC side supports 380VAC input. Bidirectional AC / DC converter uses three-level design to ensure low noise, high operation efficiency and high voltage quality.



Key product features

- Standard modular, rack-mounted design, easy to install, easy to maintain
- The highest efficiency is 96.5%
- Wide range of input voltage, small temperature rise, high efficiency and stable output
- High performance in any climate
- Complete digital control, high performance
- Intelligent fan regulation, high reliability
- Perfect protection function, over temperature protection, short circuit protection, overload protection, input anti reverse protection
- Remote emergency shutdown (REPO)
- Multiple communication modes, CAN bus communication convenient for remote control

Parameters

Model		PCMZ50
Battery interface parameters	Voltage range	DC220V～DC900V
	Full load voltage range	DC350V-DC900V
	Rated power	50KW
	Single channel maximum current	142A
AC grid-connected parameters	Output line	3W+N+PE/3W+PE
	Rated power	50KW
	Rated voltage	AC 380V/400V/415V
	Rated Current	75A
	Voltage range	-15%～+10%
	Rated frequency	50Hz/60Hz
	Frequency range	±2Hz
	Power factor	1
	Output harmonics	≤3%
AC off-grid parameters	Output line	3W+N+PE/3W+PE
	Rated power	50KW
	Rated voltage	AC 380V/400V/415V
	Rated frequency	50Hz/60Hz
	Rated Current	75A
	Voltage accuracy	1%
	Frequency accuracy	±0.2Hz
	Output voltage harmonics	3%@ linear full load
	Unbalanced load capacity	100%
	Overload capacity	105-120%：running time≥10min；>120%：stop
Environment	Working temperature	-20℃～55℃（>45℃derating）
	Storage temperature	-40℃～70℃（No battries）
	Relative humidity	0%RH～95%RH，No condensation
	Working altitude	45℃，2000m；2000m～4000m Derating
	Noise	< 75dB
Others	Comminication	CAN/RS485
	Isolation	no
	Protection	IP20
	Cooling	Air cooling, intelligent fan regulation
	Maximum efficiency	96.5%
	Dimension W*D*H	560*530*177
	Weight	50kg

Static Transfer Switch

Overview

The static switch can realize fast switching within 10ms from on to off grid state. Under the normal working state, the static switch is closed, and when the mains power is interrupted, the static Transfer switch is immediately disconnected, and the system turns to off grid power supply, and the battery is discharged for the load. The static transfer switch is controlled by silicon controlled rectifier, which has the characteristics of fast action, long service life and strong reliability.

Key product features

- Modular design, suitable for the whole range of energy storage converters
- It can realize fast switching within 10ms between grid connected / off grid state, and effectively protect important loads such as servers
- Cooperating with EMS and PCS, it can realize unattended automatic operation of energy storage system
- Small size, high power

Parameters

Model	STSD100	STSD150	STSD300	STSD600	STSD1000
Rated power	100kW	150kW	300kW	600kW	1000kW
Rated grid voltage	AC 380V/400V/415V				
Input voltage range	-20%～+15%				
Output voltage range	-20%～+15%				
Rated current	151A	227A	454A	909A	1515A
Overload capacity	110%				
Rated frequency	50Hz/60Hz				
Frequency range	±5Hz				
Switching time	≤10ms				
Output line system	3W +PE				
Efficiency	99.50%				
Noise	< 75dB				
Installation					
Communication	CAN/RS485				
Cooling	Air cooling, intelligent fan regulation				
Protection	IP20				
Dimension w * D * H (mm)	560mm*530mm*133mm		560mm*530mm*177mm	560mm*530mm*352mm	560mm*530mm*575mm
Weight	20kg	25kg	30kg	50kg	90kg

DC/DC PV Management Module

Overview

The function of DC / DC module is to filter the power from photovoltaic panel, increase its voltage for bidirectional DC / AC converter or store energy for lithium battery. The low voltage terminal of DC-DC converter is connected with photovoltaic panel, and the high voltage terminal is connected with lithium battery. The module contains a photovoltaic controller, which extracts the maximum power from the photovoltaic array by using the maximum power point tracking technology to ensure the maximum utilization of solar energy.

Key product features

- Standard modular, rack design, easy to install, easy to maintain
- Photovoltaic panel has three input channels at most, which can improve the energy efficiency and stability of photovoltaic system
- Photovoltaic seamless access, completely replace photovoltaic inverter, make ESS system design simple and flexible

Parameters

	Model	PDMD50
Electrical parameters	Voltage range	DC220V～DC900V
	Full load voltage range	DC350V～DC900V
	Rated power	50KW
	Single channel maximum current	142A
	MPPT Qty	1~3
	Voltage stabilization accuracy	<1%
	Output ripple	<0.5%
	Overload capacity	105% load, long term operation
Environment	Working temperature	-20℃～55℃（>45℃derating）
	Storage temperature	-40℃～70℃（No battries）
	Relative humidity	0%RH～95%RH，No condensation
	Working altitude	<45℃，2000m；2000m～4000m Derating
	Noise	< 75dB
Others	Comminication	CAN/RS485
	Isolation	No
	Protection	IP20
	Cooling	Air cooling, intelligent fan regulation
	Maximum efficiency	96.5%
	Dimension W*D*H	560*530*133
	Weight	30kg