BEXIE CESC GROUP

Power Your Business with Mercury 233

105 kW · 233 kWh · Grid & Off-Grid · EMS + Cloud Platform Enabled

- CE Certified All-in-One ESS
- Liquid Cooling with 5°C uniformity
- Triple-Level Fire Protection
- On/Off-Grid Hybrid Operation, VPP Ready

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Silvota, 33192, Llanera, Asturias

Key Product Features

Safe and Efficient

- Efficient and intelligent thermal management design
- Hierarchical linkage protection
- Cabinet fire barrier, 1200°C * 2h

Economical and Reliable

- Highly integrated design, system efficiency up to 88%
- Adopt LFP long-life battery with a cycle life of 8000 cycles
- 30% lower energy consumption than air-cooling system

Smart and Friendly

- Full life-cycle health management via cloud platform
- Built-in EMS with multiple modes to increase revenue
- Supports remote upgrade and control

Flexible Layout

- All-in-one design, directly connected to low-voltage grid
- Adaptable to multiple application scenarios
- Easy installation and debugging

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Distribution Box

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This module delivers a unified and reliable power backbone for the energy storage system, ensuring rapid protection response and stable operation. Designed for seamless integration, it provides secure power routing, dedicated cooling support

Number	Label		Feature Description
1	Emergency stop Signa	+	Positive electrode of the emergency stop signal
		-	Negative electrode of the emergency stop signal
	High-voltage box	L	L line for power supply of high-voltage box
		N	N line for power supply of high-voltage box
	Lighting lamp	L	L line for power supply of lighting lamp
		N	N line for power supply of lighting lamp
	Dehumidifier	L	L line for power supply of dehumidifier
		N	N line for power supply of dehumidifier
	Fan	L	L line for fan 1
		N	N line for fan 1
2	PCS Power supply	+	PCS power supply 24V+
		-	PCS power supply 24V-
	Fan signal	DO1+	Fan control signal+
		DO1-	Fan control signal-
3	Liquid cooler	L	L line for power supply of liquid cooler
		N	N line for power supply of liquid cooler
		PE	Grounding wire of liquid cooler
4	Q1		AC grid connected circuit breaker
5	Under voltage coil		Air switch for power supply of under voltage coil
6	High-voltage box		Air switch for power supply of high-voltage box
7	Power supply of the internal cabinet		Air switch for power supply of auxiliary equipment in the cabinet
8	Liquid cooler		Air switch for power supply of liquid cooler
9	A		U phase
	B		V phase
	C		W phase
	N		N phase

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Key Features

- **Unified power distribution for PCS, liquid cooling, HV box, lighting, fans, and auxiliaries**
- **Fast protection via independent emergency-stop circuits and multi-level breakers**
- **Dedicated supply for the 5 kW liquid cooling system to maintain stable performance**
- **Clear JX1/JX2/JX3 segmentation for efficient installation and maintenance**

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Battery Pack Module

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This high-density, automotive-grade battery pack delivers strong power output with advanced thermal and pressure safety controls, ensuring stable and reliable operation in demanding conditions

Key Features

46.6 kWh / 280 Ah high-power capacity with 175 A charge/discharge performance

Cell-to-cell thermal containment with 144 g aerosol module and IP67 protection

Patented adaptive pressure and thermal management for extreme environments

Electro–gas–thermal SOX diagnostics with multi-layer safety warnings

Compact 1140×810×245 mm, 338 kg design with passive balancing for long-term reliability

Specifications of Battery Pack

Item	Specifications
Series or parallel connection mode	1P52S
Nominal voltage	166.4 V
Rated capacity	280 Ah
Rated energy	46.59 kWh (25 ± 2°C)
Discharge cut-off voltage	145.6 V
Charge cut-off voltage	187.2 V
Rated charge current	175 A
Rated discharge current	175 A
Equalization mode	Passive equalization
Protection grade	IP67
Insulation resistance	≥10 MΩ
Dimension	L1140*W810*H245mm, ± 10mm
Weight	338kg, ± 10kg

High-voltage Box

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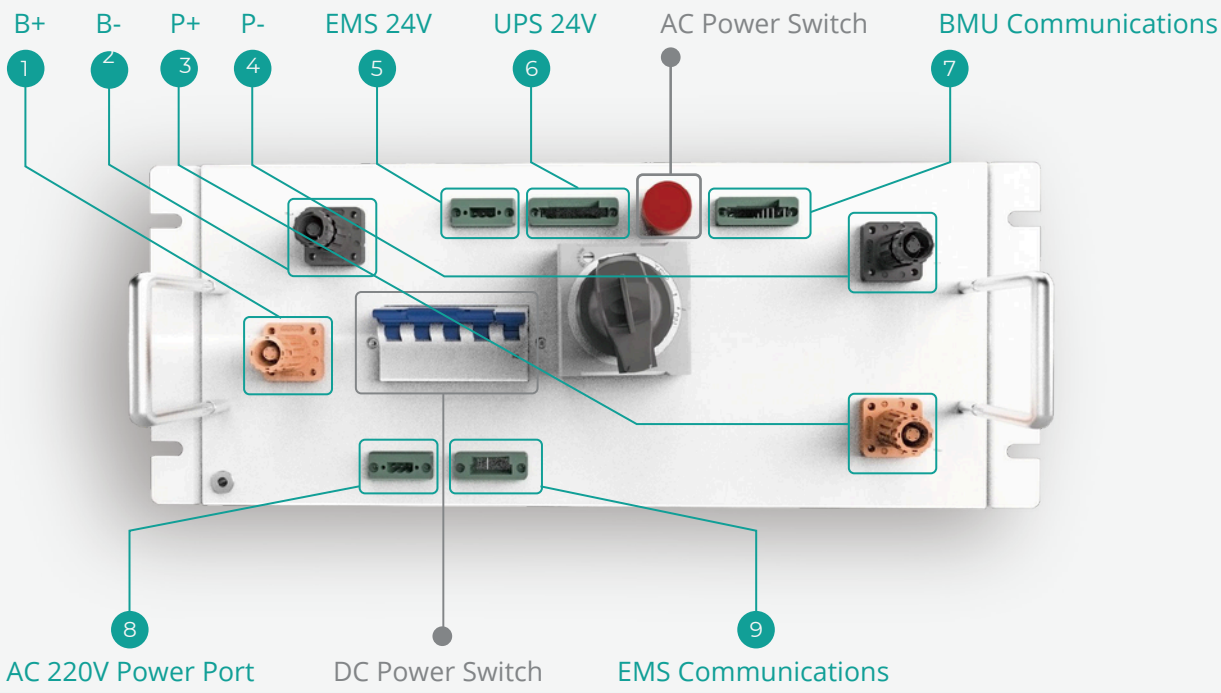
This centralized DC management box ensures stable and reliable high-voltage distribution for energy storage systems, supporting coordinated control and safe operation. Compact and modular, it enables easy integration and efficient system monitoring



Number	Label		Function Description
1	B+		Battery+
2	B-		Battery-
3	P+		PCS+
4	P-		PCS-
5	EMS Power	+	24V+
		-	24V-
6	RUN Lamp	-	24V-
		+	24V+
	UPS-24V	+	24V+
		-	24V-
	ET	+	24V+
		-	24V-
7	BMM Power	+	24V+
		-	24V-
	BMM COM	0H	CANH
		0L	CANL
		I01	SET ID
8	BMS AC Power	L	Power L
		N	Power N
		PE	Power PE
9	EMS COM	2H	CANH
		2L	CANL

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Key Features

- **High-voltage <1000 V and 250 A output for stable DC distribution**
- **Built-in CAN for fast, reliable BMS/PCS communication and monitoring**
- **IP20-rated, reinforced insulation for safe operation from –20 °C to 55 °C**
- **Compact 510×420×210 mm modular design for quick installation and maintenance**

Specifications of High-voltage Box

Item	Specifications
Maximum working voltage	<1000 V
Maximum working current	250 A
Working ambient temperature	-20℃~55℃
Communication mode	CAN communication
Protection grade	IP20
Size (depth* width* height)	510×420×210mm，±10mm (excluding fixing support)

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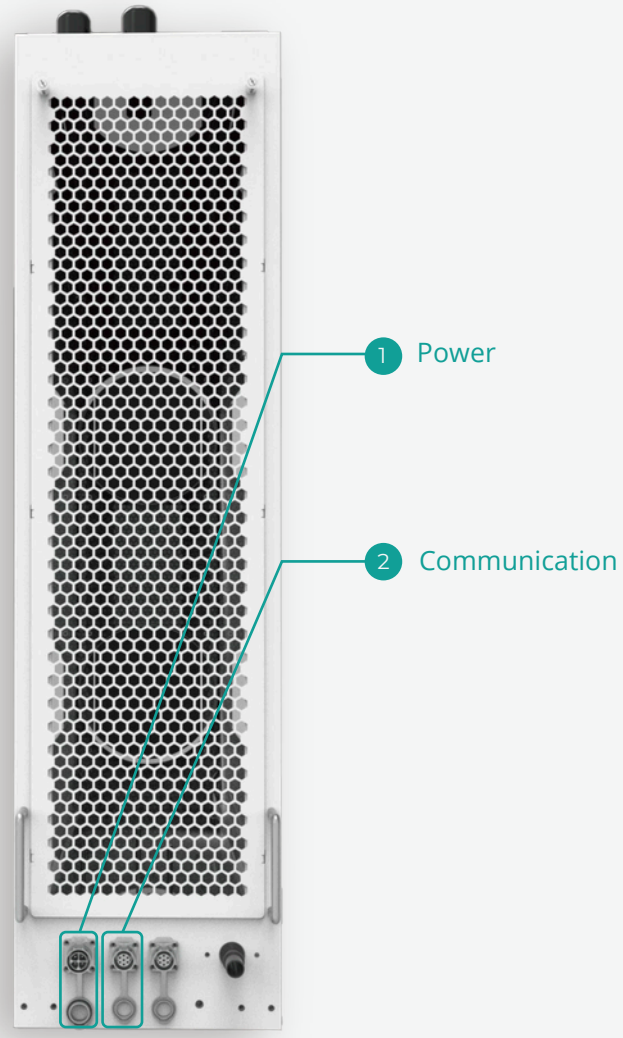
Liquid Cooler

High-efficiency thermal management for energy storage systems, ensuring stable operation and reliable performance under demanding conditions



Number	Label		Function Description
1	Power aviation plug	L	Power L
		N	Power N
		PE	Power PE
2	Communication aviation plug	A	485A
		B	485B

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Key Features

- **5 kW cooling / 2.5 kW heating for stable system performance**
- **Precise 15–35 °C temperature control with ±1 °C accuracy**
- **Robust IP55 design, operating from –30 °C to 50 °C with low noise ≤72 dB**
- **Integrated 300 W pump with 50 L/min flow and NW22 quick connectors for easy installation**
- **Supports ethylene glycol solutions ≤60% for versatile applications**

Specifications of Liquid Cooler

Item	Specifications
Rated voltage (V)	AC 220 V
Rated frequency (Hz)	50/60
Max power (kW)	3.6
Max current (A)	16.1
Rated refrigerating capacity (kW)	5.0（L35°C/W20°C）
Cooling power (kW)	1.8
Cooling current（A）	8.7
Added heating power (kW)	2.0
Heating power (kW)	2.5
Heating current（A）	11.6
Water supply pump power (W)	300
Rated flow (L/min)	50
Size of water inlet and outlet (mm)	NW22 quick connector, water inlet with the ball valve
Liquid temperature setting range (°C)	15～35
Liquid temperature control accuracy (°C)	±1
Ambient temperature (°C)	-30～50
Refrigerant (kg)	R454B
Noise (dB)	≤72
Protection grade	IP55
Net weight (kg)	≤100
Outer dimension (mm)	WxDxH: 275x1202x1074
Applicable cooling medium	Ethylene glycol aqueous solution with the concentration ≤60%

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Fire Protection System Module

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This fast-response fire protection module safeguards lithium iron phosphate batteries with rapid aerosol suppression and precise early detection, ensuring reliable safety under extreme conditions

Rapid fire suppression: deploys aerosol within 2 s, extinguishing fire in ≤15 s

Advanced detection: integrated temperature and smoke sensors for proactive monitoring

Wide operating range: –40 °C to 70 °C, <90% RH for reliable performance

Integrated alarm: sound-light alerts for immediate fire notification

Specifications of Fire Protection System

Item	Specifications
Operating voltage range	DC 9~33 V
Rated voltage	DC 24 V
Operating temperature	Main machine for the fire prevention and control device -40°C~55°C Detection module: -20°C~+70°C
Operating humidity	<90% RH
Fire extinguishing startup current	>0.5 A (50 ms)
Temperature measurement range	-40°C~125°C
Fire-extinguishing media	Aerosol
Fire extinguishing object	Lithium iron phosphate battery
Fire control and extinguishing mode	Electrical startup
Fire extinguishing device startup time	≤2 s
Fire extinguishing device spray time	≤15 s
Fire detection method	Composite temperature and smoke detection
Alarm function	Sound-light alarm

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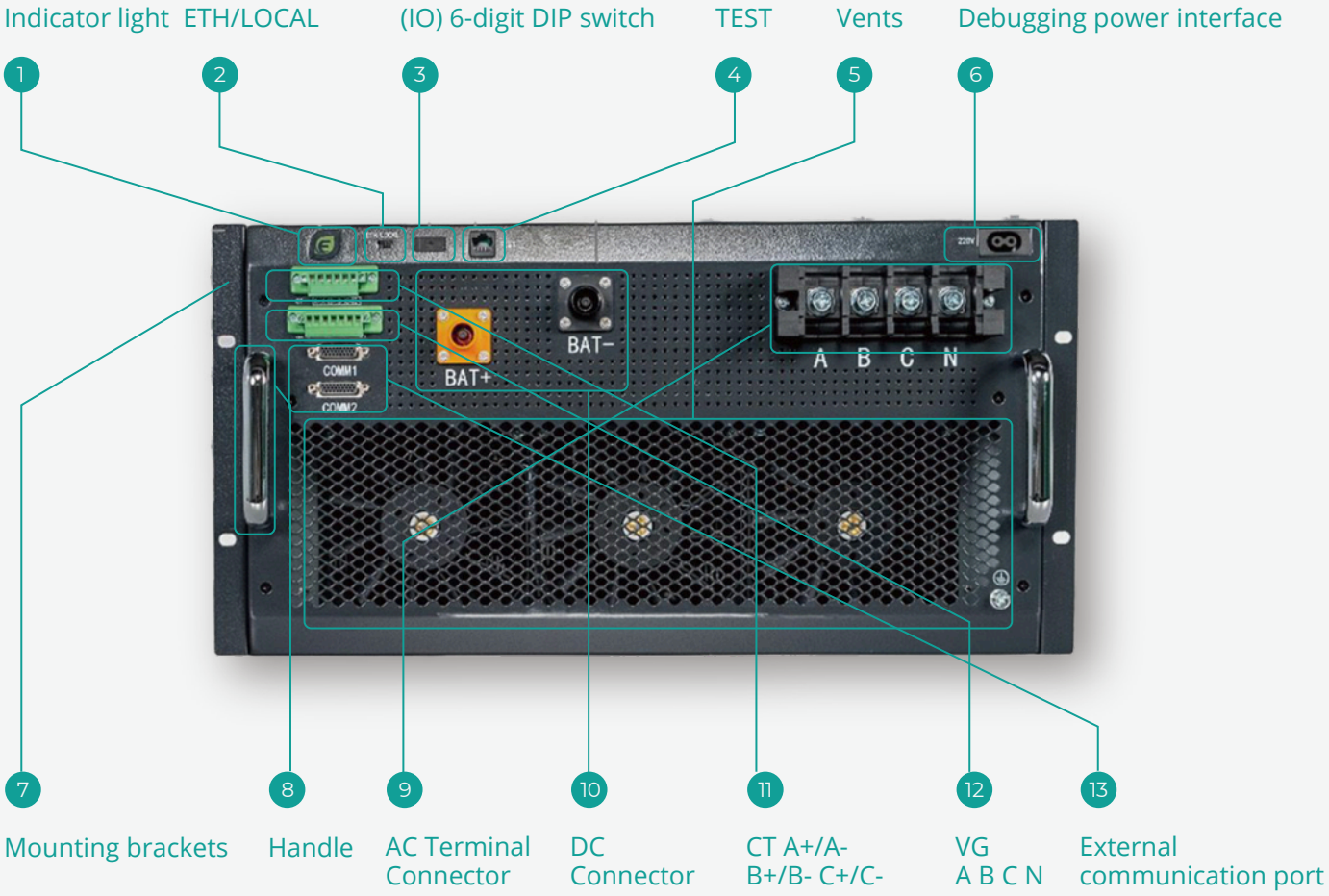
PCS Module

This bidirectional PCS enables intelligent charge and discharge control for energy storage systems, supporting stable and efficient smart-grid operation. It converts DC to AC for load or grid support and rectifies AC to DC for reliable battery charging



Number	Name/symbol	Function description
1	Indicator light	Operating output power is green for a long time; In standby (0kW operation), the green light blinks 0.5s quickly; When the system is not powered on and no fault occurs, the green light blinks slowly for 1s. If the device is faulty, the indicator blinks red.
2	ETH/LOCAL	Ethernet/Local Debugging Switch; Turn the switch to the right to "LOCAL" for local debugging; Turn the switch to the left to "ETH" for Ethernet (reserved).
3	(IO) 6-digit DIP switch	Bits 1-2 are for the connection of CAN communication matching resistors. Bits 3-6 are used for setting the module address (in binary) - with bit 6 being the least significant bit (from right to left).
4	TEST	Special interface for background debugging.
5	Vents	Duct vents, front inlet and rear outlet.
6	Debugging power interface	220V AC power input (for debugging)
7	Mounting brackets	Module left and right mounting brackets for attaching tocabinet mounting.
8	Handle	Module handle, used for carrying and assembly.
9	AC Terminal Connector	AC Terminal Wiring
10	DC Connector	DC terminal wiring (C models are common terminals)

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11	CT A+/A- B+/B- C+/C-	A/B/C three-phase current sampling interface (reserved)
12	VG A B C N	A/B/C/N grid voltage sampling interface (reserved)
13	External communication port	COMM1/COMM2 (26pin signal terminal)

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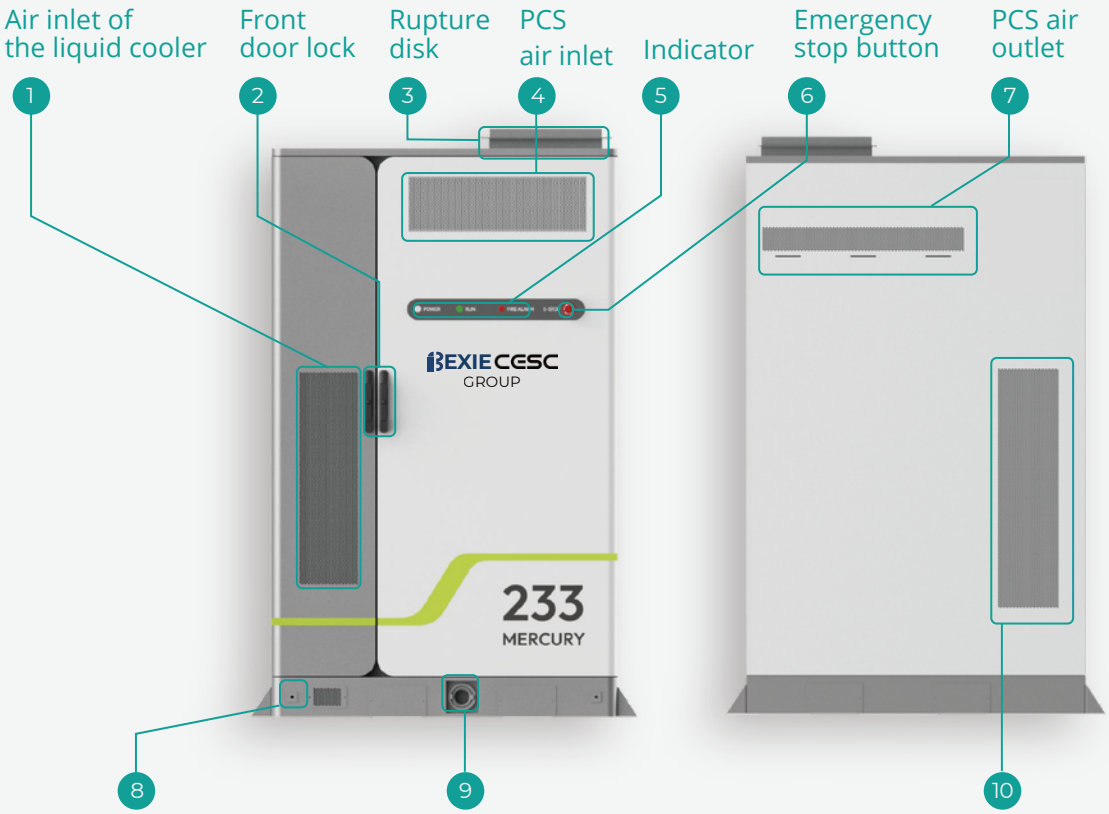
Key Features

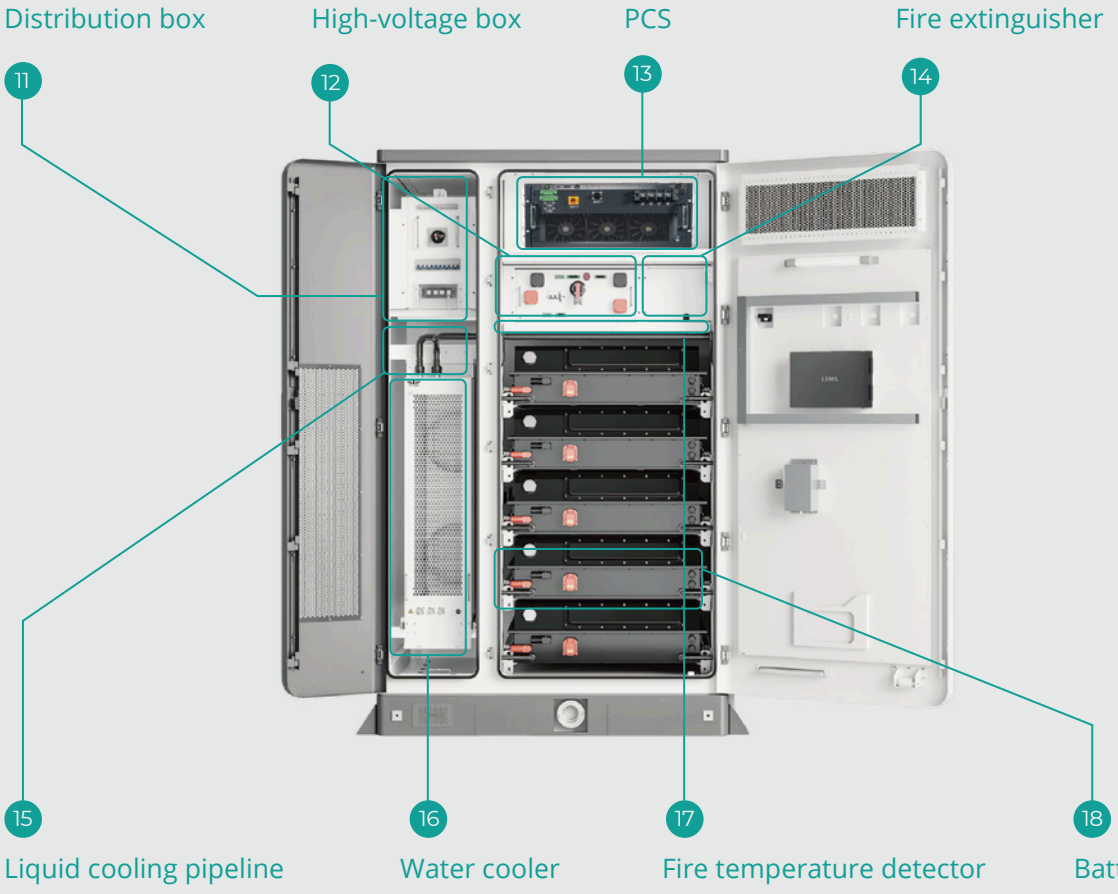
- **Advanced DSP control technology for precise and reliable system performance**
- **Utilizes the latest high-efficiency power conversion topology**
- **Robust anti-islanding protection for enhanced grid safety**
- **Clear LED status indicators for intuitive operation**

Specifications of PCS

Item	Specifications
DC side	
Operating voltage range	615 V ~ 950 V (3W+PE) /650 V ~ 950 V (3W+N+PE)
Full load voltage range	615 ~ 950 V (3W+PE) /680 V ~950 V (3W+N+PE)
Number of inputs	1
Maximum current	170 A
AC side (on-grid)	
Rated voltage	230 V/400 V
Voltage deviation	- 15% ~ + 15%
AC Output type	(3W+PE) three-phase three-wire/(3W+N+PE) three-phase four-wire
Rated output power	105 kW
Maximum output power	115.5 kW
Maximum current	167 A
Rated grid frequency	50 Hz/60 Hz
Maximum efficiency	98.5%
AC side (off-grid)	
Rated output voltage	230 V/400 V
AC voltage harmonics	< 3% (linear load)
Rated frequency	50 Hz/60 Hz
Rated output power	105 kW
Maximum apparent power	115.5 kVA
Maximum output current	167 A
Other parameters	
Altitude (m)	4000m (> 2000m derated use)
Operating temperature	-30°C ~ 55°C (> 45°C derated use)
Storage temperature	-45°C to 70°C
Humidity	0%RH to 95% RH, non-condensing
Communication interface	CAN/RS485
Inside dimensions (W × H × D)	Front-maintenance: 500 mm×270 mm×770 mm

Structure





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Specifications of Mercury 233 CE

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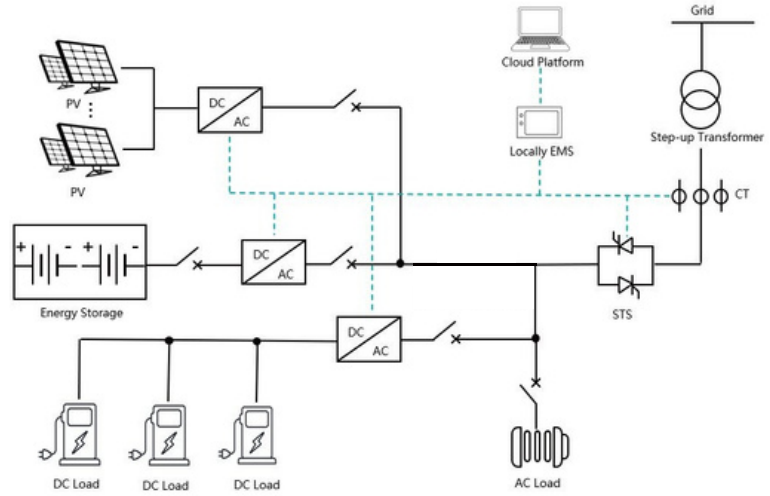
Items	Specification
PCS(AC side)	
Rated AC Power	105 kW
Maximum Current	167 A
Output	400 VAC
Overload Capability	110% of rated power
Battery(DC side)	
Chemistry	LFP
Nominal Capacity	280 Ah
Power Rate	0.5 P
Battery Pack Configuration	1P52S
Battery Rack Configuration	1P260S
System Rated Voltage	832 V
Operating Voltage Range	728-936 V
System	
Rated Energy	233 kWh
Cycle Life	8000 cycles @ (0.5P/0.5P, DOD100%, 70%EOL)
Cooling Way	liquid cooling
Fire Protection	PACK grade (aerosol) + Cluster grade (aerosol + water spray)
Communication Way	CAN/RS485/Ethernet
IP Rating	IP54 for cabinet,IP67 for pack
Weight & Dimension(W*D*H)	(1560.0 ± 5.0)*(1435.0 ± 5.0)*(2385.0 ± 5.0)mm
Certification	IEC62619 IEC62477 IEC63056 IEC61000

Applications & Benefits



Industrial & Commercial Sites

Distributed storage for factories and SMEs

Reduce electricity costs and optimize energy use

Microgrids & Grid Support

Peak shaving, load shifting, and ancillary services

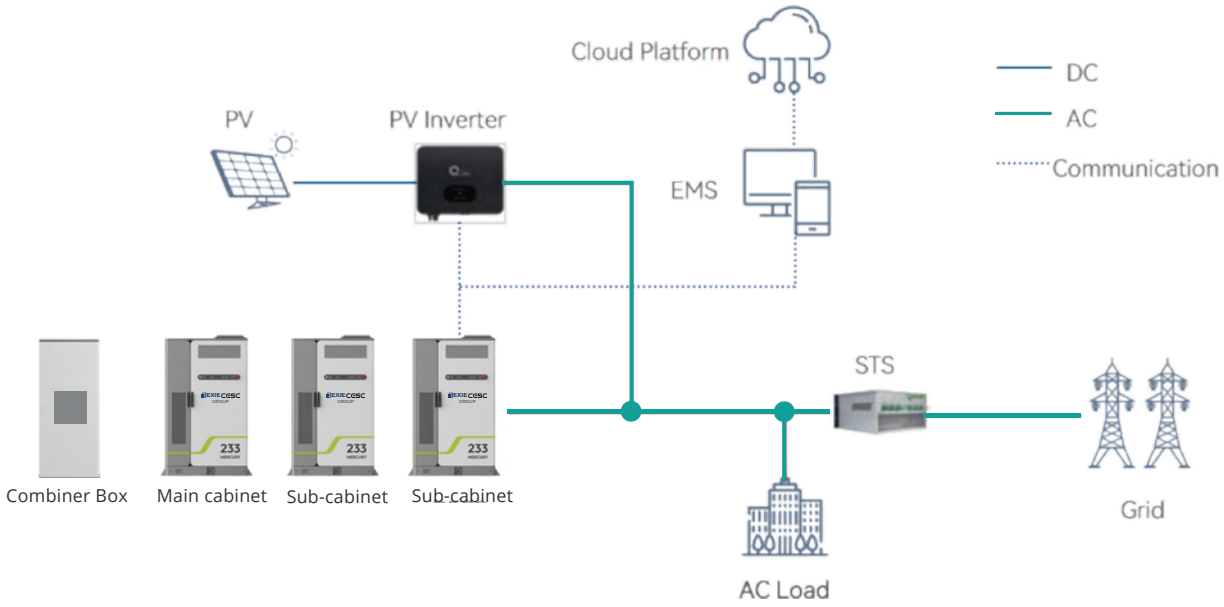
Ensure reliable power and generate extra revenue

Solar & EV Integration

Solar self-consumption and EV charging

Maximize renewable energy and support sustainable operations

Parallel Connection



CESC 233 Energy Storage – 20 Grid-Tied Units(2.5 MW / 4.66 MWh) or 6 Off-Grid Units(750 kW / 1.4 MWh)

Cloud-Edge-Device: Smart C&I Energy & Microgrid Operation

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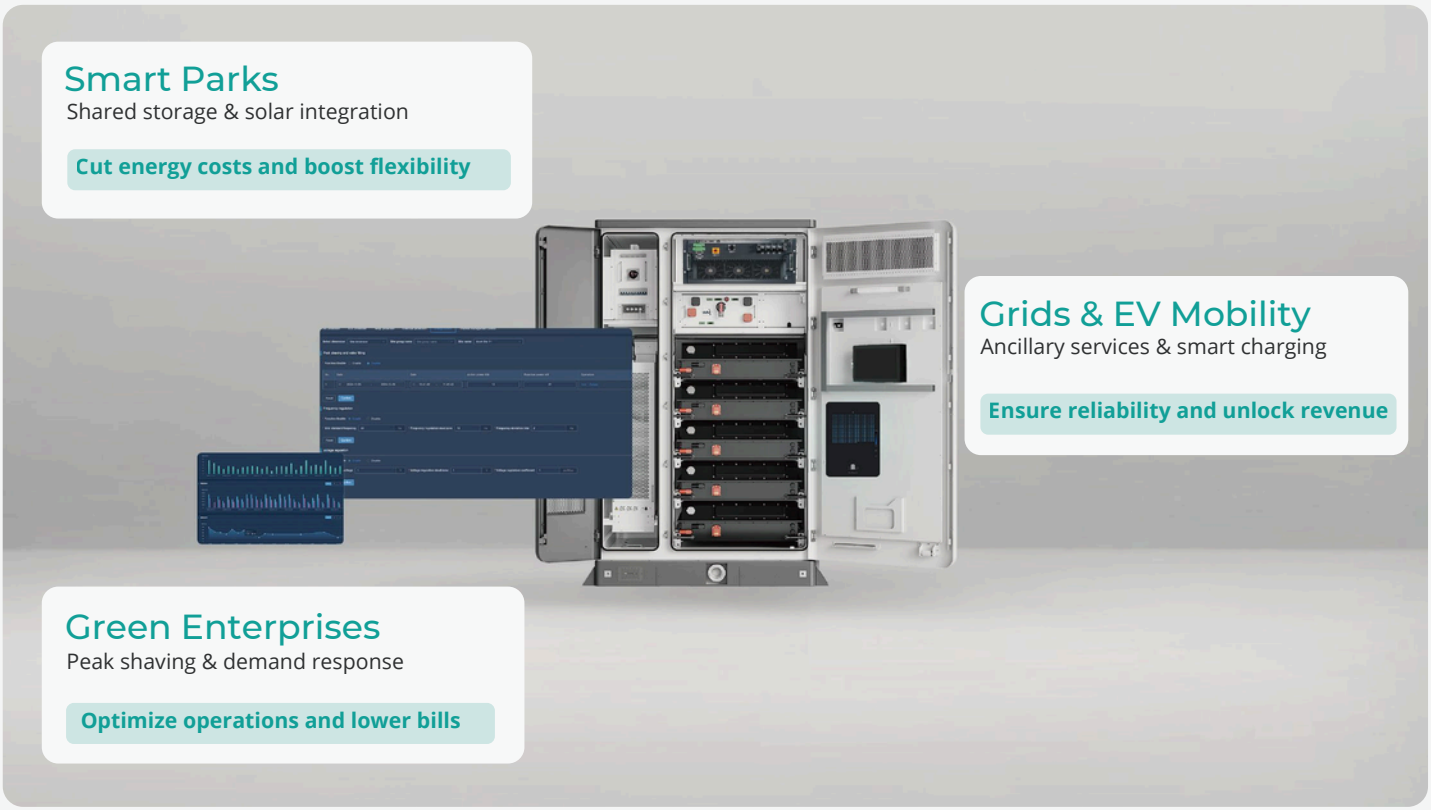

EMS & Cloud Platform

AI-driven Cloud Platform & EMS: Energy Coordination, Virtual Power Plant & Intelligent O&M

APP & Web

Manage your energy effortlessly

Cloud-edge Collaboration

Manage your energy effortlessly

Accelerated Connection

Optimized for speed and performance

Localized Data Centers

Ensure data sovereignty and compliance in EU & US

Cloud Platform

AI-powered energy analysis and control

AI Assistant

24/7 support, fast, efficient, in your language

233 + EMS + Cloud Platform

Scalable energy solutions powering a sustainable future.

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