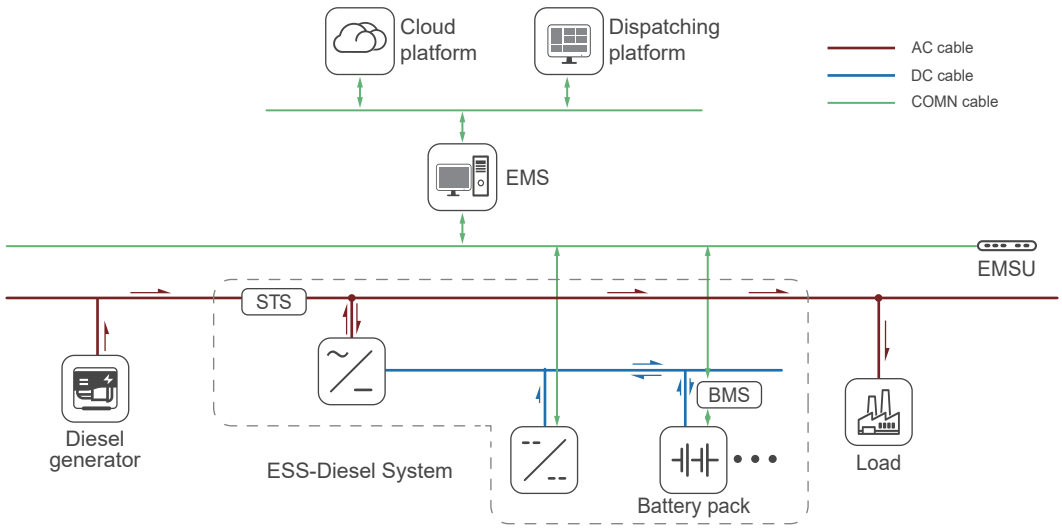
ESS-Diesel System

* Reduced fuel consumption * Load balancing * Stable power output

• Overview

Introducing energy storage systems into scenarios powered solely by generator sets (typically diesel or gas generators) can fundamentally change their operating mode, upgrading them from a single backup power source to an efficient, intelligent, and integrated power supply system. Generator sets operate most fuel-efficiently at high load level, while low loads result in high fuel consumption and accelerated wear. Energy storage systems can charge during periods of low load and discharge during peak loads, thus "smoothing" the load curve and allowing the generator sets to operate stably in the efficient and economical range for extended periods, significantly reducing fuel consumption and maintenance costs. Simultaneously, energy storage can handle instantaneous peak loads, reducing the peak power requirements of the generator sets and allowing for the selection of smaller, lower-cost units, thus reducing initial investment. Generator sets require several seconds to respond to sudden load increases (such as the start-up of large motors), which can lead to voltage drops. Energy storage systems can respond instantaneously, providing short-term high-power support to ensure stable voltage and frequency, preventing sensitive equipment from shutting down due to power quality issues. Furthermore, energy storage can serve as a backup power source in case of generator set failure, during maintenance, or for nighttime power needs.

• System Topology



Applicable Equipment:

Power Distribution Cabinet

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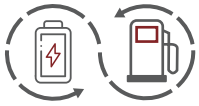
ESS-Diesel System

• Applications

Back Up



Diesel–Electric Hybrid

Emergency power supply

High-Power Mobile Power Supply

BESS-G

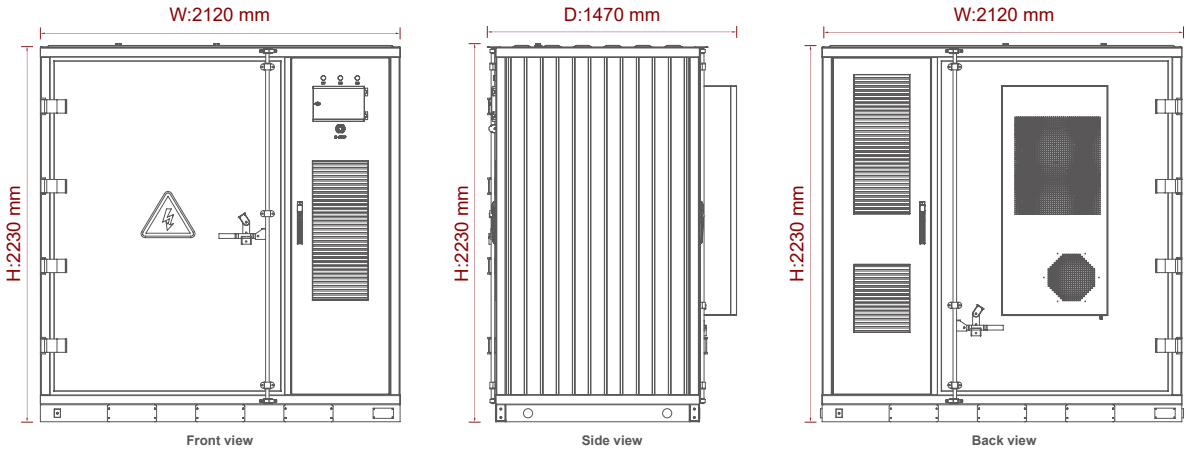
ESS-Diesel System

BESS-G 125-271

• Features

- Status Indication: Shows system status, including load, storage capacity, and power.
- Multi-Mode Operation: Supports multi-level priority control for reliable power from PV,energy storage,grid,diesel generators and loads.
- Battery Management: Integrated BMS for battery monitoring and protection.
- Remote Monitoring: Multi-end remote access via self-service platform and device-side protocols.
- Easy Installation: IP54 cabinet with flexible installation options.

• Product Dimensions



• Technical Parameter

BESS-G 125-271		
Battery Parameters		
Battery Module	Voltage	57.6V
	Capacity	314 Ah
	Energy	18 kWh
	Cooling method	Dry Self-Cooling
Battery Cluster	Rated voltage	864V
	Grouping method	1P 270 S
	Rated capacity	314 Ah
	Output voltage range	756V~950V
	Rated energy	271kWh
	Max continuous charging current	157 A
	Max continuous discharge current	157 A
Work Environment	Charging operation temperature range	0~45°C
	Working humidity	RH≤80%
	Storage humidity	RH≤80%
AC side		
PCS Parameter	Rated current	181A
	PCS overload capacity	x1.1 continuous;x1.25(30ms)
	PCS output power	125kW
	AC-side voltage of PCS	3P/N/PE, 230 V / 400 V
	Frequency	50Hz/60Hz
	Power factor	-1~1
	Battery side voltage	680V-950 V
Parallel	Parallel	Max 5 PCS
System Parameters		
System Parameters	Dimension(W*D*H)	2120*1470*2230mm
	Weight(kg)	3210kgs
	Display	7-inch Resistive Touch Screen
	Fire protection systems	Aerosol Fire Module
	Degree of protection	IP54
	Certification	CE;IEC62619;UN38.3
	Working temperaturerange	-30~60°C(> 45°C derating)
	Cooling	Dry Self-Cooling
	Relative humidity	5~95%(No Condensing)
	Highest altitude	4000m(>2000m derating)