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USER MANUAL

125 kW / 241 kWh

Operation and monitoring guide

125 kW	241 kWh	LFP
RATED INVERTER POWER	NOMINAL BATTERY ENERGY	AIR COOLING

READ BEFORE USE

This guide is based on the supplied technical information. It describes published specifications and general operating precautions. It does not provide a validated installation, commissioning or switching procedure. Obtain the instructions for the delivered unit before connecting or energising it.

The cabinet combines a 125 kW hybrid inverter, 15 battery modules, a high-voltage control box with BMS, thermal management and fire detection/suppression. It manages energy exchanges between PV, the grid or a generator, and the battery, according to the approved site configuration.



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SAFE OPERATION AND MONITORING

1. Personnel and access

Electrical switching and internal work are restricted to qualified, authorised personnel. Keep cabinet doors closed, access routes clear and ventilation openings unobstructed. Do not bypass protective devices. The precautions below are general guidance, not a manufacturer-specific switching procedure.

2. Before first use

The site operator must have the approved wiring drawings, commissioning acceptance, identified isolation points, start/stop and emergency procedures, interface instructions, alarm list and approved protection settings. Backup loads and grid/island operating arrangements must be validated for the installed equipment.

3. Starting and stopping

Use only the approved procedure for the installed unit. The supplied documents do not specify the breaker sequence, button names or waiting time before intervention. A control stop does not prove absence of voltage: PV, grid, battery and auxiliary circuits may remain energised.

4. Routine observation

- Inspect the exterior for damage, water ingress or blocked airflow, without opening the cabinet.
- Read the active mode, operating status and any alarms on the available supervision interface.
- Record battery SOC, voltage, current and temperatures; compare them with the approved operating limits.
- Report cooling faults, abnormal readings or lost communications to the site operator. Record the time and exact alarm message.

> Recommended SOC: 5-95 %. This is an operating recommendation, not a protection setting to enter in the BMS. Module charging temperature: 0 to +50 °C; discharging: -20 to +50 °C. Ambient temperature alone does not establish the battery temperature.

> Smoke, gas release or fire alarm: move away, restrict access and alert emergency services in accordance with the site emergency plan. Do not open the cabinet or restart it without technical clearance.

Key terms

SOC: state of charge, indicating the battery’s remaining charge as a percentage. BMS: battery management system, used to monitor battery conditions and manage protection. MPPT: maximum power point tracking for the photovoltaic input.

TECHNICAL REFERENCE

Battery and cabinet

Model designation	125 kW / 241 kWh
Battery chemistry	Lithium iron phosphate (LFP)
Battery modules	15 × 1P16S; 1P240S
Published module rating	51.2 V / 314 Ah / 16.07 kWh
Nominal battery voltage / capacity	768 V DC / 314 Ah
Battery voltage range	695-864 V DC
Rated battery current	157 A
Charge / discharge rate	0.5P
Recommended SOC	5-95 %
Cooling method	Air cooling
Ingress protection	IP54
Cabinet ambient temperature	-20 °C … +50 °C
Maximum altitude	3000 m
Cabinet size (W × D × H)	1651 × 1500 × 2267 mm
Net weight in technical document	2540 ±50 kg

AC input / output

Rated AC input / output active power	125 kW
Rated AC output current	189.9 A / 180.4 A
AC voltage / frequency	220/380 V; 230/400 V · 50/60 Hz
Grid / island transfer time	<10 ms

Photovoltaic input

Maximum PV module power	250 kW
Maximum PV input voltage	1000 V
MPPT voltage range	150-950 V
MPPT trackers / input strings	10 / 20

Rated energy is not guaranteed usable energy. Runtime depends on SOC, load, losses, auxiliary consumption, temperature and ageing. Inverter ratings do not establish the battery's continuous output capability.

Technical basis: 241 kWh technical specification, SDLPG023/TS-WI-TD-001, V1.00, 01/06/2026, 30 pages; supplied packing list.

FAULTS AND MAINTENANCE

OBSERVATION	GENERAL RESPONSE
Battery / inverter alarm	Record the exact message, time and readings. Apply the site fault procedure through authorised personnel. Do not force operation or repeatedly reset the fault.
Communication loss	Treat displayed data as unreliable. Notify the operator; do not assume the equipment is de-energised.
Cooling fault / condensation	Report the condition and apply the approved site procedure. Do not open the cabinet to cool it.
Fire indication	Smoke, gas release or fire alarm: move away, restrict access and alert emergency services in accordance with the site emergency plan. Do not open the cabinet or restart it without technical clearance.

Maintenance and extended shutdown

User checks are limited to external inspection and supervision readings. Electrical work, internal cleaning, cooling-system service and fire-system inspection require qualified personnel and the applicable isolation procedures. Obtain the maintenance intervals, isolation waiting time, storage SOC and recharge interval from the supplier before extended shutdown. These values are not specified in the supplied documents.

Data requiring confirmation

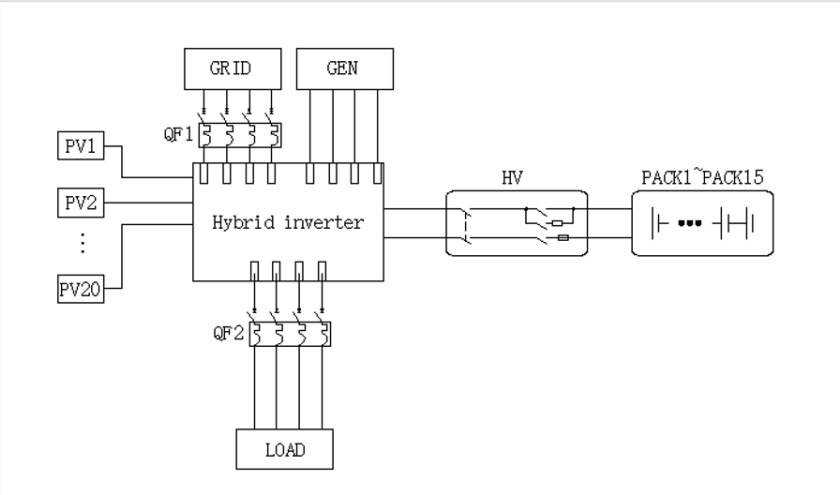
- PV voltage: the cabinet table gives 180-675 V, while the inverter table gives MPPT 150-950 V and maximum input 1000 V. Confirm the applicable cabinet limits before PV string design.
- Humidity: the source gives both ≤75% RH and ≤95% without condensation. Extinguishing agent: aerosol is stated in several sections, while some Chinese entries state perfluorohexanone. Confirm the delivered configuration.
- Weight: the technical document states 2540 ±50 kg; the supplied packing list states 2580 kg net and 2625 kg gross. These are presented separately.

Operating record

DATE / OPERATOR	STATUS / ALARM / READINGS	ACTION / FOLLOW-UP

Technical basis: 241 kWh technical specification, SDLPG023/TS-WI-TD-001, V1.00, 01/06/2026, 30 pages; supplied packing list.

SYSTEM DIAGRAM



Original system schematic, 241 kWh source, p. 11. Original labels retained; translations below.

ORIGINAL LABEL	MEANING
GRID / GEN / LOAD	Grid / generator / supplied loads
PV1…PV20	Photovoltaic string inputs
Hybrid inverter / HV	Hybrid inverter / high-voltage control box
PACK1…PACK15	Battery modules 1 to 15
QF1 / QF2	Circuit-breaker references shown in the schematic

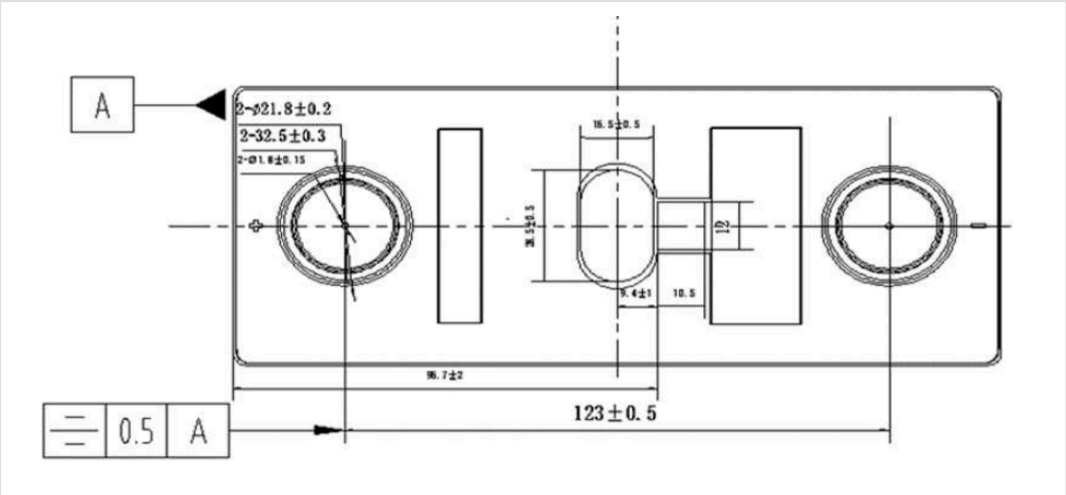
> This is a functional schematic, not an installation wiring drawing. Cable sizes, terminals, tightening torques, earthing details and the complete protection design are not specified. Use the approved installation drawings for the delivered unit.

Operating functions described in the source

Grid operation manages battery charging and discharging under the supervisory commands. Stand-alone operation provides three-phase AC to the connected loads. The source also describes a generator interface and black-start support from the auxiliary supply; their activation procedures must be obtained for the installed unit.

The 241 kWh source describes Ethernet / Modbus TCP, optional RS485 / Modbus RTU, and CAN/RS485 communication with the BMS. Addresses, register maps and access credentials are not provided; configuration is reserved for the integrator.

BATTERY COMPONENTS



Original dimensioned cell drawing, 314 Ah; source p. 11. Small dimensions are limited by the original image resolution.

Cell: LFP, 3.2 V, 314 Ah, 1004.8 Wh. Overall dimensions: 174.7 × 71.5 × 207.2 mm (source p. 12). Obtain the manufacturer's dimensioned drawing for mechanical design.



Original battery module illustration; source p. 13.

Module: 1P16S, 51.2 V, 314 Ah, 16.07 kWh. Dimensions: 738.5 × 460 × 222 mm; mass: 110 ± 3 kg. Fifteen series-connected modules form a 1P240S battery string (source pp. 14-15).

> These illustrations identify components; they are not assembly or replacement instructions. Internal battery work requires the dedicated service procedure and qualified personnel.

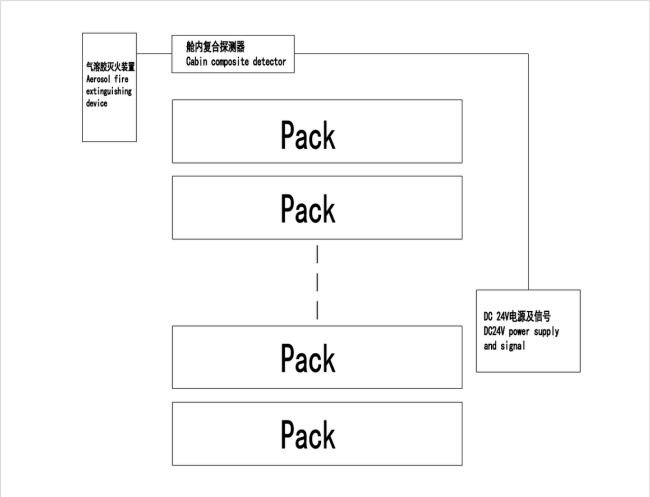
Shipping information

Supplied packing list: SBP-125kW 241kWh, one unit in one package.

Packed size (L × W × H)	1750 × 1600 × 2450 mm
Packing-list net / gross weight	2580 kg / 2625 kg
Package volume	6.860 m³

FIRE-PROTECTION ARCHITECTURE

The source describes automatic detection and suppression. Activation does not establish that the cabinet is safe to approach or restart. The installed extinguishing agent and service instructions must be confirmed.



Original fire-protection block diagram; 241 kWh source p. 29.

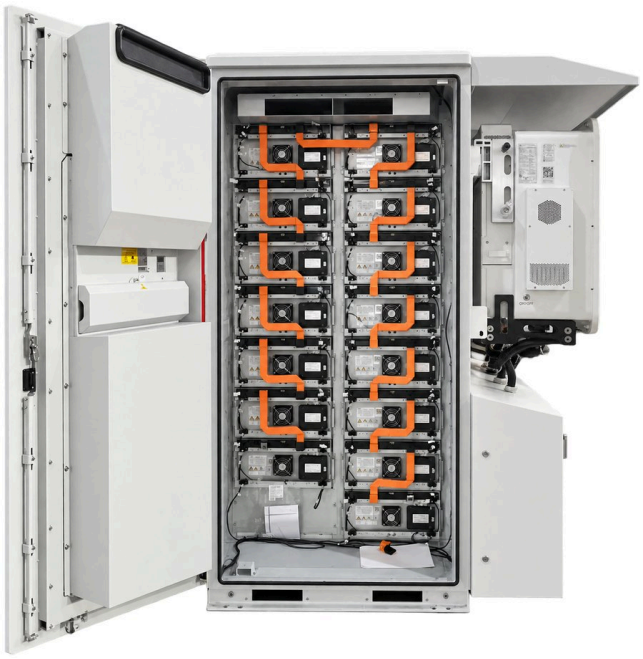
ORIGINAL LABEL	MEANING
Cabin composite detector	Combined CO, temperature and smoke detector
Aerosol fire extinguishing device	Aerosol extinguishing device, as labelled in the diagram
Pack	Battery module
DC24V power supply and signal	24 V DC supply and signals

Humidity: the source gives both ≤75% RH and ≤95% without condensation. Extinguishing agent: aerosol is stated in several sections, while some Chinese entries state perfluorohexanone. Confirm the delivered configuration.

Smoke, gas release or fire alarm: move away, restrict access and alert emergency services in accordance with the site emergency plan. Do not open the cabinet or restart it without technical clearance.

PRODUCT VIEWS

The delivered cabinet: interior layout, front view with the power conversion stage and side profile.



Interior: fifteen 51.2 V / 314 Ah battery modules and the high-voltage control box.



Front view with the power conversion stage mounted on the right-hand side.



Side profile of the cabinet.

Cabinet

1,651 × 1,500 × 2,267 mm
2,540 ±50 kg (without PCS)