



# LK 215kWh 125kW PowerHub



## DATASHEET

**On-Grid 3P HV IP55 | SS-215-125-LK-INVBA-ONG-00**

**On-Grid with MPPT 3P HV IP55 | SS-215-125-LK-INVBA-ONGM-00**

**Hybrid 3P HV IP55 | SS-215-125-LK-INVBA-HYB-00**

**Hybrid with MPPT 3P HV IP55 | SS-215-125-LK-INVBA-HYBM-00**

**Hybrid & Aux Inverter 3P HV IP55 | SS-215-125-LK-INVBA-HYBA-00**

**Hybrid MPPT & Aux Inverter 3P HV IP55 | SS-215-125-LK-INVBA-HYBMA-00**

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# 1. Product Introduction

## 1.1 Product Function

The LK PowerHub outdoor energy storage cabinet integrates:

- Energy storage batteries.
- Modular PCS (power conversion system).
- Energy management and monitoring system.
- Power distribution system.
- Environmental control.
- Fire protection system.

The modular PCS design allows for simple maintenance and future expansion, while the outdoor cabinet features front access servicing to reduce space requirements.

Key characteristics include:

- Safe and reliable operation.
- Rapid deployment.
- Low total cost of ownership.
- High efficiency and energy savings.
- Smart, automated management.

## 1.2 Operating Strategies

### Peak Shaving & Valley Filling

- During off-peak (valley) tariff periods, the PowerHub automatically charges and then idles when full.
- During peak tariff periods, it discharges to offset energy costs, improving economic returns and system efficiency.

### PV & Storage Integration

- Real-time monitoring of site load and PV generation.
- Prioritises self-generation and self-consumption.
- Surplus solar energy is stored for later use.
- When solar is insufficient, the battery supplies the shortfall.

### System Description

- Supports grid-connected and off-grid applications.
- Configurations can include isolated transformer and photovoltaic input.
- Final wiring may vary by project and should follow the drawings supplied with the product.



| Model                           | LK 215kWh 125kW PowerHub |              |        |             |               |                  |
|---------------------------------|--------------------------|--------------|--------|-------------|---------------|------------------|
|                                 | On-Grid                  | On-Grid+MPPT | Hyb    | Hyb+MPPT    | Hyb+Aux Inv   | Hyb+MPPT+Aux Inv |
| <b>Battery Parameters</b>       |                          |              |        |             |               |                  |
| Battery Rated Capacity          | 215kWh                   |              |        |             |               |                  |
| Battery Rated Voltage           | 768V                     |              |        |             |               |                  |
| Battery Voltage Range           | 672V~864V                |              |        |             |               |                  |
| Battery Type                    | LFP                      |              |        |             |               |                  |
| Battery Cell Capacity           | 1P*20S*12S               |              |        |             |               |                  |
| Cell Capacity                   | 280Ah                    |              |        |             |               |                  |
| Max. Charging/Discharging Power | 100kW                    |              |        |             |               |                  |
| Max. Charge/Discharge Current   | 140A                     |              |        |             |               |                  |
| <b>PV Parameters</b>            |                          |              |        |             |               |                  |
| Rated Power <sup>[1]</sup>      | -                        | 100kW        | -      | 100kW       | -             | 100kW            |
| PV Open-Circuit Voltage Range   | -                        | 250V~652V    | -      | 250V~652V   | -             | 250V~652V        |
| PV Max. Current <sup>[2]</sup>  | -                        | 160A or 80A  | -      | 160A or 80A | -             | 160A or 80A      |
| MPPT Quantity <sup>[3]</sup>    | -                        | 1 or 2       | -      | 1 or 2      | -             | 1 or 2           |
| <b>AC Parameters</b>            |                          |              |        |             |               |                  |
| Rated AC Power                  | 125kW                    |              |        |             |               |                  |
| Rated AC Current                | 180A                     |              |        |             |               |                  |
| Rated AC Voltage                | 400V, 3W+N+PE            |              |        |             |               |                  |
| Rated AC Frequency              | 50/60Hz                  |              |        |             |               |                  |
| THDi                            | <3 (Rated Power)         |              |        |             |               |                  |
| Power Factor                    | -1 Leading to +1 Lagging |              |        |             |               |                  |
| THDV                            | <3% (Linear Load)        |              |        |             |               |                  |
| <b>STS Parameters</b>           |                          |              |        |             |               |                  |
| Rated Power                     | -                        | -            | 300kW  |             |               |                  |
| Switching Time                  | -                        | -            | <10ms  |             |               |                  |
| <b>AUX PCS Parameters</b>       |                          |              |        |             |               |                  |
| Rated AC Power                  | -                        | -            | -      | -           | 50kW          |                  |
| Rated AC Current                | -                        | -            | -      | -           | 72A           |                  |
| Rated AC Voltage                | -                        | -            | -      | -           | 400V, 3W+N+PE |                  |
| Rated AC Frequency              | -                        | -            | -      | -           | 50/60Hz       |                  |
| <b>HVAC Parameters</b>          |                          |              |        |             |               |                  |
| Rated AC Power                  | 5kW                      |              |        |             |               |                  |
| <b>Transformer Parameters</b>   |                          |              |        |             |               |                  |
| Rated Power                     | -                        | -            | 125kVA |             |               |                  |
| Insulation Class                | -                        | -            | H      |             |               |                  |

| Model                         | LK 215kWh 125kW PowerHub  |              |     |          |                       |                  |
|-------------------------------|---|--------------|-----|----------|-----------------------|------------------|
|                               | On-Grid   | On-Grid+MPPT | Hyb | Hyb+MPPT | Hyb+Aux Inv           | Hyb+MPPT+Aux Inv |
| <b>Transformer Parameters</b> |   |              |     |          |                       |                  |
| Connection Group              | -   | -            |     |          | Dyn11                 |                  |
| Input/Output Voltage          | -   | -            |     |          | 400V                  |                  |
| Input/Output Current          | -   | -            |     |          | 180A                  |                  |
| Frequency                     | -   | -            |     |          | 50Hz                  |                  |
| Operating Temperature         | -   | -            |     |          | -40°C to +50°C        |                  |
| Efficiency                    | -   | -            |     |          | >97.5%                |                  |
| <b>General Parameters</b>     |   |              |     |          |                       |                  |
| Protection Rating             | IP55  |              |     |          |                       |                  |
| Protection Level              | I   |              |     |          |                       |                  |
| Isolation Mode                | -   | -            |     |          | Isolation Transformer |                  |
| Shutdown Self-Discharge       | <0.1% Rated Power (Without Transformer)   |              |     |          |                       |                  |
| Display                       | LCD   |              |     |          |                       |                  |
| Relative Humidity             | 0~95% (No Condensation)   |              |     |          |                       |                  |
| Noise                         | <78dB   |              |     |          |                       |                  |
| Ambient Temperature           | -25°C to +60°C (Derating Above 45°C)  |              |     |          |                       |                  |
| Cooling Mode                  | Intelligent Air-Cooling   |              |     |          |                       |                  |
| Communication Interface       | CAN/Ethernet/485  |              |     |          |                       |                  |
| Dimension (WxDxH)             | 1800x1350x2300mm  |              |     |          |                       |                  |
| Weight (Approx.)              | 2980kg  |              |     | 3450kg   |                       |                  |
| Certification Standards       | Approvals and certifications are subject to change without prior notice.<br>Please confirm the current status with Sunsynk before placing an order. |              |     |          |                       |                  |

[1] Rated Power - MPPT modules can be increased upon request.

[2] Max. PV Current - 1 MPPT=160A or 2 MPPT=80A each.

[3] MPPT Quantity - configurable to one or two connections upon request.

## Note

Battery expansion packs are available using the battery specified above.

## 1.6 Performance Features

### Inverter Efficiency Curve

- Both PowerHub-LK models achieve >98% peak efficiency at rated load.
- Efficiency remains above 96% from 20%–100% load, minimising energy losses.

### Battery Cycle Life

- Integrated LFP battery packs rated for 8,000 full cycles at 0.5C, equivalent to 10+ years of daily cycling.
- Capacity retention remains above 80% at end-of-life.

### Thermal Management

- Intelligent forced-air cooling with compartmentalised design.
- Independent fan-cooled sections reduce thermal stress and extend battery lifespan.

### Operating Modes

- On-Grid – peak shaving, load shifting, export.
- Off-Grid – stable 400 Vac three-phase supply for grid-isolated sites.
- Hybrid – seamless switchover between grid, solar, and battery for maximum resilience.

### Applications

- Commercial & industrial load management.
- Renewable energy integration (solar + storage).
- EV charging hubs.
- Data centres, schools, hospitals & critical infrastructure.
- Rural electrification & microgrids.

## 1.7 System Highlights

The LK PowerHub is designed for the real-world demands of today's energy landscape. Built on modular LK architecture, each cabinet integrates advanced power electronics, long-life lithium storage, and intelligent system control into a compact, turnkey solution.

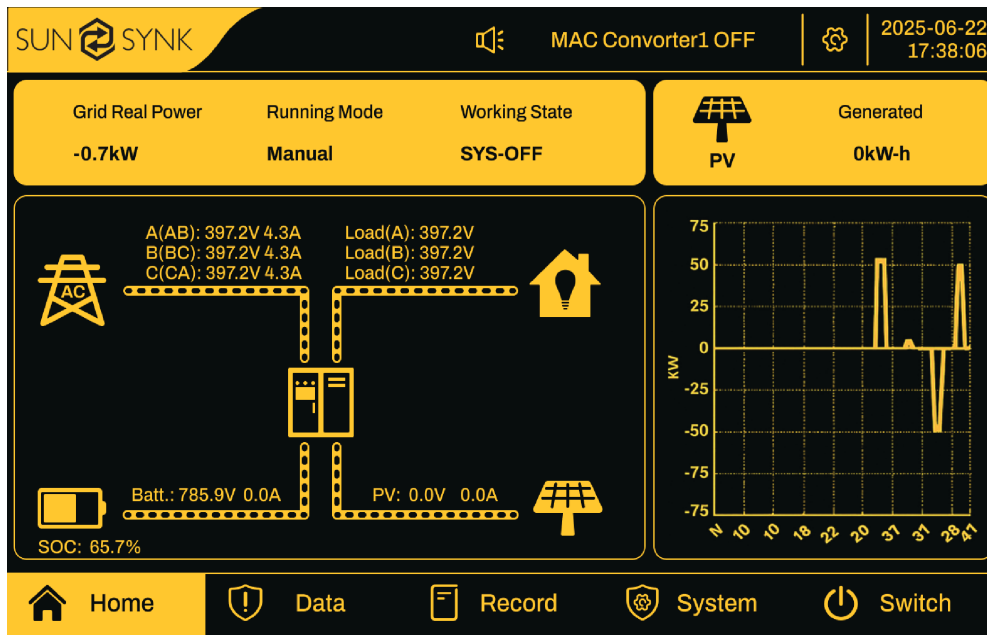
Unlike conventional hybrid inverters, the PowerHub offers true scalability, rapid deployment, and seamless integration with PV, grid, or standby generation.

Whether for peak shaving, backup resilience, or complete grid independence, PowerHub delivers unrivalled reliability and efficiency.

## 1.8 Key Benefits

- Turnkey Storage – Factory-assembled, tested, ready to deploy.
- Resilient Supply – Seamless transfer <10ms keeps critical loads powered.
- Maximise ROI – Peak-shaving, load shifting, grid trading create new revenue streams.
- Safe & Proven – Lithium iron phosphate chemistry for maximum safety and cycle life.
- Future-Ready – Integrates with Sunsynk Connect Pro for AI-driven optimisation and fleet management.
- Scalable Architecture – Expandable with modular or containerised systems.
- Global Standards – Built to IEC & CE compliance, with UL and regional options available.

## 1.9 Human-Machine Interface Introduction



The home page interface displays real-time power, voltage, current, generated energy, operation mode, working status and other information of the system.

## 1.10 Appearance Diagram





## Contact Us

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