USER MANUAL · ENGLISH

# Humsienk 51.2V 100Ah 5.12kWh 3U rack battery

LiFePO4 51.2 V 100 Ah for 48 V hybrid inverters: specifications, connector panel, wiring, parallel, care




This manual was prepared by the seller from the manufacturer's data (label, photos and video). Values on the battery label take precedence.

## 1. Technical specifications

| | |
|---|---|
| Type | LiFePO4 (lithium iron phosphate), 3U rack case for a 19-inch cabinet |
| Rated voltage / capacity | **51.2 V · 100 Ah · 5.12 kWh** (5120 Wh) |
| BMS | 100 A, active cell balancing, temperature sensors |
| Built-in breaker | 125 A DC breaker on the front panel |
| Comms | CAN, RS485, RS232; two RS485 ports for linking batteries; Bluetooth 5.0 (phone app) |
| Parallel connection | up to 16 batteries (up to 81.92 kWh), automatic master/slave detection (ADS, Auto Master-Slave ID) |
| Life | over 15 000 cycles at 60% depth of discharge |
| Size without handles | **44.0 × 50.0 × 13.3 cm** (width × depth × height) |
| Weight | **43.7 kg** |
| Indication | 6 charge-level segments (17 · 33 · 50 · 66 · 83 · 100%), ON/OFF, RUN, ALM LEDs |
| Other | MAIN CONTACT dry contact, RESET button, carry handles, rack mounting holes |

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## 2. Connector panel (front panel)




| № | Connector | What it is | What connects where |
|---|---|---|---|
| 1 | **P– (2 terminals)** | Negative power terminals | Negative cable to the inverter (BAT–); the second terminal is for paralleling batteries |
| 2 | **Breaker ON / OFF** | Built-in 125 A battery DC breaker | Switch it on first at start-up, off last; make all power connections with it OFF |
| 3 | **ON/OFF** | BMS power button | Turns the battery on after the breaker |
| 4 | **RESET** | BMS reset button | Only if the battery won't respond after a trip |
| 5 | **ADS** | Address DIP switch | One battery: factory position. Up to 16 in parallel: automatic master/slave detection (Auto Master-Slave ID) |
| 6 | **ON/OFF · RUN · ALM** | Power, run and alarm LEDs | RUN lit: battery working; ALM (red): alarm or protection |
| 7 | **SOC** | 6 charge LEDs | Each segment ≈17%: 17 · 33 · 50 · 66 · 83 · 100% |
| 8 | **MAIN CONTACT** | Dry contact (4 pins) | Signal for external control; pin functions are not described in the supplied materials |
| 9 | **RS485** | RJ45 comms port | Inverter link via RS485 |
| 10 | **CAN** | RJ45 comms port | Inverter link via CAN |
| 11 | **RS232** | Service port | For BMS setup; not connected in normal operation |
| 12 | **RS485 ×2** | Battery link ports | Comms cable between batteries in parallel |
| 13 | **P+ (2 terminals)** | Positive power terminals | Positive cable to the inverter (BAT+) via a DC fuse; second terminal for parallel |

The picture is a photo of the front panel; labels and functions are from the manufacturer's photos and video. RS485/CAN port pinouts are not given in the supplied materials.

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## 3. Installation

- In a 19-inch rack cabinet (4 mounting holes) or on a flat, firm surface; batteries can be stacked.
- Dry room, out of direct sun, away from heat sources and flammable materials. Best at 15–30 °C.
- Two people carry the battery (43.7 kg) by the handles.
- Keep power cables to the inverter as short as possible. Before connecting: battery breaker OFF, inverter off.

## 4. Connecting to the inverter

1. Battery breaker (2) OFF. DC breaker or fuse between battery and inverter off.
2. “Minus” cable from P− (1) to inverter BAT−; “plus” cable from P+ (13) via a DC fuse to inverter BAT+. Cable size and fuse rating are in the “Connection” guide for your inverter.
3. Check polarity with a multimeter. Reversed polarity damages the inverter.
4. Switch on the battery breaker (2), then the ON/OFF button (3). The RUN LED lights, SOC segments show the charge.
5. Switch on the inverter and apply the settings from the “Connection” guide for your inverter (battery type, voltages, charge currents).

The BMS comms protocol is not given in the manufacturer’s materials, so our guides set the inverter without a comms cable (type USE, by voltage). RS485 (9) or CAN (10) link can be enabled once the protocol is confirmed.

**Safety.** Make all connections with the battery breaker and inverter off. LiFePO4 short-circuit current is very high. If unsure, call an electrician.

## 5. Connecting several batteries in parallel

- Up to 16 batteries. All of the same model and at a similar charge level (charge each one separately before linking).
- Power cables of equal length: P+ to P+, P− to P− (second terminals on each battery). To the inverter, best take “+” from the first battery and “−” from the last.
- Comms cables between batteries go into the RS485 ×2 ports (12). ADS switch (5): automatic master/slave detection mode (Auto Master-Slave ID).
- Switch on all breakers first, then the ON/OFF buttons.

## 6. App and indication

The battery has Bluetooth 5.0: the phone app shows charge (SOC), voltage, current, temperature and cell status. The panel has 6 SOC segments: each ≈17% charge. ALM (red) lit: alarm or BMS protection tripped: reduce the load or charge the battery.

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## 7. Care and storage

- LiFePO4 is not charged below 0 °C.
- Storage: charge 50–70%, breaker OFF, top up every 3–6 months.
- Every 3 months check the power terminals are tight.
- Do not open the battery or short P+ and P−.



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