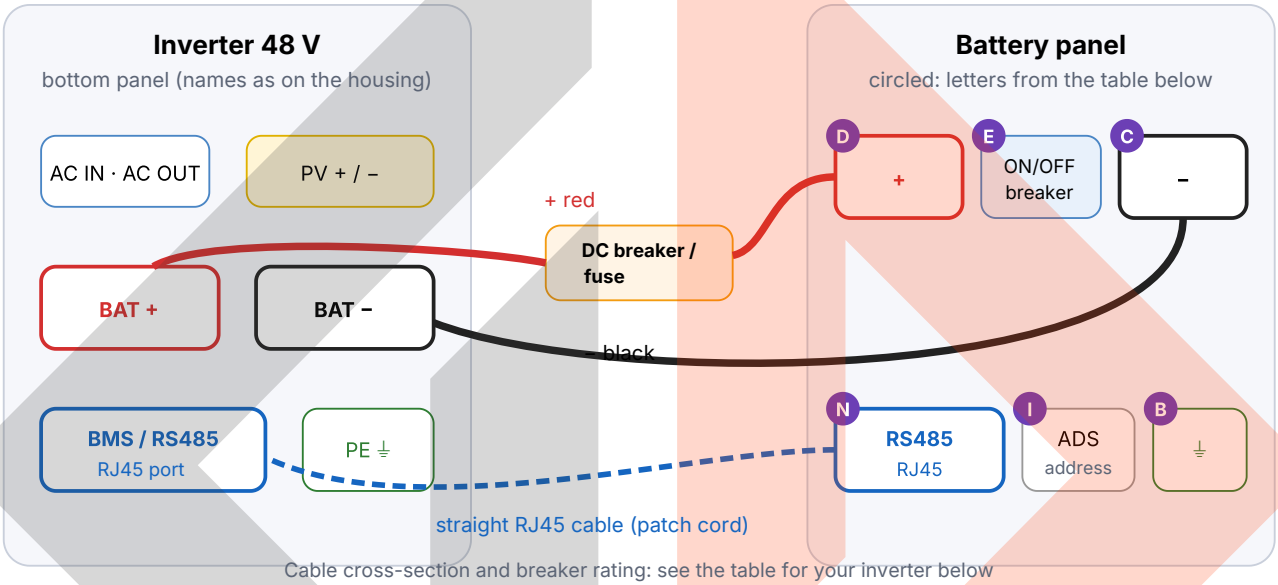
CONNECTING THE BATTERY TO THE INVERTER

DATOU BOSS 51.2V 100Ah 5.12kWh

3U rack: power cables, RS485 communication cable, protocol in the JBD BMS app and settings for each of our 48 V inverters



Wiring diagram



Cable cross-section and breaker rating: see the table for your inverter below

Battery

Model	**SP-DT-3U-48100, 3U rack (19″)**
Rated voltage	**51.2 V, LiFePO4**
Capacity / energy	**100 Ah / 5.12 kWh**
BMS	**100 A; breaker on the panel 125 A**
Communication	**RS485, CAN, Bluetooth (JBD BMS app)**
Dimensions	**483 × 521 × 110 mm**

What you will need

- Two battery–inverter power cables (cross-section in the table below), lugs for the terminals
- DC breaker or fuse on the positive cable (rating in the table)
- Straight RJ45 cable (patch cord), e.g. «Communication cable 1.3 m»
- Earth wire, multimeter, spanners for the terminals
- Phone with the JBD BMS app

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Connector panel: what we use



№	Label	What to connect
D	**+** positive terminals (two)	power «+» to the inverter BAT+ via the DC breaker / fuse
C	**–** negative terminals (two)	power «–» to the inverter BAT–
N	**RS485** communication with the inverter	straight RJ45 cable to the inverter's BMS / RS485 port
O	**CAN** CAN communication	not needed: our inverters work with the BMS over RS485
I	**ADS** DIP address switches	one battery: do not change the factory setting
E	**ON / OFF** 125 A breaker	switches the power output to the terminals
F	**ON/OFF** power button	switches on the BMS
B	⏚ earth	housing earth wire to the PE of the distribution board
Q	**RS485 IN / OUT** communication between batteries	only with several batteries

DATOU BOSS manufacturer's diagram with labels A–R. What each letter means is in the table.

Connection procedure

1. The inverter is off, the grid and panels are disconnected from it. The battery breaker (E) is in the **OFF** position, the DC breaker on the cable is off.
2. Address: **ADS switches** (I): do not change the factory setting for a single battery.
3. Connect the housing earth (B) to the PE of the distribution board.
4. Negative cable: battery terminal – (C) → inverter **BAT–**.
5. Positive cable via the DC breaker / fuse: terminal + (D) → inverter **BAT+**. Check the polarity with a multimeter before switching on.
6. Communication cable: battery port **RS485** (N) → inverter port **BMS / RS485**, with an ordinary straight RJ45 patch cord.
7. Check the protocol in the BMS (section below) and select the same one in the inverter (table below).

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8. Switch on the battery breaker (E), then the power button (F), then the DC breaker, then the inverter. After 10–30 s the inverter should show the battery charge in %.
9. Connect the grid, loads and solar panels according to the inverter manual.

Protocol in the JBD BMS app

1. Switch on the battery: 125 A breaker (E) to ON, then the power button (F).
2. Install the **JBD BMS** (App Store or Google Play) app, turn on Bluetooth, find the battery among nearby devices and connect.
3. Open **Parameter → Inverter Protocol.** The default is **Pylon,** which suits all our 48 V inverters. **Growatt** can be selected only for JSDsolar, POWGROW and EASUN.

4. After changing the protocol, switch the battery off and on again with the button (F).

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Settings for each of our 48 V inverters

Inverter	DC breaker · cable	Protocol in the BMS → what to set in the inverter (numbers from this inverter's menu)	Charging current
GSIKE 11kW 48V WiFi	250 A 50 mm² (or 2×35 mm²)	BMS: **Pylon → F2-01 = Li2** PYLON only: Li4 / LI4 of this inverter is its own protocol, not Growatt	F2-09: total, F2-10: from the grid
GSIKE 6.2kW 48V WiFi	200 A 35 mm²	BMS: **Pylon → 05 = Li2** PYLON only: Li4 / LI4 of this inverter is its own protocol, not Growatt	02: total, 11: from the grid
JSDsolar J6500HC 6.5kW 48V	100 A (fuse) 21 mm²	BMS: **Pylon → 17 = FEL, 44 = PYL** or BMS: Growatt → **17 = FEL, 44 = GRO**	07: total, 06: from the grid
POWGROW SMS-6.5KP 6500W 48V	150 A 35 mm²	BMS: **Pylon → 17 = FEL, 44 = PYL** or BMS: Growatt → **17 = FEL, 44 = GRO**	07: total, 06: from the grid
EASUN SMS-6.5KP 6.5kW 48V WiFi	150 A 35 mm²	BMS: **Pylon → 17 = FEL, 44 = PYL** or BMS: Growatt → **17 = FEL, 44 = GRO**	07: total, 06: from the grid
POWLAND SMS-6.5KP 6.5kW 48V WiFi	150 A 35 mm²	BMS: **Pylon → 17 = FEL, 44 = PYL** or BMS: Growatt → **17 = FEL, 44 = GRO**	07: total, 06: from the grid
POWLAND SMS-12KW 12kW 48V WiFi	300 A 70 mm² (or 2×35 mm²)	BMS: **Pylon → 17 = FEL, 44 = PYL** or BMS: Growatt → **17 = FEL, 44 = GRO**	07: total, 06: from the grid
EASUN SMT-6.2KW 48V	150 A 38 mm² (or 2×25 mm²)	BMS: **Pylon → 05 = PYL, 37 = ON** or BMS: Growatt → **05 = GrO, 37 = ON**	02: total, 11: from the grid

The first line is the protocol to set in the BMS and the inverter; «or» is another protocol if it is already selected in the BMS. The protocol in the BMS and in the inverter must match. Other settings (source priority, output 230 V / 50 Hz) per your inverter manual.

Charge current. This battery's BMS is 100 A. Set the total charge in the inverter up to 50 A (0.5C); with BMS communication the inverter also limits charging according to the BMS data.

No BMS communication (only voltage instead of percent (GSIKE 11kW: BMS communication warning on the screen; GSIKE 6.2kW: warning 19; JSDsolar J6500HC: warning 56; POWGROW SMS-6.5KP: warning 56; EASUN SMT-6.2KW: warning 61)): check that the cable is in the RS485 port (N), not CAN, RS232 or RS485 IN/OUT, and that the protocol in the BMS matches the inverter. After changing the protocol, restart the battery and the inverter.

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Several batteries in parallel

- Up to 15 batteries in parallel. Give each one its own unique address with the **ADS** (I) switches.

- The batteries are linked to each other with RJ45 cables via the **RS485 IN / RS485 OUT** (Q) ports.
- The communication cable to the inverter comes from one battery only, port **RS485** (N).
- The power cables from each battery to the common busbar are of equal length and cross-section.

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