CONNECTION AND SETUP GUIDE

Kit DATOU BOSS 3.3kW 24V + Cyccle Volt 25.6V 100Ah 2560Wh

Inverter DATOU BOSS 3.3kW 24V + battery Cyccle Volt 25.6V 100Ah 2560Wh



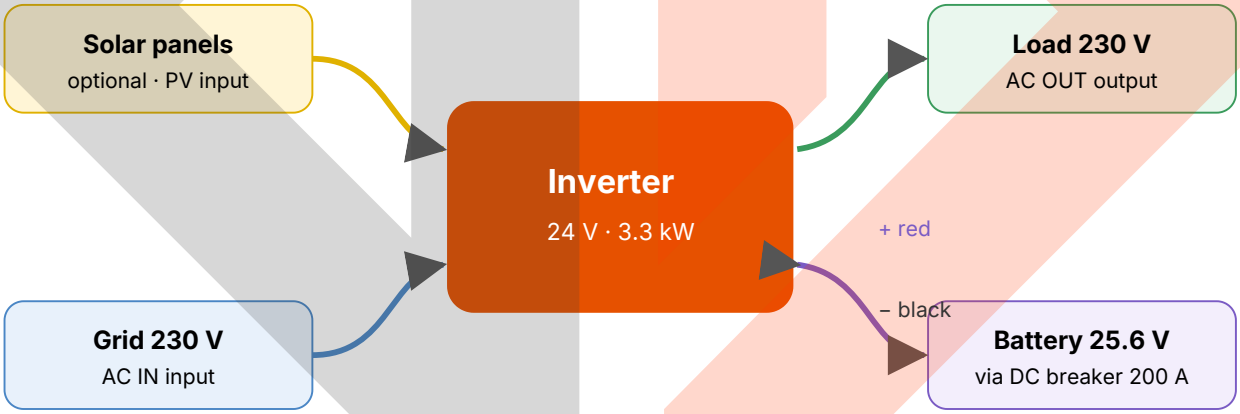
Kit contents

- **Inverter DATOU BOSS 3.3kW 24V**
- **Battery Cyccle Volt 25.6V 100Ah 2560Wh**

What else you will need

- Battery–inverter power cables 35 mm², M8 lugs
- DC breaker / fuse 200 A
- 32 A breaker, 4–6 mm² cable to the grid input
- Screwdriver, 13 mm wrench, multimeter

Wiring diagram



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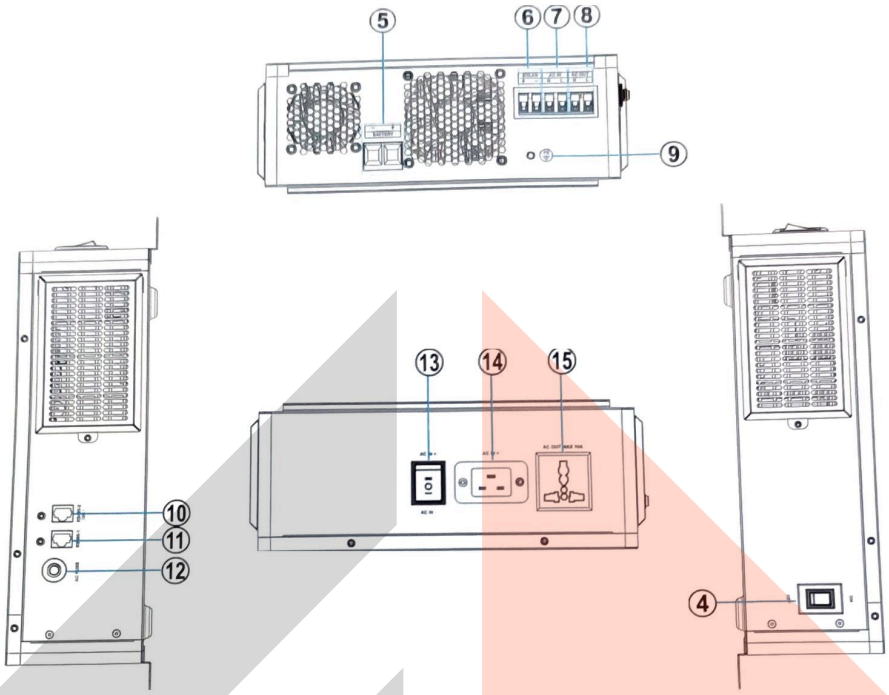
Inverter connectors: bottom panel, side walls and top



№	Connector	What it is	What connects where
4	**Switch**	Inverter power switch (on the side panel)	Switch on after connecting the battery and its DC breaker
5	**BATTERY**	Battery terminals 24 V (“+” and “–”)	35 mm² Cu cable via a 200– 250 A DC breaker; strip 6 mm, check the polarity
6	**SOLAR**	Solar panel input terminals (“+” and “–”)	4–6 mm² PV1-F cable via a DC breaker rated 500 V or more, 25 A; Voc up to 500 V, current up to 18 A
7	**AC IN (INPUT)**	Grid / generator input terminal block (L, N, PE)	4–6 mm² Cu cable via a separate 32 A AC breaker; PE first, strip 10 mm
8	**AC OUT (OUTPUT)**	Uninterruptible output terminal block 230 V (L, N, PE)	2.5–4 mm² Cu cable via a 20– 25 A AC breaker to the load panel; do not confuse with the input
9	**PE**	Case earthing bolt	Earth cable from 4–6 mm² Cu, connect before first switch-on
10	**RS485-2**	RJ45 port for communication with the lithium battery BMS	Battery communication cable; pinout: 1 — RS485- B, 2 — RS485-A, others not connected; protocol in A17, address in A18
11	**RS485-1**	RJ45 port for external communication / WiFi module	WiFi module (optional); pinout: 1 — RS485- B, 2 — RS485-A, 4 — +5 V, 8 — GND
12	**AC FUSE**	AC input fuse	The fuse rating is not given in the manual
13	**Input selector switch**	Grid input selection: INPUT terminal block or input socket (14)	Switch to the input the grid is connected to

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№	Connector	What it is	What connects where
14	**AC input socket**	Grid input via a cable with a plug	Alternative to the INPUT terminal block; selected with switch 13
15	**Output socket**	230 V output for a plug-in load	Plug-in load; total load power less than 3300 W

Items 1–3 (display, indicators, buttons) are on the front panel and are not shown here.

Key values for this kit

28.4 V
charge voltage (A1)

27.2 V
float voltage (A2)

23.5 V
cut-off (A3)

Pb
battery type (A17)

50 A
max. total charge current (A13)

30 A
grid charging (A12)

Connection procedure

1. Mount the inverter vertically on a non-combustible wall in a dry place. Leave at least 20 cm of free space above and below for cooling.
2. Make sure everything is switched off: inverter button OFF, battery switch/button OFF, DC breaker off, 230 V grid not connected.
3. Install a **200 A** DC breaker or fuse between the battery and the inverter in the positive (red) wire.
4. Connect the power cables (cross-section at least **35 mm²**, M8 lugs): **red** from the battery “+” to the inverter “+ BAT”, **black** from the battery “–” to “– BAT”. Check the polarity twice: swapping “+” and “–” is guaranteed to damage the inverter.
5. Tighten the terminal bolts firmly (without stripping the thread) and fit the protective caps. A loose contact heats up and melts the terminals.
6. Switch on the battery (button or switch on the case, if any), then the DC breaker.
7. Switch on the inverter with the ON button. The battery voltage should appear on the display. Enter the settings from the table below.
8. Grid input selector on top of the inverter: “**AC –”,** if the grid is wired to the INPUT terminal block at the bottom; “ **AC =”,** if the grid comes via a cable with a plug into the input socket on top. Switch only with the grid off, and never feed the grid to the terminal block and the socket at the same time.
9. Switch off the inverter and connect the 230 V grid to the **AC IN** terminals (L, N, PE) through a separate 32 A breaker.
10. Connect the load (your socket/distribution board) to the **AC OUT** terminals (L, N, PE). Never mix up AC IN and AC OUT: feeding grid power into the output damages the inverter.
11. If you have solar panels, connect them to the **PV** input last, observing polarity. The open-circuit voltage of the panels (Voc) rises in frosty weather: do not exceed the PV maximum on the inverter label.

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12. Switch on the inverter and check: 230 V at the output, the battery charges from the grid (charging icon on the display), the lights stay on when the grid is off.

Important: power from the battery. The battery BMS is usually rated for 100 A continuous current (the exact value is on the battery label). That is ≈ **2.3 kW** of continuous load from the battery. The inverter delivers its full 3.3 kW when grid or solar power is available. If the battery "trips" during a power cut, reduce the number of powerful appliances switched on at the same time.

Inverter settings

Entering the menu: hold the **ENTER** button for 2 seconds; the parameter name (A0, A1...) flashes. Use **UP / DOWN** to choose a parameter, short **ENTER,** change the value, short **ENTER.** Exit with saving: hold ENTER for more than 2 seconds; **ESC** exits without saving. Battery type and voltages and charge currents (A1–A7, A12, A13, A17) can only be changed while the inverter is running on the battery: switch off the grid breaker during setup.

№	Parameter	Value	Why
A17	Battery type	**Pb**	Without a BMS communication cable, the inverter works by voltage (A1–A7). Set this first.
A1	Charge voltage	**28.4 V**	Standard for LiFePO4 8S (25.6 V); maximum 28.8 V.
A2	Float voltage	**27.2 V**	The battery is not overcharged when it stays on the grid for a long time.
A6	Switch grid → battery (in PbG)	**26.4 V**	After recharging to this voltage, the inverter runs from the battery again.
A5	Return after shutdown	**26.0 V**	After a cut-off, the output resumes when the battery has recharged to this voltage.
A7	Switch battery → grid (in PbG)	**24.5 V**	When discharged to this voltage, the load switches to the grid.
A4	Low voltage alarm	**24.0 V**	Warning that the battery is almost empty.
A3	Low voltage shutdown	**23.5 V**	Above the BMS protection: the batteries do not "fall asleep".
A0	Output priority	**Grd** (no panels) or **PbG** (with panels)	Grd: from the grid, battery kept full for power cuts. PbG: solar and battery, the grid when the battery has dropped to A7.
A10	Charging priority	**SNU** (solar + grid)	Charging from both solar and grid. OSO: solar only.
A12	Grid charging current	**30 A**	Moderate grid charging; no higher than A13.

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A13	Maximum charging current (total)	**50 A**	Solar + grid together, ≈0.5C for 100Ah. Do not set more.
A14	Grid voltage range	**UPS** (grid) / **APL** (generator)	UPS: fast switchover. APL: generator or weak grid.
A15	Operating mode	**dIS** (off-grid)	No export to the grid.
A24	Restart after low battery voltage	**bRE**	The inverter resumes operation by itself after recharging.
A8 / A9	Output frequency / voltage	**50 Hz / 230 V**	Standard for Ukraine and Europe.

Parameters A0–A30 as in the DATOU BOSS DT-2433M menu according to the manufacturer's manual. Enter the voltages in the order A1 → A2 → A6 → A5 → A7 → A4 → A3: A1 > A2 > A6 > A5 > A7 ≥ A4 > A3 must hold, otherwise the setting will not be saved and code 42 will appear. If code 42 is already shown, reset to factory settings (A30 = rES) and enter the table again, starting with A17. After entering the settings, switch the inverter off and on again.

Which mode to choose

- **Backup during power cuts only (no panels):** A0 = Grd, A10 = SNU. The inverter runs from the grid and the battery is always full; when the power goes out it switches to the battery automatically.
- **You have solar panels and want to save:** A0 = PbG, A10 = SNU (or OSO — solar only). Solar power by day, battery at night, the grid only when the battery has dropped to 24.5 V.
- **Running on a generator:** A14 = APL, A12 = 30 A or less, so as not to overload the generator.

How long it runs on battery

Load	Example	Runtime
100 W	router, lights, chargers	**≈ 20.7 h**
200 W	fridge + lights	**≈ 10.4 h**
300 W	fridge + lights + TV	**≈ 6.9 h**
500 W	fridge, laptop, pump	**≈ 4.1 h**
1000 W	boiler, kettle briefly, several appliances	**≈ 2.1 h**
2000 W	air conditioner, water heater, electric stove	**≈ 1.0 h**

Approximate: 90% of battery capacity and inverter efficiency ≈90%. A fridge runs in cycles, so the real runtime is longer.

Check after start-up

- Battery voltage on the display: ≈ 27.2–28.4 V when full, ≈ 24.5 V when discharged.
- Switch off the grid breaker: the load must keep running without interruption.
- After 10–15 min of operation, touch the terminals and cables: they must not be hot. If they heat up, a connection is loose or the cable is too thin.

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- A battery below 23.2 V may have gone into BMS protection: charge it from the grid through the inverter.

Safety. Make all connections only with the battery, inverter and grid switched off. Do not short-circuit the battery terminals: the short-circuit current of LiFePO4 is very high. Do not install the inverter in a bathroom, outdoors in the rain or near flammable materials. If in doubt, contact an electrician.

Shutdown and maintenance

- Switch off in reverse order: load → grid → panels → inverter → DC breaker → battery.

- Every 3 months, check that the terminals are tight and the ventilation openings are clean.
- If you do not use the kit for a long time, charge the battery to 50–70% and switch it off.

Bluetooth: app and connection

The battery has built-in Bluetooth. On the phone you can see the charge level, voltage, current, temperature and BMS protection status. The app is called **XiaoXiangElectric (** icon: a white elephant on a light blue background). Both QR codes are on the white sticker on the side of the battery. Bluetooth works only with a phone: the battery does not exchange data with the inverter, so the battery type in the inverter remains **USE.**

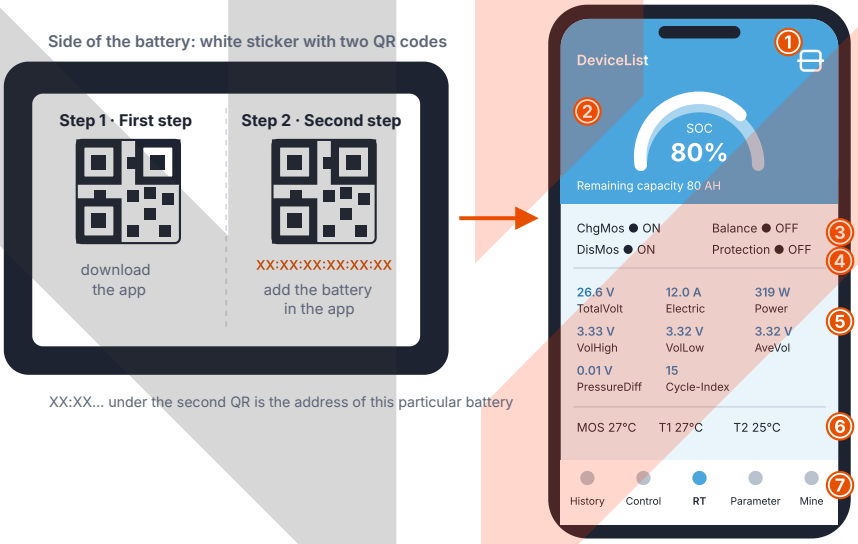

Figure for reference: the numbers on the screen are an example.

1. Scan the **first QR code (“** First step”) on the sticker with your phone camera. The XiaoXiangElectric app page will open (on iPhone, in the App Store). Install it. Install exactly this app, not ones with similar names.
2. Turn on Bluetooth on the phone. On first launch, allow the app access to Bluetooth (on Android also to “Nearby devices” or location: without this the phone cannot see the battery).
3. Go up to the battery with the phone, within a few metres.

4. On the app's main screen, tap the scan icon in the top right corner ① and point the camera at the **second QR code** ("Second step"). The app will add this battery and connect to it.
6. If there are several batteries, add each one with its own second QR code. The battery address is printed under it (six pairs of characters separated by colons): it makes the batteries easy to tell apart in the list.
5. After connecting, the line "Current Connected" with the battery name appears at the top, and its data below (tab **RT).**

What the app shows

② "SOC" — charge level in percent; "Remaining capacity" — how many amp-hours are left. ③ "ChgMos" and "DisMos" — charge and discharge allowed (ON). OFF means the BMS has switched off charging or discharging. ④ "Balance" ON — the BMS is balancing the cells right now. "Protection" ON — a BMS protection has tripped (overcharge, deep discharge, high current or temperature).

⑤ "TotalVolt" — battery voltage; "Electric" — current; "Power" — power; "VolHigh", "VolLow", "AveVol" — highest, lowest and average cell voltage; "PressureDiff" — voltage difference between cells; "Cycle-Index" — number of cycles. ⑥ "MOS", "T1", "T2" — temperature of the BMS power switches and of the sensors inside the battery. ⑦ Tabs: **History —** history, **Control —** control, **RT —** real-time data, **Parameter —** BMS parameters, **Mine —** app settings.

In the **Control** tab, the "Charge Switch" turns battery charging on and off: keep it **ON,** otherwise the inverter will not charge the battery. "ClearWarning" resets warnings. Do not change "AutoBalance", "Current calibration", "Reset capacity" or the **Parameter** tab unless necessary: they hold the factory BMS settings.

If Bluetooth does not connect

- Check that Bluetooth is on on the phone and the app has permissions (phone settings → apps → XiaoXiangElectric).
- Move closer to the battery. A metal cabinet and walls weaken the signal.
- The battery may already be connected to another phone: close the app on it and try again.
- If the battery is deeply discharged and has gone into protection, Bluetooth may not respond. Charge it from the grid via the inverter and try again.

The app only shows the battery status. It does not replace the inverter settings in this guide.

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