USER MANUAL · ENGLISH

Inverter JSDsolar J4000E 4kW 24

Hybrid solar inverter 4 kW / 24 V: description, installation, connectio
operating modes, LiFePO4 setup, faults



This manual was prepared by the seller. Before installation check the label on the inverter case against this manual: values on the label and in the manufacturer's manual take priority. How to connect a specific battery: see "Connection: inverter + battery" on the product page.

1. What this device is

Hybrid (off-grid) inverter 4 kW for a 24 V system: pure sine wave inverter, MPPT solar charge controller and grid charger in one case. Works as a UPS for a house or cottage and as a solar station.

- Grid / generator input 230 V
- Solar panel input (PV)
- Battery 24 V (LiFePO4 25.6 V (8S) or 2×12 V)

- 230 V output to loads
- Lithium battery BMS comms port (RS485)

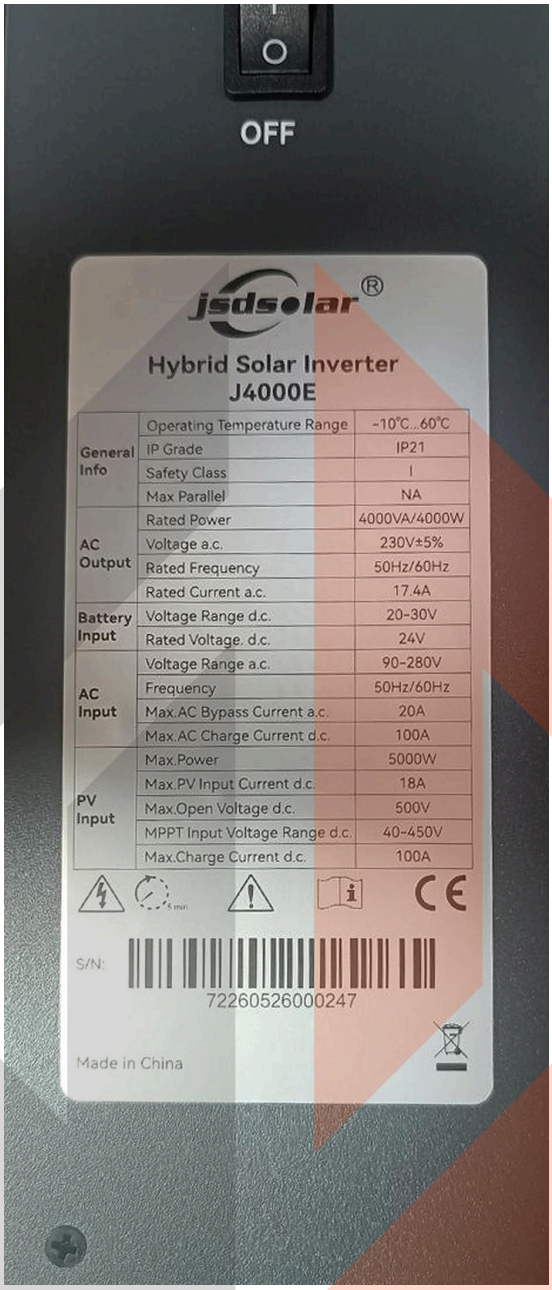
2. Technical specifications

Model	**J4000E**
Rated power	**4000 VA / 4000 W**
Battery voltage	**24 V DC** (range 20–30 V; LiFePO4 25.6 V 8S or 2×12 V)
Output	230 V AC ±5 %, 50/60 Hz, pure sine; rated current 17.4 A
Grid / generator input	90–280 V AC, 50/60 Hz; bypass current up to 20 A
Max. grid charge current	100 A
Solar panels (PV)	up to 5000 W; Voc up to 500 V; MPPT 40–450 V; PV current up to 18 A
Max. PV charge current	100 A
Parallel operation	no
Enclosure rating	IP21 (indoor only)
Operating temperature	−10...+60 °C
Battery comms	RS485 (BMS LiFePO4)
DC breaker / battery cable	175 A / 35 mm²
AC / PV breakers	25 A / 25 A DC rated above 500 V

minertech.org · MinerTech® trademark · © 2017–2026, all rights reserved
+38 093 293 93 93 · +38 099 054 40 38 · Specialist Pavlo Leonidovych · strooks@gmail.com

Inverter rating plate

Label on the case: model and main specifications.



3. Contents and location

In the box

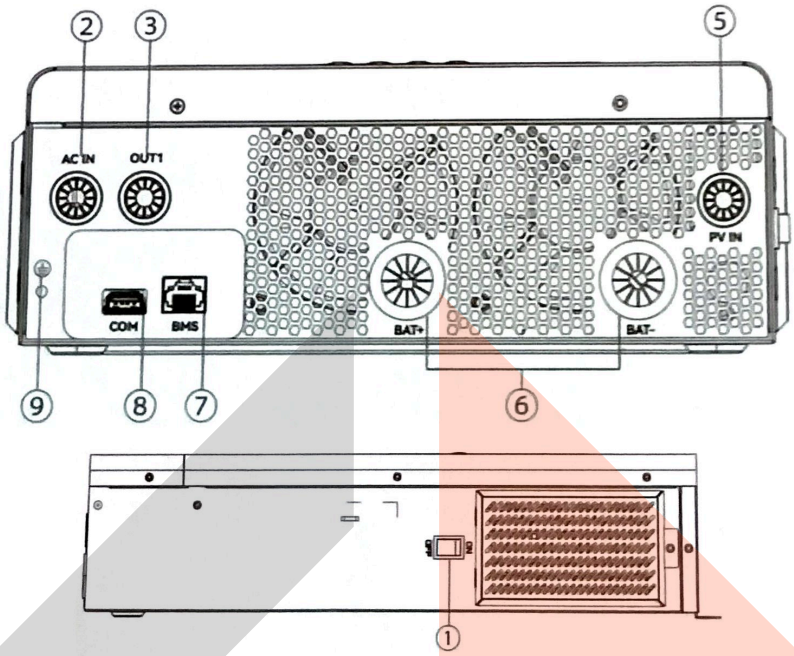
- Inverter
- Wall mounting
- Manufacturer’s manual

Where to install

- Vertically on a non-combustible wall, in a dry room
- At least 30 cm free on all four sides
- Away from direct sun, moisture and flammable materials
- Close to the battery (short battery cables)

minertech.org · MinerTech® trademark · © 2017–2026, all rights reserved
+38 093 293 93 93 · +38 099 054 40 38 · Specialist Pavlo Leonidovych · strooks@gmail.com

Inverter connectors: bottom panel and side wall



№	Connector	What it is	What connects where
1	**ON / OFF**	Inverter power switch (on the side panel)	Switch on after connecting the battery and its DC breaker
2	**AC IN**	Grid / generator cable entry to the AC IN terminals (L, N, PE)	2.5 mm² cable via a separate 25 A breaker; PE first. Do not confuse with the output, do not connect the input and output N together
3	**OUT1**	Entry for the 230 V output cable to the AC OUT terminals (L1, N1)	2.5 mm² cable via a 25 A breaker to the load panel
5	**PV IN**	Solar panel cable entry to the PV+ / PV– terminals	2.5 mm² cable via a separate 25 A DC breaker rated above 500 V DC; Voc up to 500 V, MPPT 40–450 V, start from 60 V
6	**BAT+ / BAT–**	Entries for the 24 V battery power cables	35 mm² cable with DT lugs via a 175 A DC breaker: red to BAT+, black to BAT–
7	**BMS**	RJ45 port for communication with the lithium battery BMS (RS485 or CAN)	Battery communication cable; pinout: 1 — RS485B, 2 — RS485A, 4 — CANH, 5 — CANL; program 17 = FEL, program 38 = battery protocol
8	**COM**	Communication module port (USB connector) for monitoring	The communication module plugs directly into the port
9	**PE**	Case grounding point	Yellow-green cable with an OT lug for an M4 screw; the PE core of the AC IN cable can be used

There is no item ④ in the manufacturer's list; some versions have a second output OUT2 next to OUT1.

minertech.org · MinerTech® trademark · © 2017–2026, all rights reserved
+38 093 293 93 93 · +38 099 054 40 38 · Specialist Pavlo Leonidovych · strooks@gmail.com

4. Wiring sequence

1. All breakers off, inverter switch OFF.
2. **Battery.** 35 mm² cables with lugs, via a 175 A DC breaker: red “+” to “+ BAT”, black “−” to “− BAT”. Reversed polarity damages the inverter.
3. **BMS comms cable** (if any): into the BMS port (RJ45). Inverter pinout: 1 RS485B, 2 RS485A, 4 CANH, 5 CANL; the cable must match the battery pinout. In the menu program 17 = FEL and program 38 = battery protocol (section 6).
4. **Loads:** to AC OUT terminals (L, N, PE) via a 25 A breaker, cable 2.5 mm².
5. **Grid:** to AC IN terminals (L, N, PE) via a separate 25 A breaker, cable 2.5 mm². Do not mix up AC IN and AC OUT and do not join the input N and output N.
6. Solar panels: to PV+ / PV− via a separate 25 A DC breaker rated above 500 V DC. MPPT cold start from 60 V, operating range 40–450 V. String open-circuit voltage (Voc) allowing for frost must be below the label maximum.
7. **Earthing** of the case is mandatory.
8. Switch on the battery and DC breaker, then the inverter ON switch, set up the menu (section 6), then grid, PV and loads.

Safety. Make all connections with the battery, grid and PV switched off. Battery short-circuit current is very high. Installation is best left to an electrician.

5. Output priority (program 03 “OPP”)

Codes and program numbers as on the J4000E screen per the manufacturer’s manual.

Code	How it works	When to choose
Grd	Grid first: loads run from the grid, solar and battery when there is no grid. Factory value.	Grid stable, backup matters most
PU	Solar first: if solar is not enough, grid; battery when there is neither solar nor grid.	Savings with panels, battery kept full
PbG	Solar → battery → grid. Switches to grid at low voltage or battery SOC (programs 15 and 41), back to battery when charged (programs 16 and 40).	Maximum own energy

Charge priority (program 05 “CHP”): PNG solar and grid together (factory), OPu solar only, Grd grid first, Pu solar first.

minertech.org · MinerTech® trademark · © 2017–2026, all rights reserved
+38 093 293 93 93 · +38 099 054 40 38 · Specialist Pavlo Leonidovych · strooks@gmail.com

6. Settings for LiFePO4 25.6 V with BMS

Hold **ENTER** 2 seconds to enter the menu; **UP / DOWN:** select, **ENTER:** confirm, **ESC:** exit.

№	Program (code)	What to set
01 / 02	Output (OPU / OPF)	230 V, 50 Hz
03	Output priority (OPP)	PbG: maximum solar and battery; Grd: if backup matters most
04	Input mode (nOd)	APP household appliances; UPS computers (transfer 10 ms); GEN generator on the input
05	Charge priority (CHP)	PNG (solar + grid) or OPu (solar only)
06	Grid charge current (ACC)	20–40 A (factory 40 A), no more than the battery allows
07	Max. charge current, solar + grid (nCC)	per battery data sheet (factory 60 A, maximum 100 A)
17	Battery type (bAt)	**FEL:** LiFePO4 (factory AGn = AGM)
38	BMS link (bnS)	battery protocol: PYL (Pylontech, RS485/CAN), GRO, VOL or IRO (RS485). Set the same protocol with the DIP switch on the battery. Without BMS cable: OFF
20	Charge voltage (bCV)	28.4 V (FEL factory 27.6 V, range 25–29 V)
21	Float voltage (bFL)	27.2 V (factory 27.6 V, range 24–28 V)
18	Low voltage warning (bAL)	24.0 V (factory for FEL)
19	Low voltage shutdown (bAU)	23.2 V (factory for FEL)
15 / 16	Switch to grid / back to battery (btG / btb)	24.8 V / 26.6 V (factory for FEL); in 16 FUL is possible: only after full charge
39–41	By SOC, BMS link only (bSU / Stb / StG)	shutdown at 20 %, back to battery at 95 %, to grid at 50 % (factory)
29 / 34	Equalising charge (EQn)	OFF: not used for LiFePO4

With a BMS link, pages 12–17 appear on the screen: BMS voltage and current, temperature, SOC, capacity, BMS alarms. If the link is lost ERR flashes and alarm 56 appears.

7. Maintenance

- Check terminal tightness every 3 months.
- Keep the ventilation openings clean and open.
- Do not disassemble the inverter: dangerous voltage inside even after switching off.

8. If something is wrong

Check the error code on the screen against the table in the manufacturer's manual (main codes in the table below). If the fault cannot be cleared, contact the seller.

minertech.org · MinerTech® trademark · © 2017–2026, all rights reserved
+38 093 293 93 93 · +38 099 054 40 38 · Specialist Pavlo Leonidovych · strooks@gmail.com

Codes on the J4000E screen

Red indicator lit: fault (error code); flashing: warning “ALA nn”. After 6 failed auto restarts the inverter stays in fault: switch it off completely or wait 30 minutes.

Code	Meaning	What to do
02	Bus high voltage	PV string voltage (Voc) above 500 V: use fewer panels per string
03, 08	Low bus voltage / bus short circuit	Switch off the loads and restart; if that helps, too many high-inrush appliances
05	Overheating	Check the fan, clean the filter, 30 cm free space, no direct sun
06	High battery voltage	Check battery type (17) and charge voltage (20, 21)
12, 14, 29	Short circuit / overload / output overcurrent	Reduce the load, check output wiring
26	BMS error	See the error in the battery’s own app
ALA 50	Battery not connected	Check the DC breaker and battery terminals
ALA 51, 52	Low battery voltage	Charge the battery from grid or sun
ALA 56	No BMS link	Cable in the correct battery port, battery DIP switch = protocol in program 38, pinout 1 RS485B, 2 RS485A, 4 CANH, 5 CANL
ALA 58	Fan fault	Contact the seller
ALA 60	Overload above 102 %	Switch some loads off
ALA 68, 69	Low battery SOC (program 39)	Charge the battery; clears when SOC is 5–10 % above the threshold

Full code table: see the “Original manufacturer’s manual” on the product page.

9. Troubleshooting

What you see	Cause	What to do
Will not turn on	No battery voltage, DC breaker off, BMS in protection	Check the breaker and polarity, switch the battery on
Overload	Load power above 4000 W or high inrush current	Switch some loads off
Low battery voltage	Battery discharged, thin or long cables	Charge the battery, check the 35 mm² cables and terminal tightness
No solar charging	PV voltage outside the MPPT range, PV breaker off	Check string voltage and PV polarity
No BMS link	Wrong battery type / protocol, different cable	Choose a lithium type with RS485, check the cable pinout
Does not switch to grid	Grid voltage or frequency out of range, generator	For a generator choose GEN in program 04

minertech.org · MinerTech® trademark · © 2017–2026, all rights reserved
+38 093 293 93 93 · +38 099 054 40 38 · Specialist Pavlo Leonidovych · strooks@gmail.com