DATOU BOSS

Hybrid Solar Inverter

Hybrid solar inverter
DATOU BOSS DT -2433 M (3.3k W 24 V)

User manual



DT-2433M · PV 5000 W · PV-AC 3300 W · DC-AC 3300 W

Manufacturer’s original manual, English translation. Structure, tables and illustrations are kept as in the original.

SUPPORT. If you have technical questions not answered in this manual, 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

Contents

1. Installation instructions
2. Inverter appearance
3. Connection
4. LCD display
5. Troubleshooting
6. Output priority and operating modes
7. Mode settings and status description
8. Maintenance
9. Technical specifications
10. Appendix: RS485 communication port
11. Appendix: WiFi communication port (WiFi module is optional, not included as standard)

WARNING
This is a class A inverter. In a household it may cause minor radio interference; in that case appropriate measures must be taken.

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

Foreword

Thank you for purchasing a hybrid solar inverter (hereinafter the inverter). Read this manual carefully before installing and using the inverter!

Copyright

The manufacturer constantly works on technical innovation to meet customer needs with better products and service. Product design and specifications may be updated without prior notice. Thank you for your understanding.

Safety instructions

1.1 How to use this manual

The manual contains important information and instructions for operating and maintaining the product; users must follow its contents.

Meaning of the symbols in the manual:

Symbol	Description
DANGER	**DANGER —** a hazardous situation which, if not avoided, **will result** in death or serious injury.
WARNING	**WARNING —** a hazardous situation which, if not avoided, **could result** in death or serious injury.
CAUTION	**CAUTION —** a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	**NOTICE —** tips on working with the product.

1.2 Safety instructions

This section contains important safety instructions. Read and keep the manual for future reference.

- When installing the inverter, always follow local requirements and regulations.
- Beware of high voltage. Before and during installation, switch off the breakers of all power sources to avoid electric shock.
- For optimal inverter operation, choose cables of the appropriate cross-section and the necessary protective devices according to regulations.
- Do not connect or disconnect any connections while the inverter is running.
- Do not open the terminal cover while the inverter is running.
- Make sure the inverter is reliably grounded.
- Do not short-circuit the AC output and DC input.
- Do not disassemble the device. For any repair or maintenance, take it to a professional service centre.

- Never charge a frozen battery.

Overview

Read the manual carefully before installation, operation and maintenance. It contains important safety and installation instructions that must be followed when installing and servicing the equipment.

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

Who this manual is for

The manual is intended for professional electricians responsible for installing and commissioning inverters in photovoltaic systems.

Symbols used in the manual

To ensure the safety of people and property when using solar inverters, as well as efficient use of the product, the manual contains relevant safe operation information marked with symbols. This information must be fully understood and strictly followed to avoid injury and property damage. The symbols are shown below.

Symbol	Value
DANGER	“DANGER” indicates a high potential hazard which, if not avoided, will result in injury or death.
WARNING	“WARNING” indicates a moderate potential hazard which, if not avoided, will result in injury or death.
CAUTION	“CAUTION” indicates a minor potential hazard which, if not avoided, will result in moderate or minor injury.
NOTE	“NOTE” indicates a minor potential hazard which, if not avoided, may result in moderate or minor injury.
TIP	“TIP” is additional information that highlights and supplements the manual. It may contain tips for optimal use of the product that help solve a problem or save time.

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

1. Installation instructions

1-1: Inspection after unpacking

After opening the package, check the contents: the user manual (with certificate of conformity and warranty card) and accessories for additional functions. Check that the inverter was not damaged in transport. If damage or missing parts are found, do not switch the device on and notify the carrier and the seller.

> ⚠ **NOTE**
> - Keep the box and packaging — you will need them for reshipping.
> - This product series is heavy (see specifications); carry it carefully.

1-2: Installation requirements

1. Install in a well-ventilated place free of water, flammable gases and corrosive substances.
2. The device is wall-mounted; the fan air intake and the ventilation openings on the side and top of the housing must be kept clear.
3. Ambient temperature must be within 0–40 °C.
4. If the device is unpacked and switched on in a cold environment, condensation may form; it may only be switched on once fully dry inside and out, otherwise there is a risk of electric shock.
5. If the device has been stored for a long time, make sure it is completely dry and free of corrosion before installation and use.

1-3: Installation procedure

1) Environmental conditions
Unpack the inverter and place it in a suitable operating environment. For specific requirements, see “Installation requirements”.

2) Choosing wire cross-section
Use cables of the appropriate cross-section, not below national safety standards. Usually the cross-section is chosen for a current density of no more than 5 A/mm², and connecting wires are kept as short as possible to reduce losses.

3) Battery connection
Determine the required number of batteries according to the inverter's rated battery voltage. Connect the battery cable to a circuit breaker with sufficient breaking capacity, then to the inverter BATTERY terminals. Do not reverse plus and minus, or the product may be damaged.

4) Load connection
First switch off all loads, connect the AC loads to the inverter AC output and make sure the load power is less than the inverter rated power.

5) PV connection
First connect the PV cable to a circuit breaker with sufficient breaking capacity, then to the inverter PV input. The open-circuit voltage and short-circuit current of the PV array must be lower than the inverter's maximum PV input voltage and current. Do not reverse plus and minus.

6) Grid connection
First connect the grid input cable to a circuit breaker with sufficient

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

breaking capacity, then to the inverter AC input. Do not mix up phase and neutral.

7) Choosing circuit breakers

a. On the battery side, a DC breaker with an operating voltage higher than the rated battery voltage. At the PV input, a DC breaker with an operating voltage higher than the PV array voltage. At the AC input, an AC breaker with an operating voltage higher than the rated grid voltage.
b. The breaker rated current is about 1.5 times the inverter's maximum operating current.

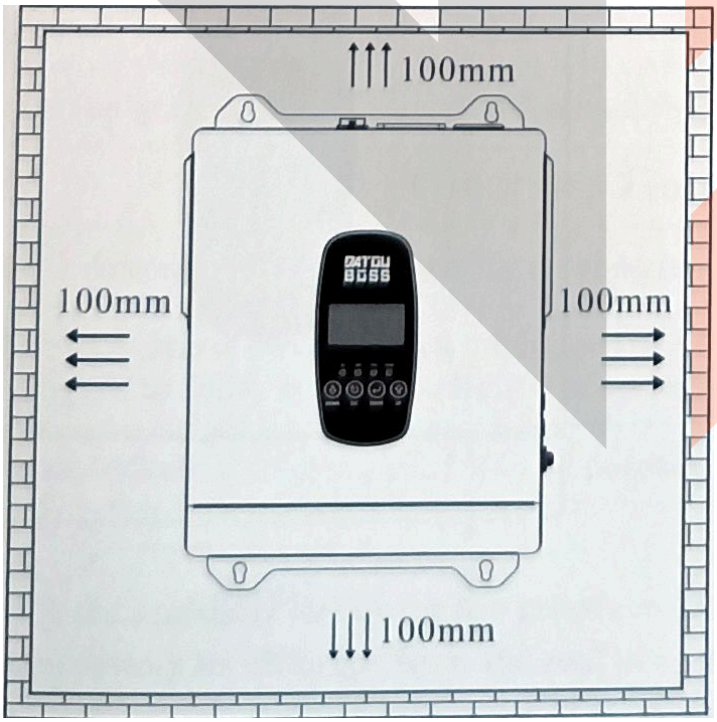
NOTE

- Switch off the load before connecting it to the device.
- The product protects only against low-energy surges. In areas with frequent thunderstorms, installing lightning protection before the grid input and PV input is recommended.
- For user safety and correct use of the product, make sure the device is properly grounded before start-up.
- If you need to power a high-power inductive load such as a motor or laser printer, choose the inverter rated power based on the load's peak power. The starting power of a load is usually 2–3 times its rated power.

1-4: Placement

Leave 100 mm of free space on each side of the inverter for good air circulation.

(Install only on concrete or another non-combustible surface with sufficient load-bearing capacity; the inverter must be vertical. Choose a place suitable for electrical equipment with enough space for evacuation and repair in case of a fault. Provide proper ventilation for cooling; air humidity during installation must be below 90 %.)

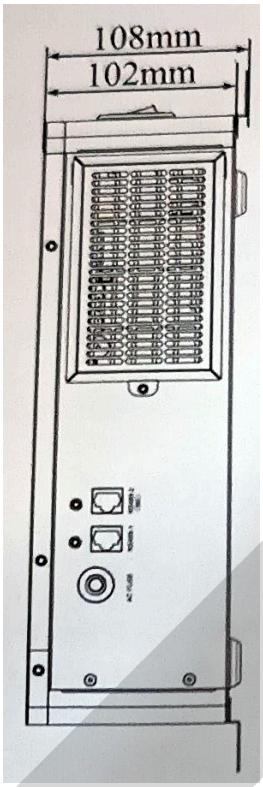


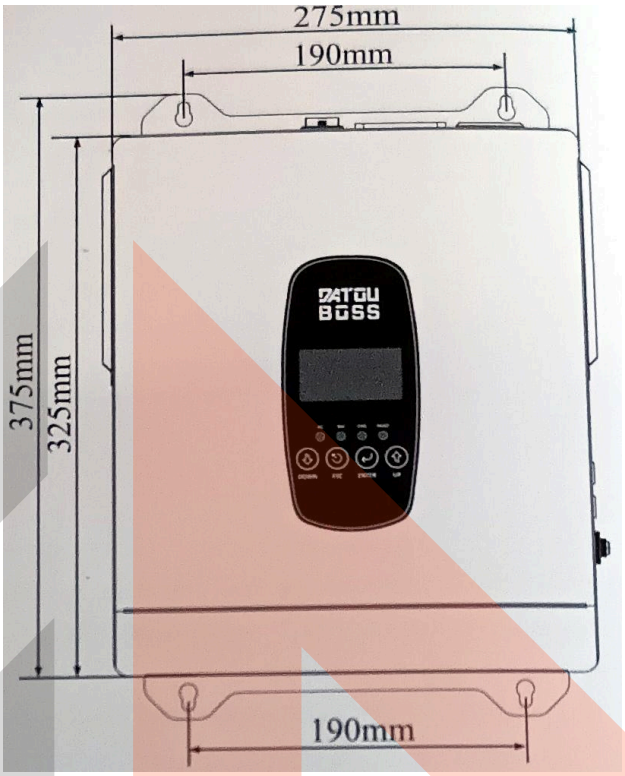


- ★ Avoid direct sunlight
- ★ Avoid dust
- ★ Avoid moisture and liquids
- ★ Avoid overheating

1-5 Dimensions and wall mounting

1) Mounting dimensions

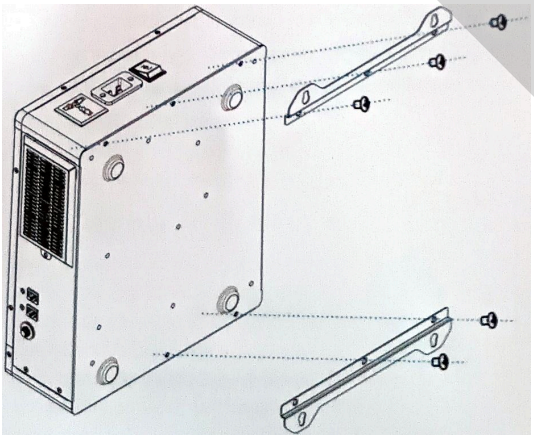




Size	Value
Overall depth	108 mm
Housing depth	102 mm
Overall width (with side flanges)	275 mm
Overall height (with brackets)	375 mm
Housing height	325 mm
Distance between top / bottom mounting holes	190 mm / 190 mm

2) Wall mounting

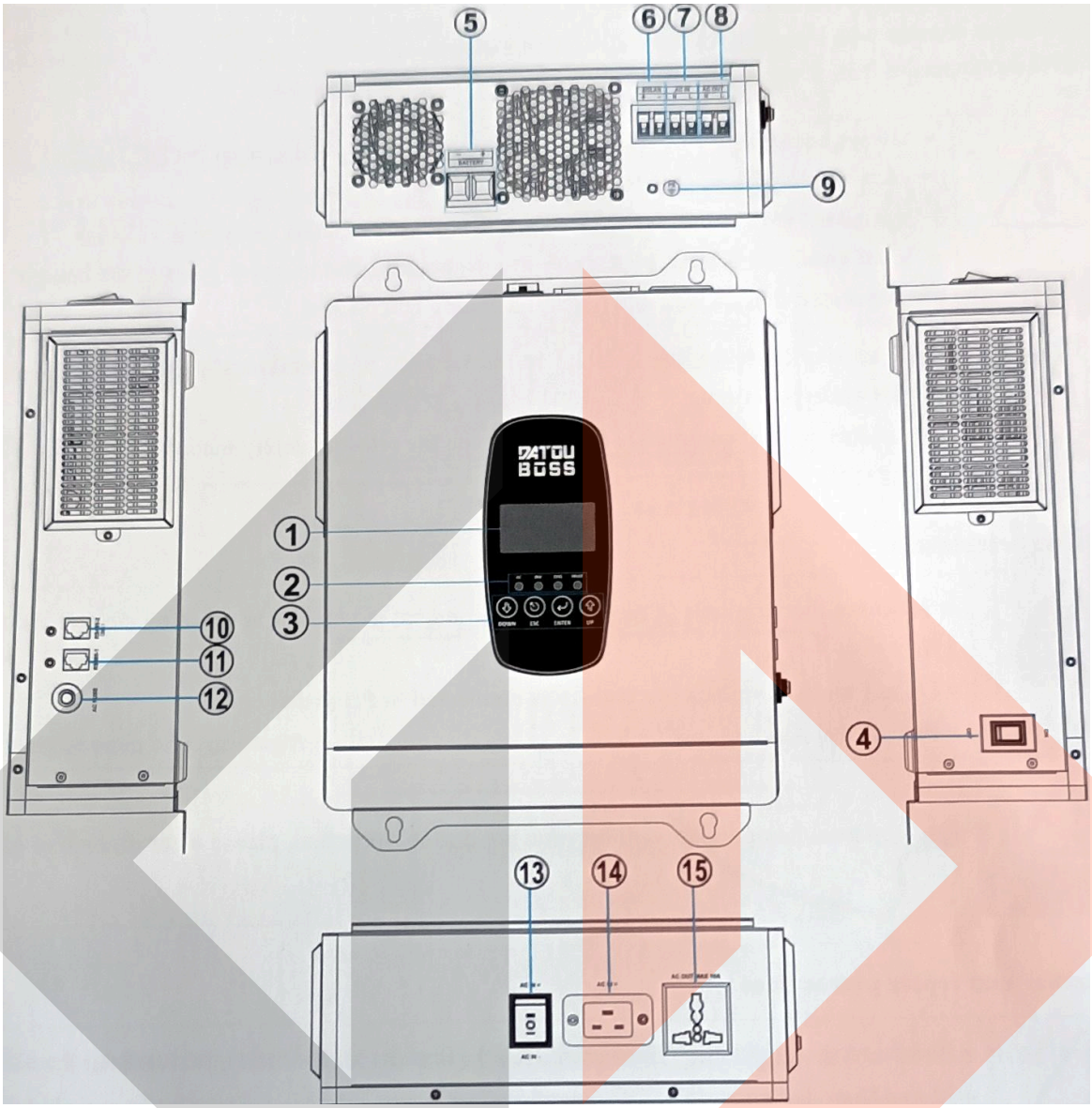
a. Fix the wall brackets to the device with M4×6 screws (brackets and screws are supplied).
b. Fix the inverter with four screws. M6 expansion anchors are recommended (bought separately by the user; for hole spacing see the dimension drawing).





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

2. Inverter appearance



1. LCD display	2. LED indicators	3. Function buttons
4. Power switch	5. Battery terminals	6. PV input terminals
7. AC input terminals (grid)	8. AC output terminals (backup / UPS output)	9. Grounding
10. RS485-2 communication port (BMS communication)	11. RS485-1 communication port (external communication / WiFi)	12. AC input fuse
13. Grid input switch (“AC –” position: input via “AC –” terminals selected; “AC =” position: input via “AC =” selected)	14. AC input socket	15. Load output socket

Note:

- **For interface pin assignments, see the appendix.**
- **Pictures may differ from the actual product — refer to the actual product!**

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

3. Connection

Safety precautions for electrical connection

When making the electrical connection of the inverter, follow all applicable national regulations on preventing electrical injury.

DANGER

- Before making electrical connections, cover the PV modules with opaque material or switch off the DC-side circuit breaker.
- When exposed to sunlight, PV arrays generate dangerous voltage.
- When installing the battery, make sure plus and minus are connected correctly and open the battery circuit.

WARNING

- All installation work must be performed by professional electricians only.
- Training is mandatory.
- Read this manual fully and understand the relevant safety requirements.

Safety precautions during operation

DANGER

- Touching grid or equipment terminals may cause death by electric shock or fire!
- Do not touch terminals and conductors connected to the grid.
- Follow all safety instructions and documents on grid connection.

NOTE

Some internal components get very hot during operation — wear protective gloves.

Safety precautions during maintenance and repair

DANGER

- Before any maintenance, first disconnect the inverter from the grid, then disconnect the DC-side connections.
- Before starting work, wait at least 5 minutes for the internal components to discharge.

NOTE

- Any fault affecting inverter safety must be fixed before switching it on again. If service is needed, contact the seller.
- Do not disassemble or reassemble the inverter's internal components yourself. The manufacturer accepts no warranty or other liability for resulting damage.

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

Wiring diagram

(Note: for specific battery voltage, AC voltage and solar panel parameters, see the specifications table. This picture is only a wiring diagram.)

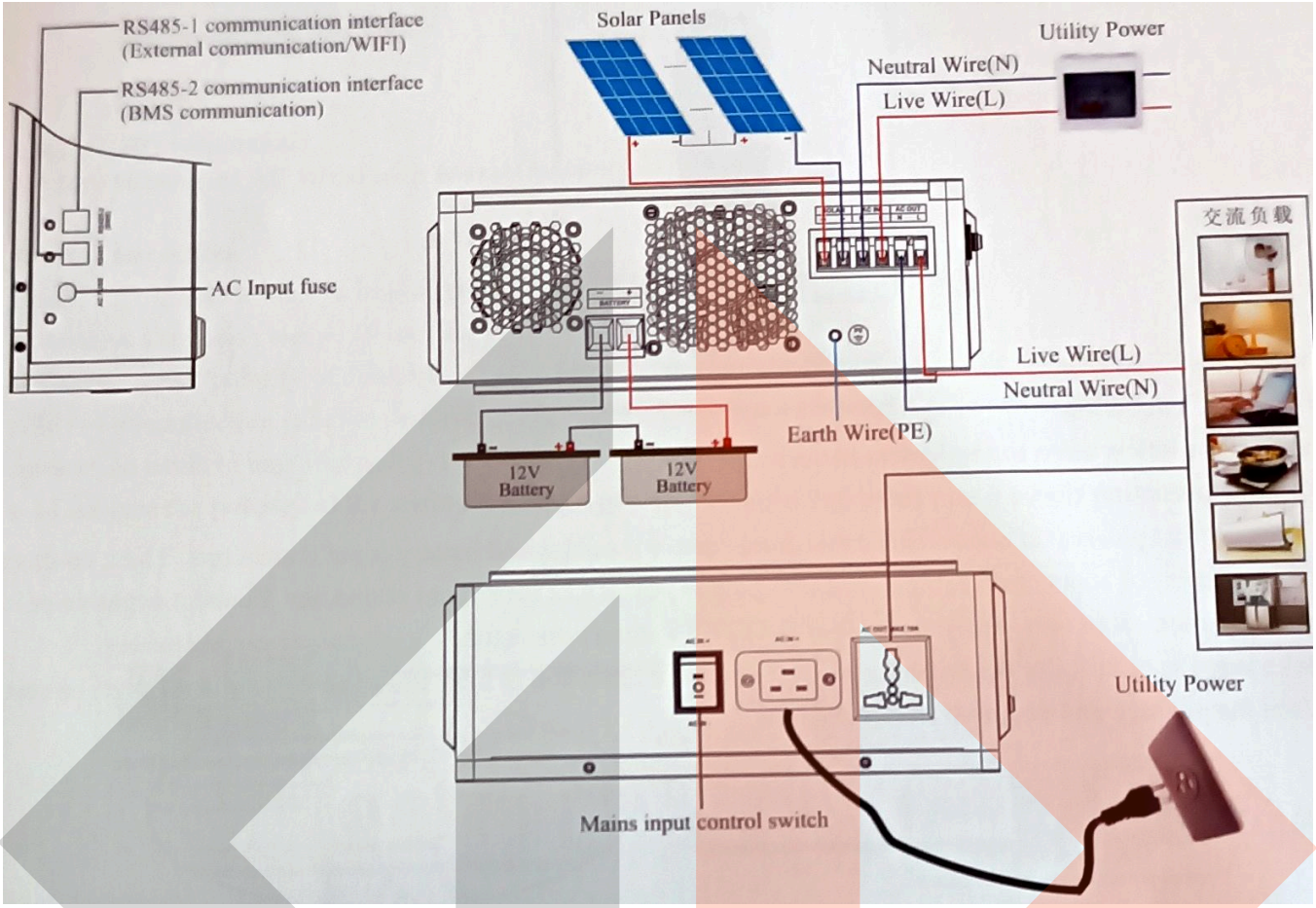


Diagram labels: RS485-1 communication interface — RS485-1 port (external communication / WiFi); RS485-2 — RS485-2 port (BMS communication); AC Input fuse — AC input fuse; Solar Panels — solar panels; Utility Power — grid; Neutral Wire (N) — neutral; Live Wire (L) — phase; Earth Wire (PE) — ground; 12V Battery — 12 V battery (two in series); on the right — AC loads; Mains input control switch — grid input switch

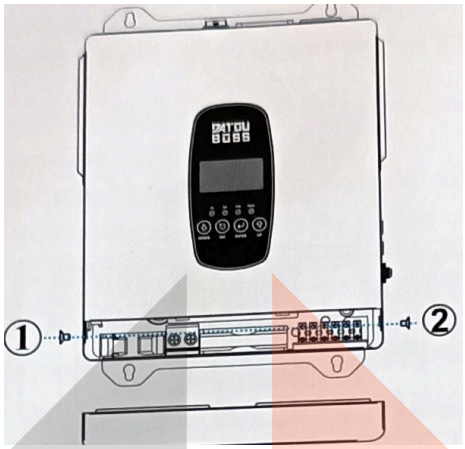
Note:

- **When connecting the battery and PV, observe cable polarity; do not connect them in reverse.**
- **If you connect a generator: first start the generator and, once it runs steadily, connect it to the inverter grid input; then switch on the inverter, and connect user equipment only after the inverter enters normal mode.**
- **Recommended generator power is at least three times the inverter rated power.**

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

Preparation

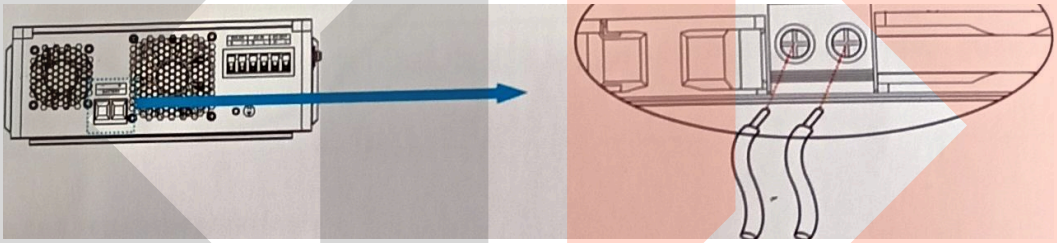
Before connecting all wires, remove the bottom cover by unscrewing the screws as shown below.



1) Battery connection

- Strip 6 mm of insulation from the positive and negative conductors.
- Check the polarity of the cable from the batteries and the battery input terminals. Connect cable plus (+) to the BATTERY terminal plus (+), and cable minus (–) to the BATTERY terminal minus (–).

- Make sure the polarity is correct, the connection is secure and there is no short between the positive and negative electrodes.

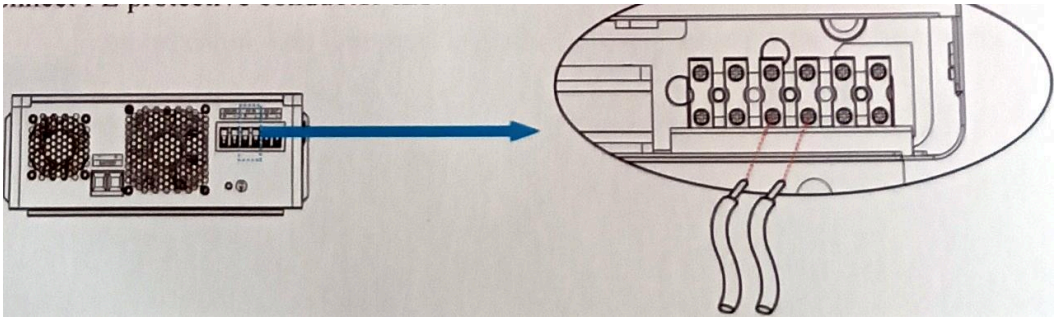


2) Connecting the AC input (grid) and AC output (UPS output, AC loads)

> ⚠ **CAUTION**
> **There are two terminal blocks marked “INPUT” and “OUTPUT”. Do NOT mix up the input and output connections.**

To connect the AC input / output cables:

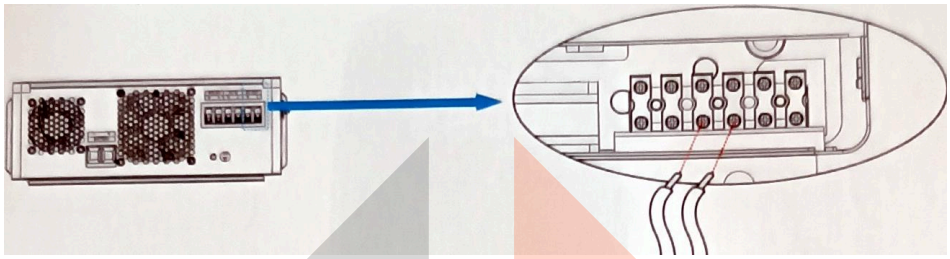
- Before connecting to an AC power source, install a separate AC circuit breaker between the inverter and the source. This allows the inverter to be disconnected safely.
- Strip 10 mm of insulation from the four conductors.
- Insert the AC input wires according to the polarity marked on the terminal block and tighten the terminal screws. Always connect the PE protective conductor 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

WARNING
Before connecting the AC power source to the device, make sure it is switched off.

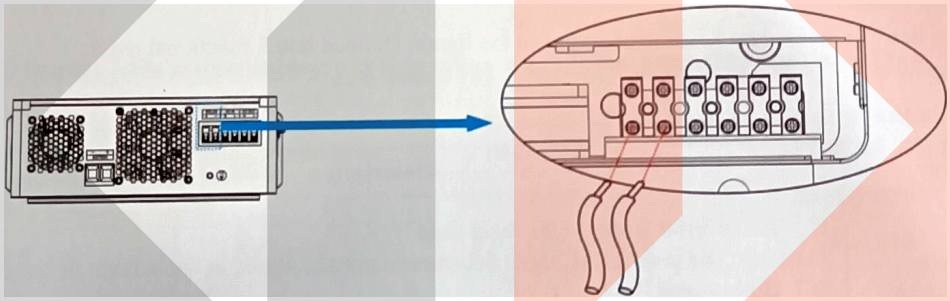
- Then insert the AC output wires according to the polarity marked on the terminal block and tighten the terminal screws.



CAUTION
Important! Connect the AC wires with the correct polarity.

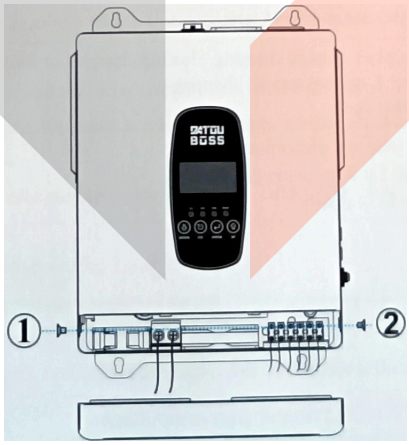
3) PV connection

- Strip 10 mm of insulation from the positive and negative conductors.
- Check the polarity of the cable from the PV modules and the PV input terminals. Connect cable plus (+) to the SOLAR terminal plus (+), and minus (–) to the SOLAR terminal minus (–).
- Make sure the polarity is correct and the connection is secure.



Final assembly

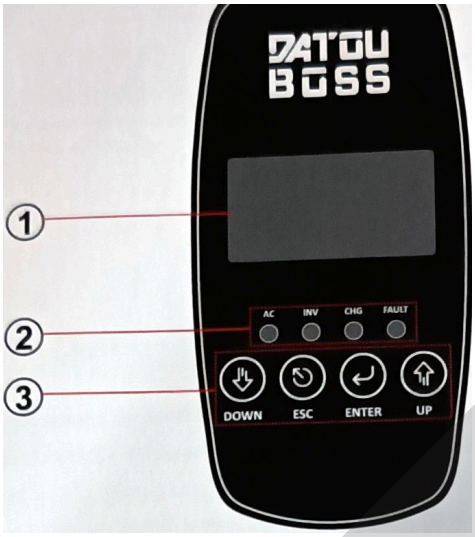
After connecting all wires, refit the bottom cover and tighten the screws as shown below.



Note: the picture is for illustration. The actual product may differ.

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. Display panel description



4-1. Control panel layout

The display panel is divided into 3 functional areas:
① LCD area; ② LED indicator area; ③ function button area.

4-2. LED indicators

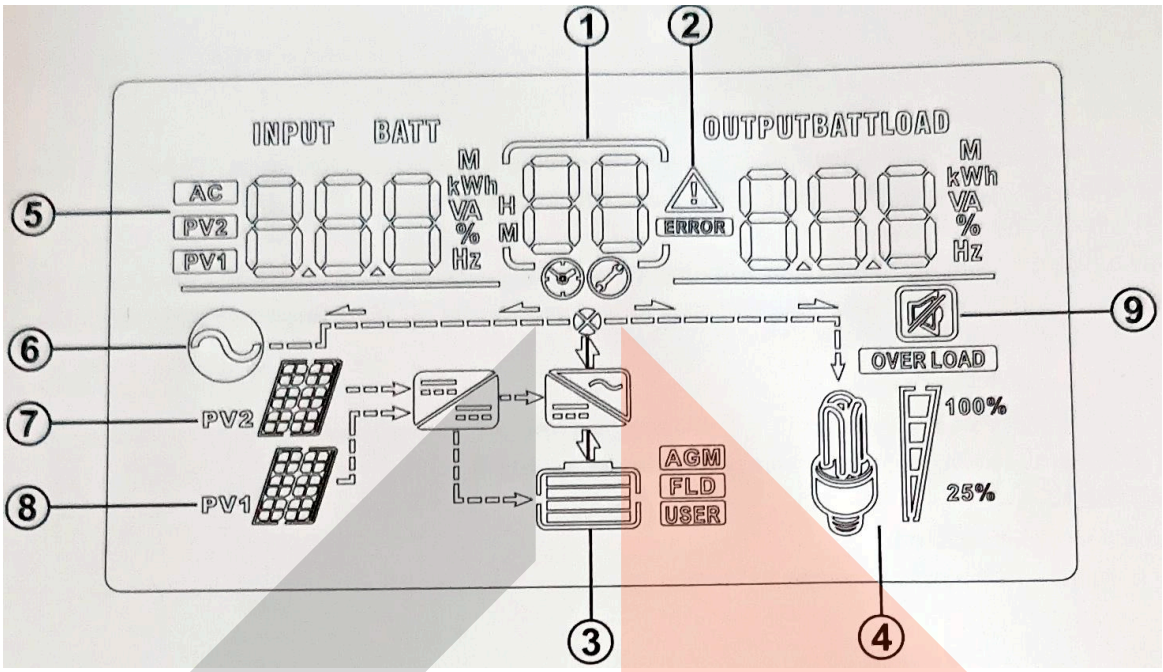
Name	Description
AC (green)	On: the inverter runs from the grid. Flashing: AC input normal, the inverter is in battery priority mode. Off: other states.
INV (green)	On: the inverter is inverting. Off: other states.
CHG (yellow)	On: constant-voltage charge, float charge or battery fully charged. Flashing: constant-current charge. Off: other states.
FAULT (red)	On: inverter self-protection triggered. Flashing: an inverter fault has occurred. Off: normal operation.

4-3. Button functions

Button	Description
DOWN	Decrease parameter value or previous page
ESC	Exit without saving or exit settings mode
ENTER	Confirm selection in settings mode; save and exit settings mode
UP	Increase parameter value or next page

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

4-4. LCD screen description



1) The LCD contains icons, an operating status area, a digital area and a function settings area.

1 Page number and fault code	2 Fault icon	3 Battery charge level
4 Load percentage	5 Digital and function area	6 Grid icon
7 PV2 icon	8 PV1 icon	9 Mute icon

a. Icons

- The load and battery icons show the load and battery charge. Each segment corresponds to 25 % of capacity.
- The mute icon shows whether the buzzer is off. Normally this icon is not shown; press ENTER in any mode and the inverter goes silent and the buzzer-off icon appears.

- The fault icon is shown only in fault mode, otherwise it is absent.

b. Operating status area

- After start-up, this area shows the inverter operating status: grid status, inverter status, grid connection status, etc.

c. Digital and function settings area

- Outside settings mode, this area shows inverter operating information. In normal mode the output information is shown; use UP and DOWN to view: input and output voltage, input and output frequency, battery voltage and current, PV voltage and current, PV voltage and power, output power and output voltage, apparent output power and output voltage, load percentage and output voltage. In fault mode the fault code is shown.

- On the settings page, ENTER, UP and DOWN let you set the operating mode, battery high and low voltage thresholds, etc.

2) ON/OFF button (power switch)

a. Switching on

Connect the battery or AC grid (AC input voltage must be within the permitted range for the output mode) or PV — then the inverter can be switched on.

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

- **Switching on from battery.** After connecting the battery, press the power button — the inverter forms its operating supply, and after a while the inverter turns on and voltage appears at the AC output.

- **Switching on from grid.** After connecting the grid, the inverter forms its operating supply automatically. Press the power button — voltage appears at the AC output. If grid priority mode is set, the grid charges the battery and supplies the output via bypass.
- **Switching on from PV.** After connecting PV, the inverter forms its operating supply automatically and charges the battery. Press the power button — the inverter starts inverting and voltage appears at the AC output.

b. Switching off

- **Switching off in battery mode.** Press the power button — the device switches off the output, and after a while the operating supply too.
- **Switching off in grid mode.** Press the power button — the device switches off the output and keeps only the operating supply in standby; disconnect the grid and the inverter turns off.

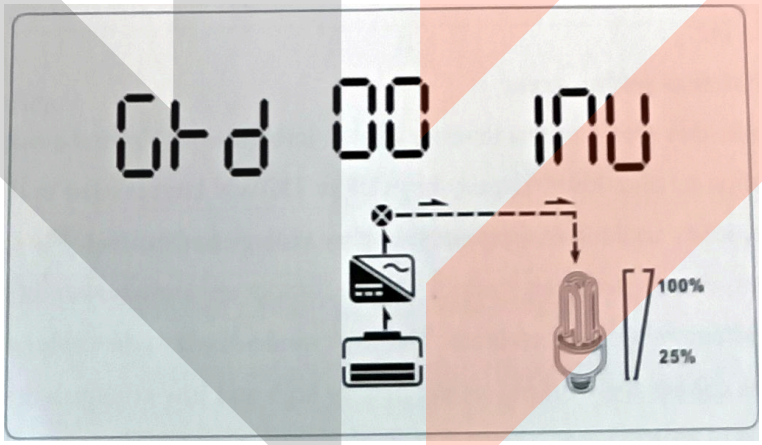
- **Switching off in PV mode.** Press the power button — the device switches off the output, keeps the operating supply and continues charging the battery; disconnect PV and the inverter turns off.

c. Operation in alarm state

If the inverter has an alarm and the red FAULT indicator is on, the inverter is in alarm state. Check the fault code on the LCD and compare it with the fault code table below to find the probable cause.

4-5. Display interface (main screen)

Page 00: output priority (GRD — grid priority; PV — PV priority; PBG — battery priority) and inverter operating status (INV — inverter supply; REC — charging from grid; GRD — hybrid grid + PV supply; GRE — supply with export to grid; UTI — grid supply via bypass).

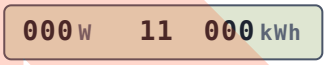
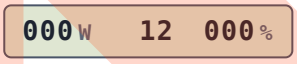


Example of page 00: Grd · 00 · INV

Query pages (switched with UP / DOWN)

In each example, the first value is on the left, the page number in the middle and the second value on the right. Figures are examples.

Page	What is shown	Display example
01	AC output voltage and frequency	222 V 01 50.0 Hz
02	AC input voltage and frequency	002 V 02 3.5 Hz

03	Battery voltage and current	
04	Battery discharge power and energy delivered	
05	Battery charge power and energy stored	
06	Battery charge in % and remaining capacity (Remaining capacity is shown only when lithium battery protocol GRO, VLO or PAC is selected in setting A17 and communication is established.)	
07	Inverter internal BUS voltage and current	
08	AC input current and inverter internal converter current	
09	Power and energy exported to the grid	
10	AC input power and energy consumed	
11	Power and energy of charging from the AC grid	
12	Load power and load percentage	
13	Load energy and current	
14	PV1 voltage and current	
15	PV1 power and yield	
16	Communication with computer (host computer)	
17	MPPT heatsink temperature and inverter heatsink temperature	
18	DC/DC heatsink temperature and software version number	

4-6. Function settings

Entering and leaving the settings page, and setting procedure:

- Hold ENTER for 2 seconds to open the settings page. Use UP or DOWN (press 0.1–2 s) to choose a function; on the page of the desired function its label flashes.
- Press ENTER for 0.1–2 s to enter the setting of the selected function: the function label stays lit and the value to its right flashes. Use UP or DOWN (0.1–2 s) to choose the desired parameter value.

- Having chosen the value, press ENTER for 0.1–2 s — setting is complete, the value stays lit and no longer flashes. You can then set other functions.
- Finally, hold ENTER for more than 2 seconds — settings are saved, the settings page closes and the main screen opens. (You can also press ESC for 0.1–2 s to return to the main screen without saving.)

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

4-7. Battery type and battery parameter settings

If the system uses a lead-acid battery or a lithium battery without BMS communication, parameter A17 must be set to Pb (lead-acid). The inverter works by battery parameters A1–A7.

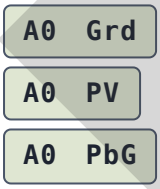
For battery type Pb, the parameter values must satisfy the following condition:
A1 equalizing charge voltage > A2 float charge voltage > A6 grid-to-battery switch voltage in battery priority mode > A5 recovery voltage after low voltage > A7 battery-to-grid switch voltage ≥ A4 low voltage alarm threshold > A3 low voltage protection threshold.

If the system uses a lithium battery with BMS communication, parameter A17 must be set to the BMS communication protocol (GRO / VLO / PYL / PAC). The inverter works by parameters A1–A2 and A19–A23.

For a lithium battery with BMS communication (GRO / VLO / PYL / PAC), parameters A1 (equalizing charge voltage), A2 (float charge voltage) and A23 (charge stop SOC) act simultaneously — whichever value is reached first applies.
Condition for lithium battery SOC parameters: A23 charge stop SOC > A22 switch-to-battery SOC > A20 recovery SOC after low voltage > A21 switch-to-grid SOC > A19 shutdown SOC.

Note: regardless of A17, battery parameters must satisfy both orders (A1 > A2 > A6 > A5 > A7 ≥ A4 > A3) and (A23 > A22 > A20 > A21 > A19), otherwise the data will not be saved and fault 42 will appear.

1) Output priority (A0)



Function: sets the inverter output priority.

Three options, default **PBG —** battery priority; **GRD** — grid priority; **PV —** PV priority. Set only in battery mode, takes effect immediately after saving.

- Hold ENTER for more than 2 seconds to open the settings page; use UP or DOWN (0.1–2 s) to go to page A0 — the A0 label flashes.
- Press ENTER for 0.1–2 s: the A0 label stays lit and the letters to its right flash. Use UP or DOWN (0.1–2 s) to choose the output priority: GRD — grid priority / PV — PV priority / PBG — battery priority.

- Having chosen the priority, press ENTER for 0.1–2 s — setting is complete, the letters to the right of A0 stay lit and no longer flash.
- Finally, hold ENTER for more than 2 seconds — settings are saved, the settings page closes and the main screen opens.

2) Equalizing charge voltage (A1)



Can be set in all operating modes, takes effect immediately after saving.

24V model: 24.0–31.0 V, default 28.4 V.

Note: if the battery is lithium with BMS communication, this parameter acts together with parameter (A23) "Charge stop SOC" — whichever value is reached first applies.

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

3) Float charge voltage (A2)

`A2 27.6V`

Can be set in all operating modes, takes effect immediately after saving.

24V model: 24.0–31.0 V, default 27.6 V.

Note: if the battery is lithium with BMS communication, this parameter acts together with parameter (A23) “Charge stop SOC” — whichever value is reached first applies.

4) Battery low voltage protection threshold (A3)

`A3 21.0V`

Can be set in all operating modes, takes effect immediately after saving.

24V model: 14.0–26.0 V, default 21 V.

Note: applies only when the battery type is lead-acid.

5) Battery low voltage alarm threshold (A4)

`A4 22.0V`

Can be set in all operating modes, takes effect immediately after saving.

24V model: 15.0–27.0 V, default 22.0 V.

Note: applies only when the battery type is lead-acid.

6) Recovery voltage after low voltage protection (A5)

`A5 26.0V`

Battery voltage at which the inverter resumes operation after low voltage protection. Can be set in all operating modes, takes effect immediately after saving.

24V model: 15.0–30.0 V, default 26.0 V.

Note: applies only when the battery type is lead-acid.

7) Grid-to-battery switch voltage (A6)

`A6 26.4V`

In battery priority mode (PBG), sets the battery voltage at which supply returns from grid to battery. Can be set in all operating modes, takes effect immediately after saving.

24V model: 18.0–31.0 V, default 26.4 V.

Note: applies only when the battery type is lead-acid.

8) Battery-to-grid switch voltage (A7)

`A7 22.0V`

In battery priority mode (PBG), sets the battery discharge voltage at which supply switches from battery to grid. Can be set in all operating modes, takes effect immediately after saving.

24V model: 14.0–29.0 V, default 22.0 V.

Note: applies only when the battery type is lead-acid.

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

9) Frequency (A8)

`A8 50.0Hz`

Can be set in all operating modes, takes effect immediately after saving.

Can be set to 50 Hz or 60 Hz, default 50 Hz.

10) Output voltage (A9)

`A9 220V`

Can be set in all operating modes, takes effect immediately after saving.

Can be set to 220 V, 230 V or 240 V, default 230 V.

11) Charge priority (A10)

`A10 SNU`

`A10 OSO`

`A10 CSO`

Set only in battery mode, takes effect immediately after saving.

Three options, default **SNU —** charging from PV and grid simultaneously (PV energy priority); **OSO —** PV charging only; **CSO —** PV charging priority (without PV, the grid charges the battery).

12) No-battery mode (A11)

`A11 bC`

`A11 bNC`

Sets whether a battery is connected to the inverter. Set only in battery mode, takes effect immediately after saving.

Default **bC —** battery connected; **bNC —** battery not connected.

13) Grid charging current (A12)

`A12 030A`

Can be set in all operating modes, takes effect immediately after saving.

Default 30 A (range 5–80 A).

14) Maximum charging current (A13)

`A13 060A`

Maximum current of simultaneous charging from grid and PV. Can be set in all operating modes, takes effect immediately after saving.

Default 60 A (range 5–120 A).

15) Grid input voltage range (A14)

`A14 UPS`

`A14 APL`

Can be set in all operating modes, takes effect immediately after saving.

Default **UPS —** grid input voltage range 165–280 V; **APL —** 120–280 V.

16) Operating mode (A15)

`A15 dIS`

`A15 GRd`

`A15 GRE`

Set only in battery mode, takes effect immediately after saving.

Three options, default **DIS —** standalone mode (off-grid); **GRD —** hybrid mode; **GRE —** grid-tied mode (export to grid).

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

17) Grid export current (A16)

`A16 008A`

Sets the AC INPUT current when exporting to the grid.

Default 0 A. The export current range depends on model power; minimum 0 A, set by the user as needed.

Maximum export current: inverter rated power / rated output voltage = maximum export current. For example, for a 1800 W model with 220 V output: 1800 W / 220 V = 8 A, so this model's maximum export current is 8 A. Export power setting: export power / inverter rated output voltage = current to set. For example, to export 1 kW to the grid: 1000 W / 220 V = 4.54 A, set the current to 4 A.

18) Lithium battery BMS communication protocol (A17)

`A17 Pb` `A17 GRO`
`A17 VLO` `A17 PYL`
`A17 PAC` `A17 PYL`

Lithium battery communication protocol. Can be set in all operating modes, takes effect immediately after saving.

6 options, default **Pb —** lead-acid battery; **GRO —** Growatt protocol; **VLO —** Voltronic protocol; **PYL —**
Pylon protocol (there are two Pylon protocols, both marked PYL); **PAC —** PACE protocol.

19) BMS communication address (A18)

`A18 000`

Sets the BMS communication address. Can be set in all operating modes, takes effect immediately after saving.

Range 000–247, default 001.

20) Shutdown SOC (A19)

`A19 005`

Sets the inverter shutdown SOC: in battery mode, when the lithium battery SOC reaches the set value, the inverter shuts down (applies with lithium battery communication). Can be set in all operating modes, takes effect immediately after saving.

Range 1–80 %, default 5 %.

21) Recovery SOC after low voltage (A20)

`A20 015`

After low voltage protection, the inverter resumes operation when the battery charge reaches the set value (applies with lithium battery communication). Can be set in all operating modes, takes effect immediately after saving.

Range 1–90 %, default 15 %.

22) Battery-to-grid switch SOC (A21)

`A21 010`

In battery priority mode (PBG) with the grid normal, the battery discharges to the set SOC, then supply switches from battery to grid (applies with lithium battery communication). Can be set in all operating modes, takes effect immediately after saving.

Range 1–80 %, default 10 %.

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

23) Grid-to-battery switch SOC (A22)

`A22 080`

In battery priority mode (PBG), when the battery SOC recovers to the set value, supply switches from grid to inverter (applies with lithium battery communication). Can be set in all operating modes, takes effect immediately after saving.

Range 1–100 %, default 80 %.

24) Charge stop SOC (A23)

`A23 100`

When, during grid supply, the lithium battery SOC reaches the set value, charging stops (applies with lithium battery communication). Can be set in all operating modes, takes effect immediately after saving.

Range 1–100 %, default 100 %.

25) Restart after battery low voltage (A24)

`A24 bRd`

`A24 bRE`

Whether to switch the inverter output on automatically when, after low voltage protection, the battery has charged to the recovery value. Set only in battery mode, takes effect immediately after saving.

Default **BRE —** resume; **BRD —** do not resume.

26) Restart after overload (A25)

`A25 LRd`

`A25 LRE`

Whether to resume inverter operation automatically after overload. Set only in battery mode, takes effect immediately after saving.

Default **LRD —** do not resume; **LRE —** resume.

27) Recovery after overheating (A26)

`A26 tRd`

`A26 tRE`

Whether to switch the inverter on automatically when the temperature has dropped after overheat protection. Set only in inverting mode, takes effect immediately after saving.

Default **TRD —** do not resume; **TRE —** resume.

28) Inverter–computer communication address (A27)

`A27 001`

Sets the computer communication address. Can be set in all operating modes, takes effect immediately after saving.

Range 000–247, default 001.

29) Equipment neutral grounding (A28) (this parameter has no effect)

`A28 OFF`

`A28 ON`

Sets whether the output neutral is grounded in battery mode. Set only in battery mode, takes effect immediately after saving.

Default **OFF —** disabled (neutral not grounded); **ON** — enabled (neutral grounded).

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

30) Energy yield counter reset (A29)

`A29 ESC`	Set only in battery mode, takes effect immediately after saving.
`A29 CLr`	Default **ESC —** counter not reset; **CLR —** counter reset.

31) One-touch factory reset (A30)

`A30 ESC`	Restores all inverter parameters to factory values.
`A30 rES`	Default **ESC —** parameters not restored; **RES —** parameters restored to factory values.

Note: the default values given are for reference and may change without notice.

5. Fault description

During a fault alarm the red indicator flashes; during fault protection the red indicator is lit and the LCD shows the fault code. Code descriptions and remedies are given in the table:

Fault code table

Code	Fault	What to do
40	EEPROM read/write error	Contact the seller.
41	Main controller communication failure	Contact the seller.
42	Incorrect parameter settings	Check that the parameters are set correctly, or restore factory settings.
43	Wrong reference voltage	Unstable internal power supply; restart the device.
44	BUS soft start error	Check whether the battery or other input voltage is too low.
45	Hardware overcurrent	Check for output overload or an excessive non-linear load.
46	Short circuit	Check for a short circuit at the output; disconnect the faulty load.
47	Inverter fault	Check whether the inrush from an inductive load is too large; switch off the power and switch the inverter on again. If operation does not resume, contact the seller.
48	Alarm: battery high voltage	Check whether the battery voltage is too high; check that the number of battery cells is correct and each cell voltage is normal.
49	Protection: battery high voltage	Check whether the battery voltage is too high; check that the number of battery cells is correct and each cell voltage is normal.
50	Protection: battery low voltage	Check whether the battery voltage is too low; check that the number of battery cells is correct and each cell voltage is normal.
51	Alarm: battery low voltage	Check whether the battery voltage is too low; check that the number of battery cells is correct and each cell voltage is normal.
52	BUS high voltage	Check whether the battery or input voltage is too high.
53	BUS low voltage	Check whether the battery or input voltage is too low.
54	Overload alarm	Check whether the output is overloaded and reduce the load accordingly.
55	Inverter heatsink high temperature	Check that the fan works normally, that the ambient temperature is not too high and that the inverter vents are not blocked.
56	DC/DC heatsink high temperature	Check that the fan works normally, that the ambient temperature is not too high and that the inverter vents are not blocked.
57	MPPT heatsink high temperature	Check that the fan works normally, that the ambient temperature is not too high and that the inverter vents are not blocked.
58	PV1 high voltage	Check whether the PV1 input voltage is outside the operating range.
59	PV2 high voltage	Check whether the PV2 input voltage is outside the operating range.
60	Grid high voltage	Check whether the grid input voltage is too high.
61	Wrong frequency	Check that the grid frequency is normal.
62	Remote shutdown	Check whether a remote shutdown command was sent.
63	Lithium battery communication failure	Check that the inverter and lithium battery communication protocols match and the communication cable is connected correctly.
64	Lithium battery cell or total voltage too high	Check whether the lithium battery cell voltages and total voltage are too high.
65	Lithium battery cell or total voltage too low	Check whether the lithium battery cell voltages and total voltage are too low.
66	Lithium battery discharge overcurrent	Check whether the load power is too high.
67	Lithium battery charge overcurrent	Reduce the maximum charging current set in the inverter.
68	Lithium battery temperature abnormal	Check whether the lithium battery has overheated; switch off, wait for recovery, then restart.

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. Output priority and operating modes

WARNING
The inverter monitors grid fluctuations for about 1 minute. If during this time fluctuations stay within the grid input range, the inverter connects to the grid, otherwise it does not. This prevents frequent switching to the grid when the grid is unstable.

A. Grid export mode (Grid-Tie)

1. Grid priority

Grid and PV supply the loads simultaneously, and the battery supplies the loads only when there is no grid. PV charges the battery first, surplus energy goes to the loads and the rest is exported to the grid.

1.1 PV and grid present

a. The load is supplied mainly from the grid; PV charges the battery.
b. When the battery is fully charged, remaining PV energy supplies the load. If PV generation is less than the load power, the grid makes up the supply.
c. If remaining PV generation exceeds the load power, the surplus is exported to the grid.
d. If PV generation is insufficient (below the set charging power), the grid tops up the battery, making up the charging current.

1.2 PV present, no grid

a. PV supplies the load first, remaining energy charges the battery.
b. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply.
c. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply. (The battery discharges to low voltage protection, the inverter goes into standby and PV charges the battery; when the battery has charged to the recovery voltage, the inverter output resumes. Or press the power button twice manually with an interval of 1–2 seconds — the inverter output resumes.)

1.3 Grid present, no PV

a. The grid supplies the load and charges the battery according to the charge settings.
b. If the grid is lost, the battery discharges; when it discharges to low voltage, the inverter goes into standby.

2. PV priority

Grid and PV supply the loads simultaneously, and the battery supplies the loads only when there is no grid. PV energy supplies the loads first, surplus charges the battery and the rest is exported to the grid.

2.1 PV and grid present

a. PV energy goes to the load first, surplus charges the battery.
b. When the battery voltage is not too low and meets the export condition (full charge not required; the battery voltage threshold depends on grid voltage), remaining PV energy is exported to the grid.
c. If PV energy is not enough for the load, the charging current drops to 0, and the shortfall is covered by the grid (i.e. PV and grid supply the load simultaneously).

2.2 PV present, no grid

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

a. PV energy goes to the load first, surplus charges the battery.

b. If PV energy is not enough for the load, the battery discharges to make up the difference.

c. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply. (The battery discharges to low voltage protection, the inverter goes into standby and PV charges the battery; when the battery has charged to the recovery voltage, the inverter output resumes. Or press the power button twice manually with an interval of 1–2 seconds — the inverter output resumes.)

2.3 Grid present, no PV

a. The grid supplies the load and charges the battery according to the charge settings.

b. If the grid is lost, the battery discharges; when it discharges to low voltage, the inverter goes into standby.

3. Battery priority (standalone operation)

PV supplies the load first. If PV energy is insufficient or absent, the battery supplements the load supply. When the battery discharge voltage reaches the set value, the load supply switches to the grid.

3.1 PV and grid present

a. The inverter operates in inverting mode, PV energy supplies the load first, surplus charges the battery.

b. If PV energy is not enough for the load, the battery discharges, and the load is supplied by PV and battery simultaneously.

c. The battery discharges to low voltage (the switch-to-grid value), the inverter switches to grid supply via bypass and starts charging the battery (according to the charge priority); when the battery has charged to the switch-to-inverter voltage, supply switches back to the inverter.

3.2 PV present, no grid

a. PV supplies the load first, surplus charges the battery.

b. If PV energy is not enough for the load, the battery discharges to make up the difference.

c. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply. (The battery discharges to low voltage protection, the inverter goes into standby and PV charges the battery; when the battery has charged to the recovery voltage, the inverter output resumes. Or press the power button twice manually with an interval of 1–2 seconds — the inverter output resumes.)

3.3 Grid present, no PV

a. The load is supplied first by battery discharge.

b. The battery discharges to low voltage (the switch-to-grid value), the inverter switches to grid supply via bypass and starts charging the battery (according to the charge priority); when the battery has charged to the switch-to-inverter voltage, supply switches back to the inverter.

c. If the grid is lost, the battery discharges; when it discharges to low voltage, the inverter goes into standby.

B. Hybrid mode

1. Grid priority

Grid and PV supply the loads simultaneously, and the battery supplies the loads only when there is no grid. PV charges the battery first, surplus energy goes to the loads.

1.1 PV and grid present

a. The load is supplied mainly from the grid; PV charges the battery.

b. If PV energy is insufficient, the grid tops up the battery, making up the charging current. c. When the battery is fully charged or PV generation exceeds the required charging power, surplus PV goes to the load. (If remaining PV power exceeds the load power, the load is supplied entirely by PV and no grid energy is consumed.)

d. When the battery is fully charged or PV generation exceeds the required charging power, surplus PV goes to the load. (If remaining PV power is less than the load power, the grid covers the shortfall.)

1.2 PV present, no grid

a. PV supplies the load first, remaining energy charges the battery.

b. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply.

c. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply. (The battery discharges to low voltage protection, the inverter goes into standby and PV charges the battery; when the battery has charged to the recovery voltage, the inverter output resumes. Or press the power button twice manually with an interval of 1–2 seconds — the inverter output resumes.)

1.3 Grid present, no PV

a. The grid supplies the load and charges the battery according to the charge settings.

b. If the grid is lost, the battery discharges; when it discharges to low voltage, the inverter goes into standby.

2. PV priority

Grid and PV supply the loads simultaneously, and the battery supplies the loads only when there is no grid. PV energy supplies the loads first, surplus charges the battery.

2.1 PV and grid present

a. PV energy goes to the load first, surplus charges the battery.

b. If PV energy is insufficient, the charging current drops to 0. If the load keeps rising, the grid covers the shortfall (i.e. PV and grid supply the load simultaneously).

2.2 PV present, no grid

a. PV energy goes to the load first, surplus charges the battery.

b. If PV energy is not enough for the load, the battery discharges to make up the difference.

c. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply. (The battery discharges to low voltage protection, the inverter goes into standby and PV charges the battery; when the battery has charged to the recovery voltage, the inverter output resumes. Or press the power button twice manually with an interval of 1–2 seconds — the inverter output resumes.)

2.3 Grid present, no PV

a. The grid supplies the load and charges the battery according to the charge settings.

b. If the grid is lost, the battery discharges; when it discharges to low voltage, the inverter goes into standby.

3. Battery priority (standalone operation)

PV supplies the load first. If PV energy is insufficient or absent, the battery supplements the load supply. When the battery discharge voltage reaches the set value, the load supply switches to the grid.

3.1 PV and grid present

a. The inverter operates in inverting mode, PV energy supplies the load first, surplus charges the battery.
b. If PV energy is not enough for the load, the battery discharges, and the load is supplied by PV and battery simultaneously.
c. The battery discharges to low voltage (the switch-to-grid value), the inverter switches to grid supply via bypass and starts charging the battery (according to the charge priority); when the battery has charged to the switch-to-inverter voltage, supply switches back to the inverter.

3.2 PV present, no grid

a. PV supplies the load first, surplus charges the battery.
b. If PV energy is not enough for the load, the battery discharges to make up the difference.
c. PV supplies the load first; if PV energy is insufficient, the battery discharges, supplementing the load supply. (The battery discharges to low voltage protection, the inverter goes into standby and PV charges the battery; when the battery has charged to the recovery voltage, the inverter output resumes. Or press the power button twice manually with an interval of 1–2 seconds — the inverter output resumes.)

3.3 Grid present, no PV

a. The load is supplied first by battery discharge.
b. The battery discharges to low voltage (the switch-to-grid value), the inverter switches to grid supply via bypass and starts charging the battery (according to the charge priority); when the battery has charged to the switch-to-inverter voltage, supply switches back to the inverter.

c. If the grid is lost, the battery discharges; when it discharges to low voltage, the inverter goes into standby.

C. Standalone mode (off-grid)

1. Grid priority

The load is supplied mainly from the grid (bypass), and PV only charges the battery (if PV energy is not enough for the set charge, the grid tops up). When there is no grid, the inverter runs from the battery (PV + battery supply the load: PV supplies the load first, surplus PV charges the battery; if PV is insufficient or absent, the battery supplements the load supply).

a. The load is supplied mainly from the grid; PV charges the battery.
b. If PV energy is insufficient, the grid tops up the battery, making up the charging current.
c. When there is no grid, the inverter switches to battery operation (PV + battery supply the load; PV supplies the load first, surplus PV charges the battery).
d. No grid: if PV is not enough for the load, the battery supplements the load supply.
e. The grid supplies the load and charges the battery according to the charge settings.
f. If the grid is lost, the battery discharges; when it discharges to low voltage, the inverter goes into standby.

2. PV priority / In standalone mode the output priority should not normally be set to PV.

The load is supplied mainly from the grid (bypass), PV only charges the battery. (If PV energy is not enough for the set charge, the grid tops up. However, grid charging stops as soon as the BUS voltage exceeds the rectified grid voltage, while PV continues charging.) When there is no grid, supply switches to the battery (PV and battery supply the

load, PV has priority. Surplus PV charges the battery; if PV is insufficient or absent, the battery supplements the load supply.)

a. The load is supplied mainly from the grid, PV charges the battery.
b. When there is no PV, the grid tops up the battery, making up the charging current.
c. When there is no grid, the system switches to inverting from the battery (PV + battery supply the load; PV supplies the load first, surplus PV charges the battery).

d. If there is no grid and PV power is not enough for the load, the battery supplements the load supply.
e. The grid supplies the load and charges the battery according to the charge settings.
f. If the grid is lost, supply switches to battery discharge; when the battery discharges to low voltage, the inverter goes into standby.

3. Battery priority

PV supplies the load first. If PV energy is insufficient or absent, the battery supplements the load supply. When the battery discharge voltage reaches the set value, the load supply switches to the grid.

D. Operation without battery

If the system has no battery, the inverter must be set to no-battery mode bNC (parameter A11).

Note: after selecting no-battery mode, output priority cannot be set to battery priority — otherwise the inverter will not follow the battery priority logic but will be forced into grid export or hybrid mode. (In other modes, battery priority and standalone operation apply.)

1. Grid export mode

a. PV energy supplies the load first. If PV generation is not enough for the load, the grid makes up the supply. If PV power exceeds the load power, the surplus is exported to the grid.

b. When there is no grid, the load is supplied via the inverter from PV. If PV energy is insufficient, the output switches off. (Alarm; after more than ten seconds, if PV voltage is within limits, the output restarts.)

2. Hybrid mode

a. PV energy supplies the load first; if PV generation is not enough for the load, the grid makes up the supply.
b. When there is no grid, the load is supplied via the inverter from PV. If PV energy is insufficient, the output switches off. (Alarm; after more than ten seconds, if PV voltage is within limits, the output restarts.)

3. Standalone mode

(Standalone mode is not recommended, because the output will be unstable when PV power is insufficient.)

a. The load is supplied via the inverter from PV. If PV energy is insufficient, the output switches off. (Alarm; after more than ten seconds, if PV voltage is within limits, the output restarts.) In this mode the output is on and supplies the load from PV only; the grid is not used.

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

7. Mode settings and status description

A0 (output priority)	A10 (charge priority)	A15 (operating mode)	Operation description
Grid priority (GRD)	**SNU:** PV and grid charging simultaneously, PV priority	**GRD:** hybrid mode	1. When the grid is normal, the grid supplies the load and charges the battery according to A10. When the battery is fully charged, the inverter switches to the mode set in A15: 1) GRD: hybrid mode — PV has priority and together with the grid supplies the load, surplus PV charges the battery. 2) GRE: export to grid according to A16, surplus PV charges the battery. 3) DIS: grid and PV stay in charging state, the load is supplied from the grid. 2. When the grid is in fault, the load is supplied by battery and PV. Note: if no-battery mode bNC is selected in A11, the battery is not charged and the load is supplied directly according to A15. In no-battery mode, standalone operation is also not recommended.
	OSO: PV charging only	**GRE:** grid export mode (export current set in A16)	
	CSO: PV charging priority, the grid charges the battery only when there is no PV	**DIS:** standalone mode (off-grid)	
PV priority (PV)	**SNU:** PV and grid charging simultaneously, PV priority	**GRD:** hybrid mode	1. When the grid is normal, the battery charges according to A10 until the BUS voltage exceeds the rectified grid voltage, then the inverter switches to the mode set in A15: 1) GRD: hybrid mode — PV has priority and together with the grid supplies the load, surplus PV charges the battery. 2) GRE: energy is exported to the grid according to A16, surplus PV charges the battery. 3) DIS: when the BUS voltage is above the rectified grid voltage, grid charging stops; PV continues charging and the load is supplied from the grid. 2. When the grid is in fault, the load is supplied by PV and battery. Note: if no-battery mode bNC is selected in A11, the battery is not charged and the load is supplied directly according to A15. In no-battery mode, standalone operation is also not recommended.
	OSO: PV charging only	**GRE:** grid export mode (export current set in A16)	
	CSO: PV charging priority, the grid charges the battery only when there is no PV	**DIS:** standalone mode (off-grid)	
Battery priority (PBG)	**SNU:** PV and grid charging simultaneously, PV priority	**GRD:** hybrid mode	1. Depending on A17: 1) Lead-acid (Pb): when the grid is normal, the battery charges according to A10. After reaching A6, the load is supplied by PV and battery; when discharged to A7, by the grid. 2) Other options: when the grid is normal, the battery charges according to A10. After reaching A22, the load is supplied by PV and battery; when discharged to A21, by the grid. 2. When the grid is in fault, the load is supplied by PV and battery together. Note: in battery priority mode, no-battery mode cannot be selected. In no-battery mode, standalone operation is also not recommended.
	OSO: PV charging only	**GRE:** grid export mode (export current set in A16)	
	CSO: PV charging priority, the grid charges the battery only when there is no PV	**DIS:** standalone mode (off-grid)	

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

8. Maintenance

1. The inverter needs minimal maintenance. Lead battery life can be extended by frequent charging.

2. If the inverter is not used for a long time, the batteries must be charged every three months.
3. Normal battery life is three to five years. If a battery is in poor condition, replace it in advance; replacement must be done by a specialist.
4. Batteries should be replaced as a complete set, following the seller's instructions.
5. Every three months the batteries must be discharged (until the inverter shuts down) and recharged. Each charge (with the standard inverter) must last at least 12 hours.
6. In hot regions, the batteries must be discharged and charged every two months. Each charge (with the standard inverter) must last at least 12 hours.

NOTE

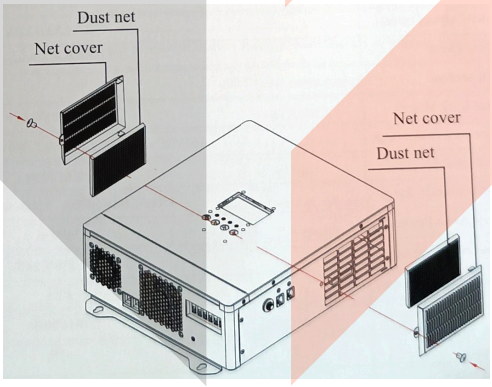
- Before replacing batteries, switch off the inverter, then disconnect the AC input and PV input.
- Do not wear metal jewellery such as rings or watches.
- Use a screwdriver with an insulated handle; do not put tools or metal objects on the batteries.
- Avoid short circuits and reversed polarity.

WARNING

- Do not throw the battery into fire — it may explode.
- Do not open or damage the battery. The electrolyte is harmful to eyes and skin and may cause poisoning.

Removing and cleaning the dust filter

As shown in the picture, unscrew the 2 screws holding the dust filter covers on the left and right sides. Remove the cover and dust filter and clean the filter. After cleaning, refit the filter and cover in the order shown and fix the left and right covers to the inverter with the removed screws.



Dust net — dust filter (mesh); Net cover — filter cover

NOTE

If the inverter operates in a dusty environment, the dust filter clogs quickly. Remove and clean the filter regularly so as not to impair airflow inside the inverter and trigger component overheat protection. This affects power supply and inverter life.

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

9. Technical specifications

Group	Parameter	DT-2433M
PV	Max. PV input power	5000 W
	MPPT voltage range	40–450 V DC
	Rated voltage	240 V DC
	Max. PV input voltage, Voc (at lowest temperature)	500 V DC
	Max. PV input current	18 A
	Number of MPPT channels (inputs)	1
Battery and charging	Battery type	Lead-acid / lithium; user-defined (charge and discharge parameters for different battery types are set from the control panel)
	Rated battery voltage	24 V DC
	Battery voltage range	set by parameters A1–A7 (see 4-7)
	Max. PV charge current	120 A
	Max. AC grid charging current	80 A
	Max. charge current	120 A
Grid operation (on-grid)		
Grid output (AC)	Rated output power	3300 W
	Rated output voltage	220 / 230 / 240 V AC
	Grid voltage range	187–264 V AC
	Rated output frequency	50 / 60 Hz
	Frequency range	47–52 Hz (50 Hz), 57–62 Hz (60 Hz)
	Rated output current	15 / 14.3 / 13.8 A
	Power factor	> 0.98 (at rated power)
Standalone operation (off-grid)		
AC input	Rated input voltage	220 / 230 / 240 V
	Grid input voltage range	165–280 V AC / 120–280 V AC (configurable)
	Rated input frequency	50 / 60 Hz
	Input frequency range	45–55 Hz (50 Hz), 55–65 Hz (60 Hz)
AC output	Rated output power	3300 W
	Rated output voltage	220 / 230 / 240 V
	Output voltage accuracy	±2 %
	Rated output frequency	50 / 60 Hz
	Output frequency accuracy	±1 %
	Output voltage waveform	Pure sine wave

Group	Parameter	DT-2433M
Hybrid operation (supplement mode)		
AC input	Rated input voltage	220 / 230 / 240 V
	Grid input voltage range	187–264 V AC
	Rated input frequency	50 / 60 Hz
	Input frequency range	47–52 Hz (50 Hz), 57–62 Hz (60 Hz)
AC output	Rated output power	3300 W
	Rated voltage	220 / 230 / 240 V AC
	Output current	15 / 14.3 / 13.8 A
General parameters		
	Max. conversion efficiency (battery discharge)	94 % (peak value)
	MPPT tracking efficiency	≥ 99.9 %
	Transfer time	10 ms (typical value)
	Display	LCD + LED
	Cooling	Smart-controlled fan
	Comms	RS485 / mobile app (WiFi monitoring) (optional)
	Protection rating	IP20
	Installation	Wall-mounted
Protection	Battery low voltage alarm	22 V DC (default)
	Battery low voltage protection	21 V DC (default)
	Anti-islanding protection	≤ 2 s
	Overload protection	Automatic protection (battery mode), circuit breaker or fuse (grid mode)
	Inverter output short-circuit protection	Automatic protection (battery mode), circuit breaker or fuse (grid mode)
	Overheat protection	> 90 °C (output shutdown)
Environment	Operating temperature	−10...50 °C
	Storage temperature	−15...60 °C
	Noise	≤ 55 dB
	Altitude	2000 m (above that with derating)
	Humidity	0–95 % (non-condensing)
Size and weight		
	Product dimensions (L×W×H), mm	325 × 275 × 102
	Package dimensions (L×W×H), mm	400 × 330 × 167
	Net weight, kg	5.5
	Gross weight, kg	6.5

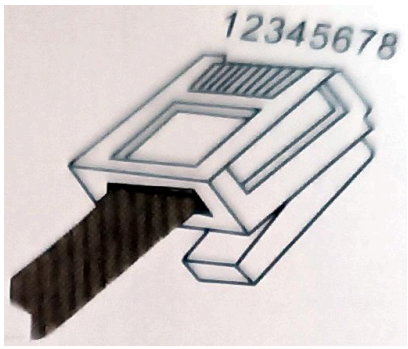
Note: the parameters given may change without notice!

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

10. Appendix: RS485 communication interface

RS485-1 port pin assignment (external communication)

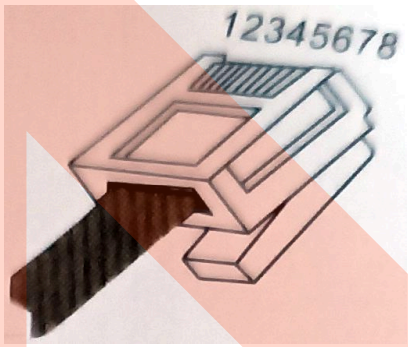
Pin	Signal
PIN1	RS485-B
PIN2	RS485-A
PIN3	NC
PIN4	+5V
PIN5	NC
PIN6	NC
PIN7	NC
PIN8	GND



NC — not connected.

RS485-2 port pin assignment (BMS)

Pin	Signal
PIN1	RS485-B
PIN2	RS485-A
PIN3	NC
PIN4	NC
PIN5	NC
PIN6	NC
PIN7	NC
PIN8	NC



NC — not connected.

11. Appendix: WiFi communication port (WiFi module is optional, not included as standard)

A connected WiFi module lets you monitor and control the inverter remotely from a mobile phone. Inverter operating data is sent via WiFi to a server. The user needs to register an account and bind the device by the WiFi module serial number. The serial number and QR code of the WiFi datalogger are stuck on the box / on the WiFi datalogger itself.

App: Android users search for “Solar of Things” in the app store, iOS users search for “Solar of Things” in the App Store. Or scan the QR code below to download the app.

For detailed instructions on the WiFi datalogger, see its manual.

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