

# MARSTEK

## User Manual For M5000



Attention! Please read this manual carefully before using this product.



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# 1. Safety Precautions

Please read the operating instructions carefully before starting assembly, installation, operation or maintenance. Protect yourself and others by following the safety instructions. Failure to follow the instructions may result in personal injury and/or property damage and/or loss of warranty coverage.

## INTENDED USE

With 5120Wh of stored energy, you can power electronic devices anytime, anywhere, whether camping, in your motorhome or during emergencies or power outages. Our product is not suitable for use in installations, related to personal safety and highly dependent on power supply, such as medical equipment, nuclear power plant equipment, aerospace equipment, etc. Therefore, we do not accept any liability for accidents involving personal injury, fires or machine breakdowns caused by the use of our product with the above equipment.

### 1.1 Safety instructions

Explanation of the symbols:



Danger



Warning



Caution

These operating instructions are intended to familiar you with the operation of this product. It contains important instructions for the use, safety and maintenance of the appliance. Therefore, keep this manual in a safe place so that you can refer to it at any time. Pass it on to subsequent users.

Please observe the safety instructions during use.

Before using the unit, check the unit and its connecting cables and accessories for damage. Do not use the unit if it has visible damage.

Operate the unit only from standard household sockets. Check whether the mains voltage indicated on the type plate corresponds to that of your mains supply.

Do not crush the connection cable or drag it over sharp edges or hot surfaces. Do not use the connection cable for carrying.

If the mains cable of this appliance is damaged, it must be replaced by the manufacturer or its after-sales service or a similarly qualified person in order to avoid danger.

Unplug the appliance after each use, in case of malfunctions during operation and before cleaning the appliance.

Never pull the plug out of the socket by the mains cable or with wet hands.

The unit is intended exclusively for domestic use or similar purposes. It must not be used for commercial purposes!

Make sure that the unit has good stability during operation and that it is not possible to trip over the mains cable.

Never use the appliance after a malfunction, e.g. If the appliance has fallen into water or has been damaged in any other way.  
The manufacturer accepts no responsibility for improper use resulting from non-compliance with the operating instructions.  
Conversion or modification of the product impairs product safety. Caution: There is a risk of injury!  
All modifications or repairs to the appliance or accessories may only be carried out by the manufacturer or by persons expressly authorized to do so by the manufacturer.  
Make sure that the product is operated from an easily accessible socket so that you can quickly disconnect the unit from the mains in an emergency.  
Never open the product yourself. Never carry out repairs yourself!  
Handle the product with care. It may be damaged by bumps, knocks or falls from a low height.  
Keep the product away from moisture and extreme heat.  
Never immerse the product in water or other liquids.  
Do not touch the product with wet or damp hands.  
Never use the product after a malfunction, e.g. If it has been dropped in water or damaged in any other way.



Danger

- Do not disassemble, repair or modify the system or battery. This may result in electric shocks, fire, etc.
- Do not place the system near a fire or expose it to heat.
- Do not expose it to direct sunlight. This may cause electric shocks, fire, etc.
- The system must not be charged, used or stored in the bathroom, in the rain or in damp rooms. This may result in electric shocks, fire, etc.
- Only use the output socket to supply external devices. Do not connect the output to the mains under any circumstances.
- Connection to the mains may result in electric shock, injury or fire.
- Do not touch the system or the plugs with wet hands. This can lead to electric shocks.
- Do not bring metal objects into contact with the ac input or ac output. This may cause electric shocks, fires, etc.
- Do not rub your eyes if liquid from the system gets into your eyes. In this case, rinse the eyes with water and seek medical attention immediately. There is a risk of blindness.
- Do not dispose of the system with household waste.
- Observe the local regulations for disposal of the system.
- Do not use unsuitable power cables. This may result in electric shocks, fire, etc.
- Do not operate the system beyond the specified input voltage. This may result in electric shock, fire, etc.
- Do not use the system if it is not working properly. This may result in electric shocks, fire, damage to the system, etc.
- Do not move the system while it is charging or in operation. This may result in electric shock, damage to the system or other injury!



## Warning

- Use the system only in a clean and dry environment. Do not use or store in dusty and humid environments. Failure to observe these instructions may result in short circuits, smoke or fire if metal dust or small metal parts come into contact with the connections.
- Check the system before each use. Do not use the system if it is damaged or defective. . .
- Do not use the unit and contact customer service if you find that the system is damaged, cracked, defective or has other defects.
- If the system shows any abnormalities, do not continue to use the system and contact the dealer or customer service.
- Do not use the system if the mains cable is damaged or defective.
- Keep the system away from children. Do not allow children to use the power supply unit.
- This may cause accidents or injuries. This system must not be used by children. Keep the system and its connecting cables out of the reach of children.
- Children are not allowed to play with the system.
- The system must not be used by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the system in a safe way and understand the hazards involved.
- Keep the system away from pets.
- Do not use or store the system in an environment with high temperatures. This may cause the system to deform or overheat.
- If liquid from inside the system comes into contact with skin or clothing, wash the affected areas with tap water.
- Contact with the liquid can cause injury.
- Unplug the power cord during a thunderstorm.
- A thunderstorm can cause an over-current from the socket, which can lead to overheating, fire or other accidents.
- Do not charge the system with power supply systems that operate outside the range between 100 and 240v. Failure to do so may result in overheating, fire, etc.
- Do not lay the system on its side or turn it upside down during use or storage. This may cause the system to leak or overheat, which may lead to accidents.



## Caution




- If rust, strange odour, overheating or other abnormal conditions are detected, stop using the system immediately and contact the dealer or our customer service.
- The system meets all legal requirements for the transport of dangerous goods.
- This system contains lifepo4 batteries.

- . According to airline transport regulations, lithium batteries with a capacity of 100 wh may not be transported by air.
- . When transporting in vehicles, ensure that the system is properly secured when transported in a motor vehicle.
- . Failure to comply with this instruction may result in damage to the equipment, electric shocks, overheating, fire and other accidents.
- . The system may only be charged and used at ambient temperatures between -10 and 40 °C (14 and 104 °F).
- . If the system is operated above or below this temperature range, overheating or loss of performance may occur.
- . Switch off the system immediately if it has been accidentally dropped, dropped or subjected to strong vibrations.
- . To avoid accidents, please contact the dealer or our customer service to have the system checked and repaired.
- . Carefully read the instructions of the electrical appliances you intend to connect to the power supply unit.
- . Make sure that the device you are connecting is switched off before you connect it.
- . A sudden start of the unit can lead to accidents or injuries.
- . When you activate the protection function and disconnect the unit plug, disconnect the electrical equipment from the plug. Switch off the system when not in use/storage to avoid electric shock and unnecessary discharge of the battery, etc.
- . Keep the unit away from other objects when moving it.
- . Be especially careful not to drop the unit on the floor.
- . Place the unit on a stable surface. This also makes it easier to read the displays.
- . The unit should not be exposed to shocks or vibrations. Otherwise there is a risk of fire.
- . During operation, power supplies generate electromagnetic fields that may interfere with the normal operation of medical implants or medical devices such as pacemakers, cochlear implants, hearing aids, defibrillators etc. If such medical devices are used, check with the manufacturer for any restrictions on the use of the devices. These measures are essential to ensure sufficient safe distance between medical implants (e.g. Pacemakers, cochlear implants, hearing aids, defibrillators, etc.) and this product while in use.
- . If the power supply unit is connected to a refrigerator during normal operation, power fluctuations may cause the power supply to cut off automatically. It is not recommended to connect a refrigerator in which medicines, vaccines or other valuable or medical or even non-medically important substances are stored to the unit. Nevertheless, if the power supply is connected to a refrigerator where medicines, vaccines or other medical or non-medical valuable substances are stored, it is recommended to set the ac output in the app to "Always on". This contributes to a continuous power supply and efficient power consumption.
- . Keep the original packaging of the unit and use it for transport.

## 1.2 Notes on the integrated battery and disposal

- . Used rechargeable batteries do not belong in household waste. As a consumer, you are legally obliged to return used rechargeable batteries for proper disposal. You can return your rechargeable batteries to the public collection points in your community or wherever rechargeable batteries of the same type are sold.
- . Batteries do not belong in the hands of children.
- . Do not heat the battery above 60 °C and do not throw it into a fire: Risk of fire, explosion and burns!

- . Do not short-circuit the battery.
- . Do not attempt to open batteries.
- . Stay close to the unit during charging and check its temperature regularly. Stop charging immediately if the unit is very overheated. A battery that becomes very hot or deforms during charging is defective and must not be used any further.
- . Do not subject the battery to mechanical stress. Avoid dropping the battery, subjecting it to impacts, bending it or cutting it.
- . When charging the battery, make absolutely sure that the polarity of the charging plug is correct. If the charging plug is connected incorrectly, the charger is unsuitable or the polarity is reversed, there is a risk of short circuit and explosion!
- . Never discharge the battery completely as this will shorten its life.
- . If the unit is to be stored for a longer period of time, it is recommended that the remaining capacity of the battery is approx. 30 % of the charge volume.
- . Avoid direct sunlight at the storage location. The ideal temperature is 10-20 °C.
- . Low temperatures can affect the battery capacity of the product.
- . The product can be charged at a temperature in the range 0- 40 °C.
- . If you charge the product at a temperature below 0 °C, we recommend the product can supply power to other devices in a temperature range of 0 °C to 50 °C.
- . Operating the unit in a residential environment may cause radio interference.

	<p><b>RECYCLING</b></p> <p>The packaging material can be recycled. It is therefore recommended to dispose of it in the sorted waste</p>
	<p><b>DISPOSAL</b></p> <p>The symbol "crossed-out dustbin" requires the separate disposal of waste electrical and electronic equipment (WEEE). Electrical and electronic equipment may contain hazardous and environmentally harmful substances. Therefore, do not dispose of them in unsorted residual waste, but at a designated collection point for waste electrical and electronic equipment. By doing so, you are contributing to the protection of resources and the environment.</p> <p>For more information, please contact your dealer or local authorities.</p>
	<p><b>DECLARATION OF CONFORMITY</b></p> <p>We hereby certify that this article complies with the essential requirements, regulations and directives of the EU.</p> <p>You can view the detailed declaration of conformity at any time under the following link: <a href="http://www.schuss-home.at/de/downloads/">www.schuss-home.at/de/downloads/</a></p>





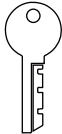





General Info	Model No.	M5000
	Capacity	5120Wh
	Cell Chemistry	LiFePO <sub>4</sub>
	Nominal Current	100A
	Operating Temp	0°C~50°C
	Materials	Metal
	Weight	90±0.5kg
	Dimension	722*399*809mm
DC Input(PV)	Max. Input Power	7.0kW
	Max. Input Current	14A/14A
	Max. Voltage	550V
AC Output	Rated Power	5.0 kW
	Max. Output Current	21.7A
	Nominal Voltage/Range	230V/176V ~ 270V
EPS Output:	Rated Power	5.0 kW
	Rated Current	21.7A
	Rated Voltage	230Vac
	Rated Frequency	50Hz
IFpP/14/136/263[16S2P]/M/0+50/80		

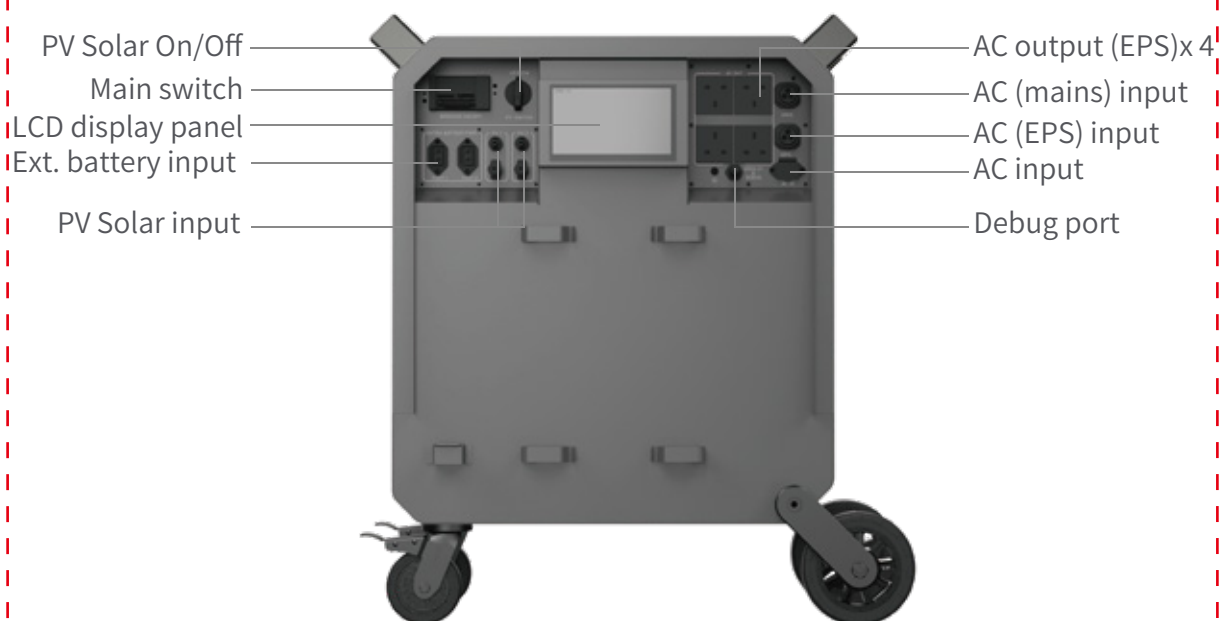
**Note:** DoD refers to the depth of discharge,  $\eta$  is the local inverter efficiency. DoD = 90 %  
 $\eta$  = 90 % .

The DoD may vary depending on the ambient temperature and discharge rate. The charging power and charging time are measured in watts and hours respectively.

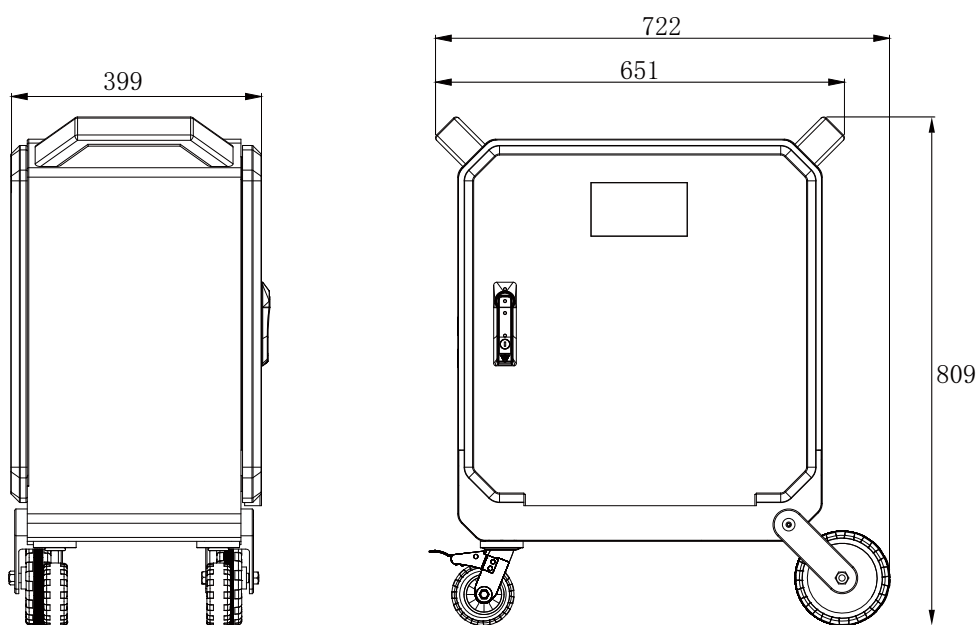
## 2. With the package you purchased, you received the following

							
power station	Operating instructions	Mains cable	tools for MC4 tear down	key for M5000 cabinet	AC terminals	PV connectors	PV pin connections

### 3. Device description



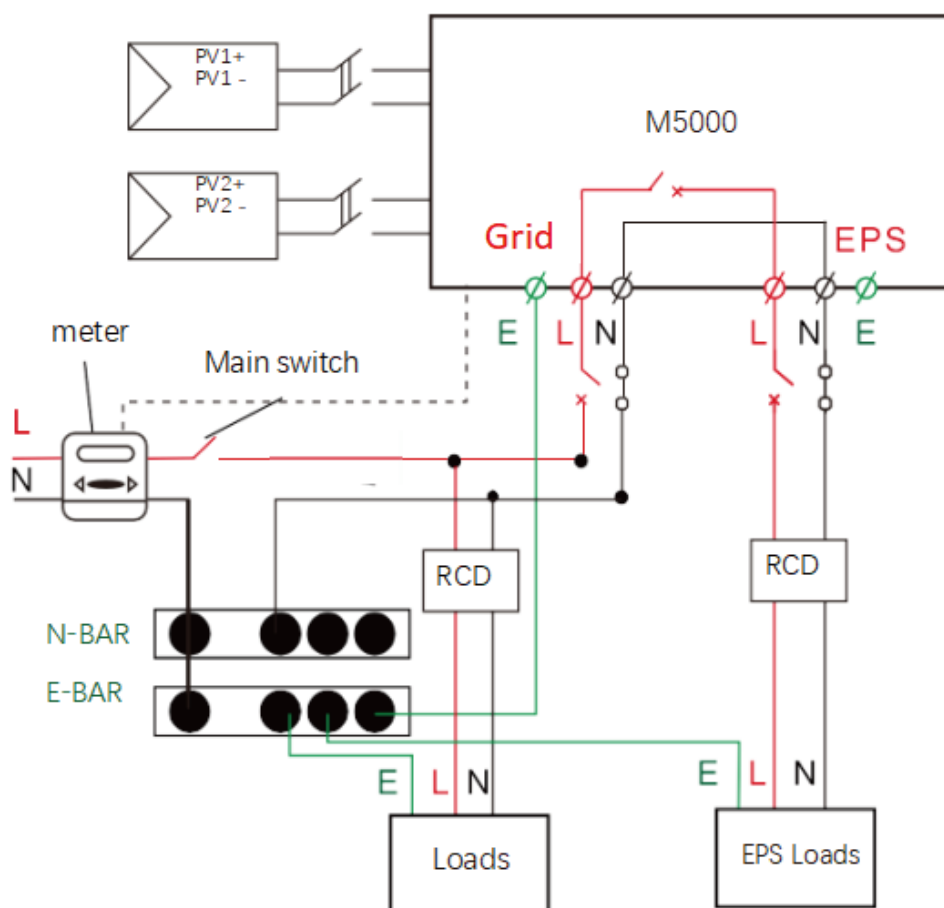
#### 3.1 Dimensions



## 3.2 More information about the product

M5000 is a high-quality power plant that converts solar energy into alternating current and stores the energy in a battery. The working mode depends on the PV energy and the user's preferences. The power plant can consume electricity, store it in the battery for later use or feed it into the public grid. It can also provide electricity for emergency use when the grid fails, using energy from the battery and the inverter (generated by the PV).

## 3.3 System diagram



### 3.4 Working modes

Operating modes: Self-operation

When PV, grid, battery are available:



A. Solar energy primarily supplies the consumers with electricity.  
If the solar energy is sufficient to supply all connected consumers, the excess solar energy is used to charge the battery and then the excess energy is fed into the grid.



B. The solar energy supplies the consumers with electricity in priority, if the solar energy is not sufficient to supply all connected consumers with electricity, the battery will supply the consumers with electricity at the same time.



B. The solar energy supplies the consumers with electricity in priority, if the solar energy is not sufficient to supply all connected consumers with electricity, the battery will supply the consumers with electricity at the same time.

If PV, grid is available (without battery)



A. The solar energy primarily supplies the consumers with electricity, and when the solar energy is sufficient, the surplus electricity is fed into the grid.



B. Solar energy supplies the consumers with electricity on a priority basis, if the solar energy is not sufficient to supply all connected consumers with electricity, the surplus electricity is released to the grid at the same time.

If PV, battery is available (grid is switched off)












A. If the solar energy is sufficient to supply all connected consumers with electricity, the solar energy is used to charge the battery.



B. Solar energy supplies the consumers with priority, if the solar energy is not sufficient to supply all connected consumers, the battery and solar energy supply the consumers with electricity simultaneously.

Working modes: Peak shift

When PV, grid, battery are available

	<p>A. During the charging period, the battery is primarily charged by solar energy. The surplus energy will supply power to the consumers. If the solar energy is sufficient to supply the consumers and charge the battery, and if there is still some surplus energy, the surplus energy is fed into the grid.</p>
	<p>B. At the time of charging, the battery is primarily charged by solar energy. Then the surplus solar energy will supply the consumers with electricity. If the solar energy is not sufficient to charge the battery and supply the consumers, the grid will jointly supply all connected consumers with solar energy.</p>
	<p>C. If the solar energy is sufficient to supply the consumers and if there is still surplus solar energy, the surplus energy and the battery are simultaneously delivered to the grid.</p>
	<p>D. During the time when no charging or discharging takes place, the solar energy supplies the consumers with first priority, excess energy is fed into the grid.</p>
If PV, grid is available (without battery)	
	<p>A. During the charging time, the mains charges the battery and simultaneously supplies the connected consumers with power.</p>
	<p>B. During the discharge time, when the load is lower than the battery power, the battery primarily supplies the consumers with electricity, the surplus electricity is fed into the grid.</p>
	<p>C. When discharging, if the power of the loads is greater than that of the battery, the battery and the mains supply power to the loads simultaneously.</p>
Working modes: Battery priority	
When PV, grid, battery are available	
	<p>A. The solar energy primarily charges the battery. If there is excess solar energy, the excess power will supply the consumers. If there is still some energy left, the surplus energy is fed into the grid.</p>
	<p>B. The solar energy primarily charges the battery, and if the solar energy is surplus, the surplus electricity is fed into the consumers. If the solar energy is not sufficient to charge the battery and supply the consumers, the grid will supply the consumers with electricity.</p>

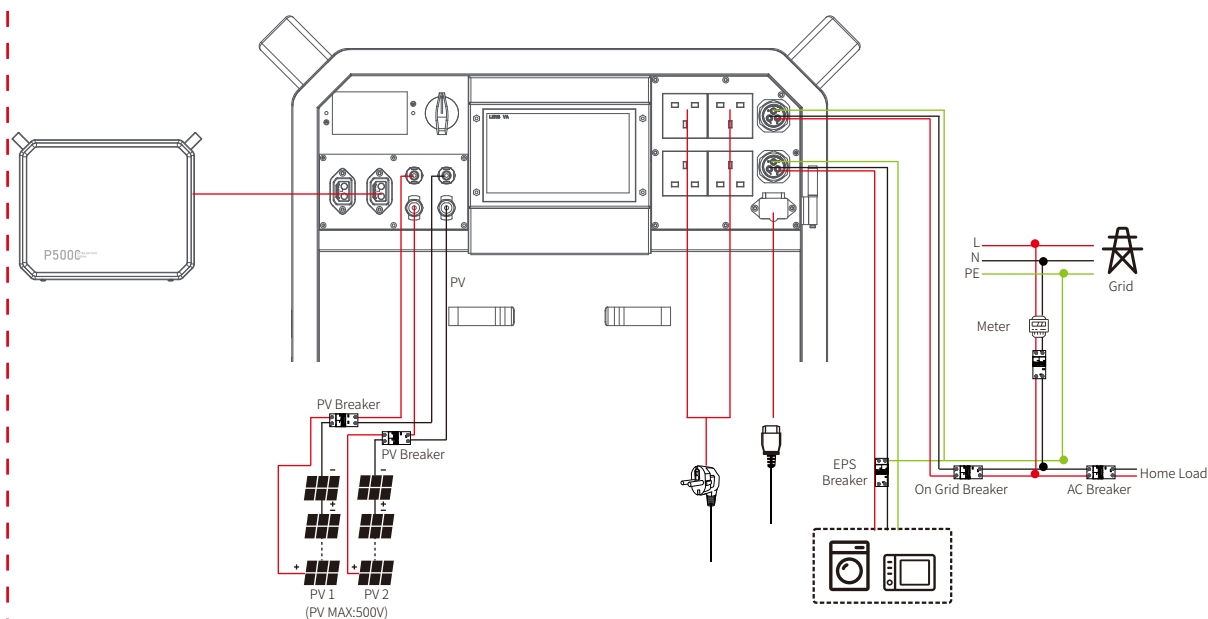


**Note:** If the anti-reverse function is activated, the system will not feed power into the grid in the self-consumption, peak load, battery priority operating modes.

### 3.5 Safety and security

- Over-/undervoltage protection
- DC insulation protection
- Monitoring of the earth fault protection
- Mains protection
- Monitoring the DC feed
- Regenerative current monitoring
- Residual current detection
- Anti-islanding protection
- Overload protection
- Overheating protection
- Max. Output fault current 55A
- Max. Output overcurrent 28.7A

## 4. Electrical connection



## 4.1 Mains connection and EPS connection

The M5000 is designed for single-phase mains.

The voltage is 220/230/240V, the frequency is 50/60Hz.

Technical requirements should be consistent with the requirements of the local public grid.

Cable specification: 5~6mm<sup>2</sup>

Micro circuit breaker: 32A

The microswitch should be installed between the inverter and the mains, a load should not be connected directly to the inverter.

1. Check the mains voltage.

1.1. Check the mains voltage and compare it with the permissible voltage range (see technical data).

1.2. Disconnect the PCB from all phases and secure it against reconnection.

2. Remove the waterproof cover from the mains connection of the inverter.

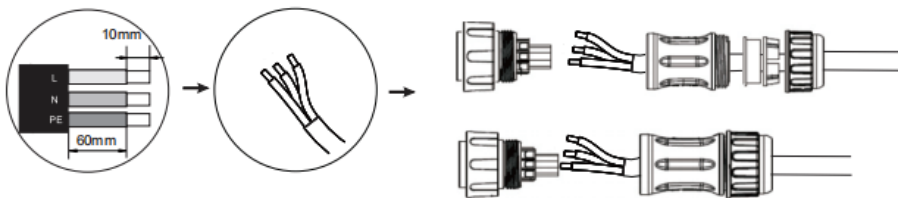
3. Make the AC and EPS lines.

3.1. Choose the right cable

3.2. Reserve approx. 60 mm cross-section of the conductor material and remove 10 mm of the insulation from the end of the wire.

3.3. Separate the screw cap of the AC terminal from the housing part and insert the stripped wires into the AC terminal and tighten the screws with a hexagonal spanner.

3.4. Tighten the docking screw cap and the housing part of the AC terminal.



4. Connect the AC plug to the GRID connector of the inverter and tighten the screw cap.

Connect the LOAD connector to the EPS connector of the inverter and tighten the screw cap.

## 4.2 PV connection

The M5000 can be connected in series with 2-strings PV modules with 5KW inverter.

Choose PV modules with excellent function and reliable quality. The open-circuit voltage of modules connected in series

connected in series should be <Max. DC input voltage; the operating voltage should match the MPPT voltage range.

Max. DC voltage (V): 550

MPPT voltage range (V): 125~500

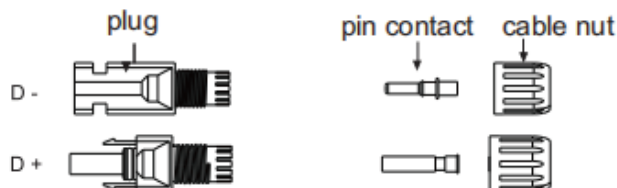
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Max. DC voltage (V): 550

MPPT voltage range (V): 125~500

Connection steps:

1. Check the PV module to ensure that the PV circuit is open and that the PV+ and PV- connections of the PV string are correct.
2. Disconnecting the DC connection.

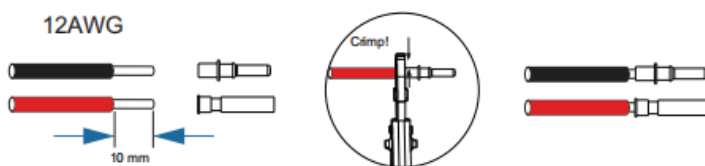


3. Wiring

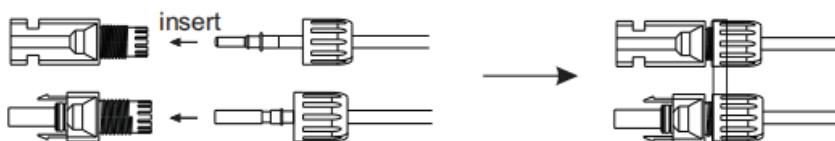
3.1 Choose the 12 AWG wire to connect with the cold-pressed terminal.

3.2 Remove 10mm of insulation from the end of wire.

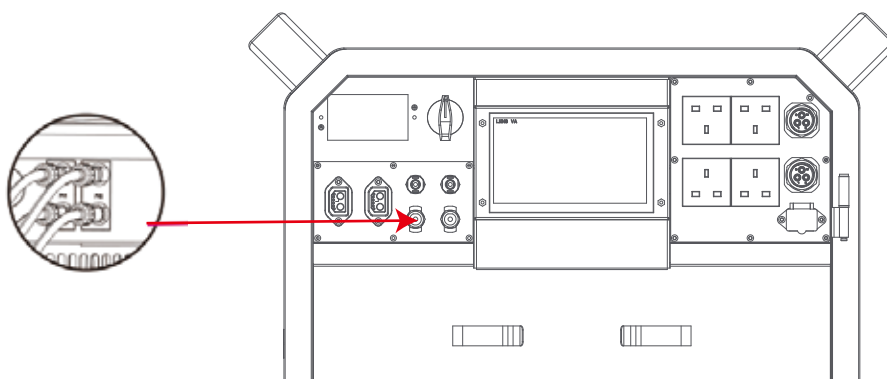
3.3 Insert the insulation into pin contact and use crimping plier to clamp it.



4. Insert pin contact through the cable nut to assemble into back of the male or female plug. When you feel or heard a “click” sound the pin contact assembly is seated correctly.



5. Plug the PV connectors into the corresponding PV sockets.





### 4.3 Wifi

M5000 has internal wifi integration, the user can select a wifi account and enter a password.

### 4.4 Air Switch & PV ON/OFF

Switch on the main switch and the display lights up, the main switch only controls battery operation.

The PV button (right) controls the MPPT (Maximum Power Point Tracking). For safety, consider that the inverter operates automatically.

### 4.5 AC(EPS) Output & AC(Mains) Input

There are 4 AC output sockets on the left side, for connecting your appliances with earth-ing contact or Euro plugs. Each socket supports 2/V Max (230V@50Hz), all 4 sockets together have a total output power of 5000W.

The cold appliance socket is an AC mains input for charging the integrated battery with a maximum power of 2000 W.

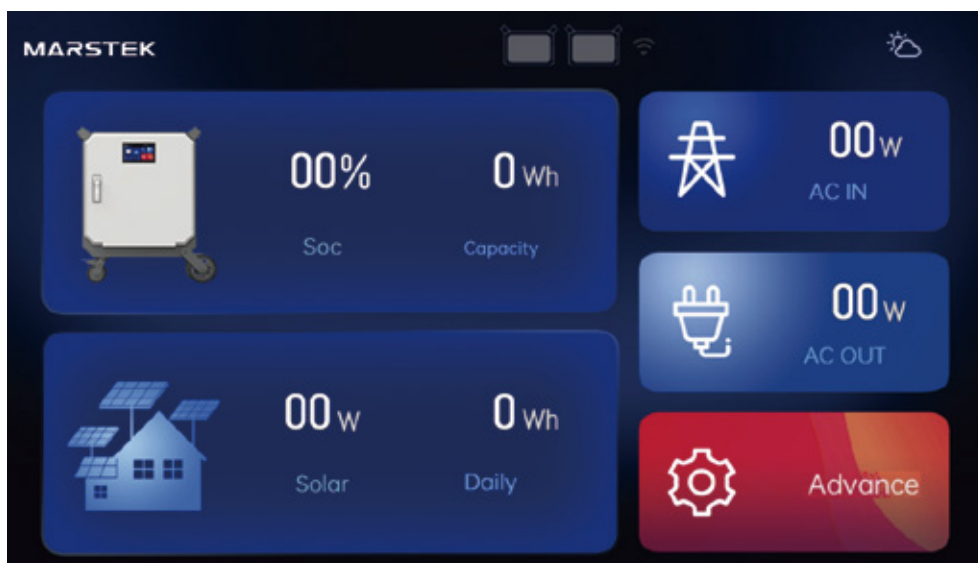
Input	PV(MPPT Solar)	7000W Max(500V/14A) for 2 strings in total
	AC#1(Grid)	2000W Max(220~240V@50Hz/60Hz)
	AC#2(Grid)	5000W Max(220~240V@50Hz/60Hz)
Output	AC#2(Grid)	5000W Max(230V@50Hz)
	AC#3(EPS)	5000W Max(230V@50Hz)
		Automatic Switch over Time<20ms
	AC#4(EPS)	2000W Max for each(230V@50Hz), total 5000W for 4 sockets

## 5. Display and interface

• The display shows the standby picture when switched off (see picture below) Switch on the unit with the main switch on the right side.



- After the unit has been switched on, the display shows the start page, select a menu item to access the respective detailed views or settings.



Mode	Description
SOC Power	Battery capacity display
Solar(PV)	Display of solar energy information when PV is in operation
Grid Power	Display of the network information when the network is switched on
EPS Power	Display of information on EPS performance during operation with battery
Settings	Touch this button to set Wifi

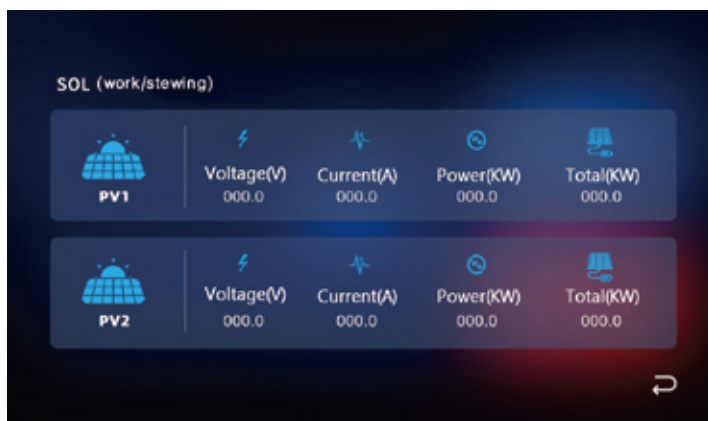
## SOC Power

- Select the menu item "Soc Power" to call up the current state of charge and detailed information about the battery.



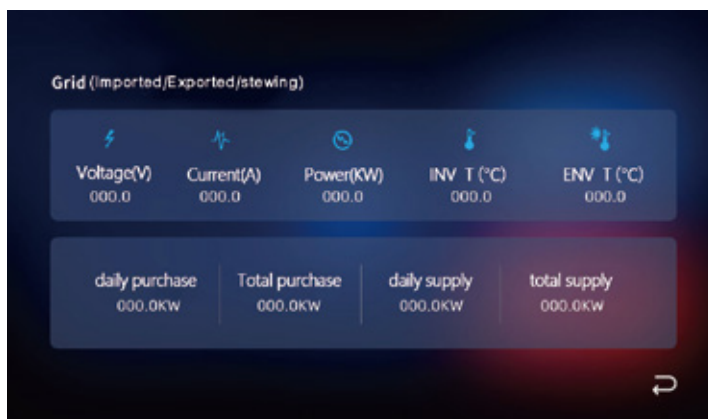
## Solar (PV)

- Select the menu item "Solar" to check the current input current generated by the connected solar panels.



## Mains voltage (Grid Power)

- Select the menu item "Grid Power" to retrieve the level of input voltage and input current with which the battery is currently being charged.



### Page(EPS) information for charging external devices

- Select "EPS Power"
- The display shows how much voltage and current is currently being supplied to connected devices and their consumption as well as the current battery volume.



Touch the ADVANCE button to set up wifi/sleep/work mode,language and reset.  
For Wifi, input account and password to connect.



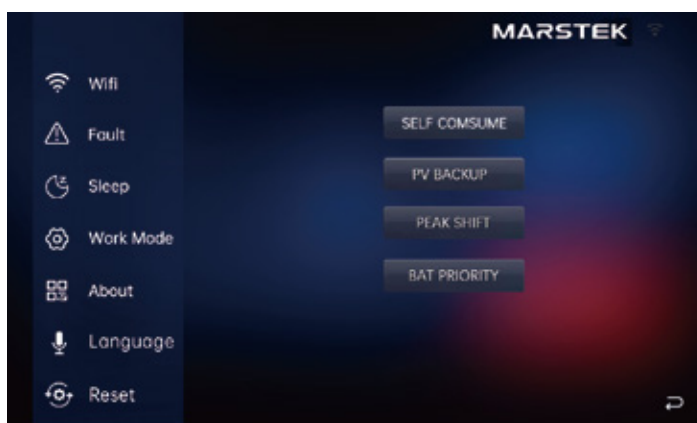
Touch Fault to see the fault in details.



Touch Sleep button to set 10 min/20 min/30 min or never. If M5000 is standby(no grid, PV, or load connection) via battery module only, the system will automatically trips when the set hibernation time ends(breaker will turn off). if connect load, the system will not sleep.



Touch Work Mode to set different working mode.



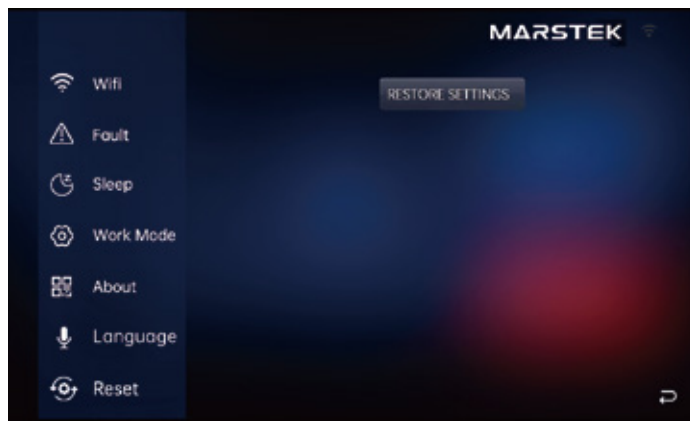
Touch About for see the version and device ID, the left QR for power zero download, the right QR is M5000 ID, which can link/bind with your APP on mobile-phone.



Touch Language to set Chinese and English.



Touch Reset button to have factory reset



## 6. Smartphone operation via app

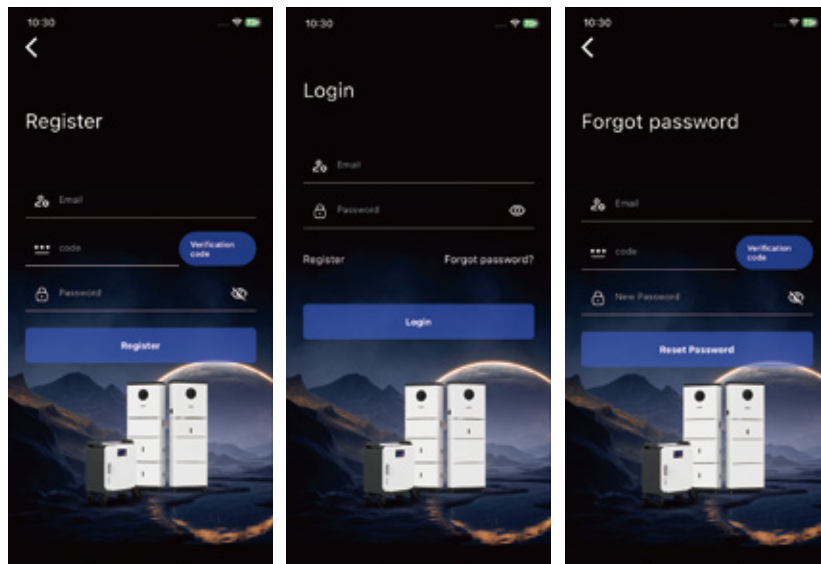
- Scan the QR code and install the opened app on your smartphone



- Select "Register Account"
- Enter your e-mail address.
- A confirmation code will be sent to the email address previously provided for verification.
- Confirm your email in the app with the code you have just received and set a password.

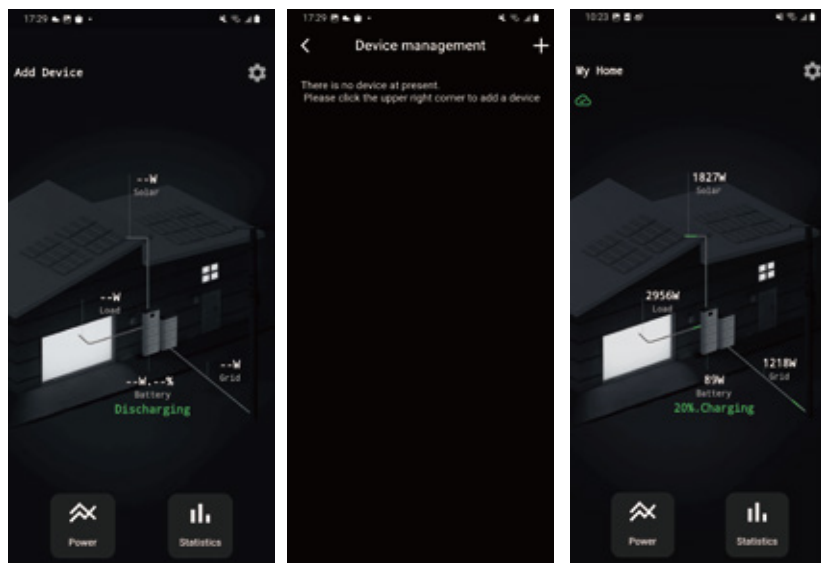
### Login

- Log in with your e-mail address and the password you have chosen.
- If you have forgotten your password, select "Forgot Password" and reset it.



### Adding devices

- After successful login, select "Add Device" in the upper left corner to add a device.
- Once the device has been successfully added, the name of your power station, such as "My Solar Power", is displayed on the start page.





- Select "Power" to retrieve current data.
- Select "Statistics" to call up monthly, annual or total statistics.

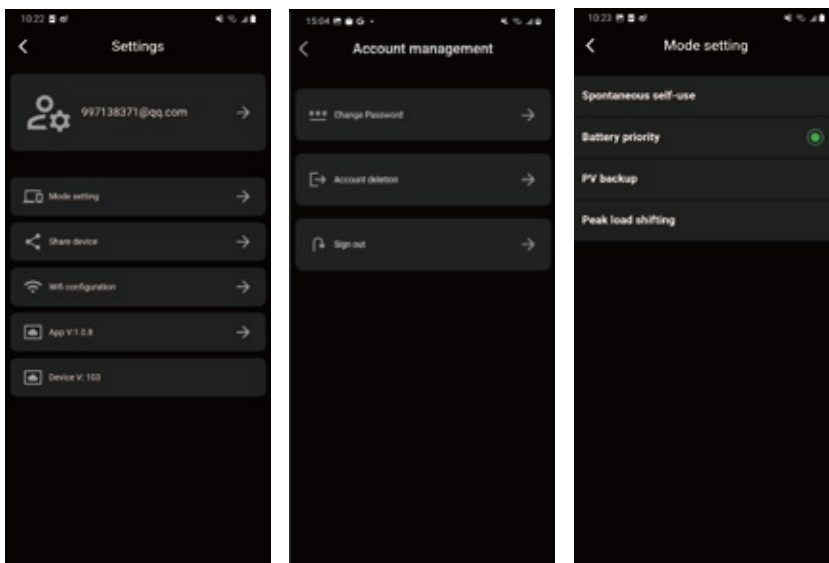


- To show or hide individual statistics, tap the respective symbol at the bottom of the screen.

### App settings

Select the settings wheel at the top right to change settings or get information:

- Change password
- Select working mode
- Information about the publisher of the app
- App and device information





## 7. Fault diagnosis

If your device cannot be charged successfully with this product, please carry out the following steps:

- Make sure that the output socket is activated and the LED indicator on the power button is lit.
- Please check the battery level on the LED display. If the power is 20% or less, please charge the unit.
- Please check whether the rated power of the device you want to charge exceeds the maximum power of the connection on the power supply unit.
- Check that the charging cable you are using is plugged in correctly and makes good contact.

## Fault diagnosis and solutions

The inverter is easy to maintain. If you encounter the following problems, refer to the table below. If the error cannot be corrected with the solutions found in it, contact your dealer. In the following table are some of the basic problems that may occur during operation and the corresponding basic solutions.

### Fault diagnosis table

Error	Cause	Solution
Overload	The power of the load exceeds the power of the inverter or the output terminal is short-circuited.	(1) Check that the load matches the maximum power of the machine. (2) Disconnect the power supply and switch off the machine; disconnect and reconnect the load and restart the machine
Bat Disconnect	The battery is not connected to the inverter or the battery connection has no output voltage.	Check whether there is voltage at the BAT connection by measuring the inverter.
Bat Under Vol	(1) The battery charge level is too low. (2) The battery BMS sends an instruction to prohibit discharging.	(1) Check the battery and charge it in time. (2) Check the communication protocol of the battery.
Bat Low vol	The battery voltage is lower than the normal operating voltage value	Change the battery as soon as possible.
Bus over vol	(1) the PV input voltage exceeds the MPPT voltage (2) the load connection and the mains connection are connected inversely	(1) Check that the PV input voltage is within the MPPT voltage range. (2) Switch off the unit and switch it on again after the screen has gone out.
BMS comm, fail	There is no normal communication between battery and inverter.	(1) Check the cable and the wiring sequence. (2) Check the battery switch.
fan fault	Poor contact of the fan	Switch off the entire unit and switch it on again after the screen has gone out.

## 8. Technical Data

General	Model	M5000
	Capacity	5120Wh
	Cell chemistry	LiFePO4
	Rated current	100A
	Standby power	<2W (working) /< 5mW (idle)
	Volume	<40 DB
	Lifetime	6000+ cycles up to 80% capacity
	Display	App / LED display / Web
	Protection class	IP65
	Storage temp.	-25 °C-60 °C (-13 °F -140 °F)
	Operating temp.	0 °C - 50 °C (32 °F-122 °F)
	Material	Metal
	Weight	90 ± 1kg
	Dimensions (with base)	722*399*809 mm
	Battery management system	OVP,UVP,OCP,SCP,OTP,UTP,etc
	Solar charging system	MPPT charge controller
Input	MC4 Solar	7000 W max. (50V / 14A)
	AC #1	2000 W max. (220V-240V@50Hz/60Hz)
	AC #2 (Mains)	5000 W max. (220V -240V@50Hz/60Hz)
Output	AC #2 (Mains)	5000 W max. (220V -240V@50Hz/60Hz)
	AC #3 (EPS)	5000 W max. (220V - 240V@50Hz/60Hz) Automatic switching time <20ms
	AC #4	2000W max. (220V@60Hz)

## 9. Storage and maintenance

Before storing the product, switch it off and store it in an dry, well-ventilated place at room temperature. Do not store it in the near sources of water. Charge and discharge the product during prolonged Storage every three months to prolong the life of the battery. For long-term storage, please discharge the product every three months (first discharge to 0%, then fully charge and finally discharge to 60%). The Warranty for the product expires if it is not charged for longer than 6 months and is discharged.

## 10. Disclaimer

Our company is not liable for damage caused by fire, earthquake, use by third parties, other accidents, wilful misconduct by the customer, improper use or other abnormal conditions. Do not repair damage to the power plug or power supply yourself. The warranty covers all conditions stated in the warranty. We do not accept any liability for contents that are not listed in the warranty conditions. Our company accepts no liability for damage caused by improper use or non-observance of these operating instructions.

## 11. Guarantee

With this quality product from MARSTEK, we grant a warranty period of 2 years from the date of purchase.

In the event of warranty claims, please contact your specialist dealer or us directly.

This guarantee does not apply to:

- Repair or replacement of parts due to normal wear and tear
- Damage due to non-observance of the operating instructions
- Devices that have been used - even only partially - for commercial purposes
- Devices that have been mechanically damaged by external impact (fall, impact, breakage, improper use, etc.) as well as wear and tear of an aesthetic nature.
- Equipment that has been improperly handled
- Units that have not been opened by our authorized service workshop
- Damage caused by force majeure, water, lightning, over-voltage

The absolute guarantee period of 2 years from the date of purchase is not extended by the provision of guarantee services (repair or replacement of the unit).

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