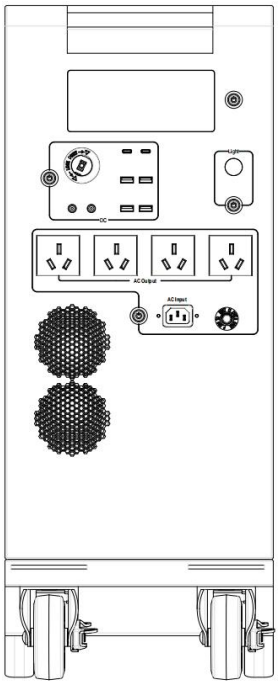
TG-MA5.12

Mobile energy storage system

User Manual V1.0



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1. Disclaimer

Read this Quick Start Guide carefully before using the product to ensure that you completely understand the product and can correctly use it. After reading this user manual, keep it properly for future reference. Improper use of this product may cause serious injury to yourself or others, or cause product damage and property loss. Once you use this product, it is
deemed that you understand, approve and accept all the terms and content in this document.

The product is not liable for any loss caused by the user's failure to use this product in compliance with this Quick Start Guide. In compliance with laws and regulations, the reserves the right to the final interpretation of this document and all documents related to this product. This document is subject to changes (updates, revisions, or termination) without prior notice. Please visit official Guide website to obtain the latest product information.

INSTRUCTIONS PERTAINING TO RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS IMPORTANT SAFETY INSTRUCTIONS.

- WARNING – When using this product, basic precautions should always be followed, including the following:

1.Read all the instructions before using the product.

2. To reduce the risk of injury, close supervision is necessary when the product is used near children.

3. Do not put fingers or hands into the product.

4. Use of an attachment not recommended or sold by TGPRO may result in a risk of fire, electric shock, or injury to persons.

5. To reduce risk of damage to the electric plug and cord, pull the plug rather than the cord when disconnecting the power pack.

6. Do not use a battery pack or appliance that is damaged or modified.Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.

7. Do not operate the power pack with a damaged cord or plug, or a damaged output cable.

8. Do not disassemble the power pack. Take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.

9. To reduce the risk of electric shock, unplug the power pack form the outlet before attempting any servicing.

10. WARNING – RISK OF EXPLOSIVE GASES.

To reduce risk of battery explosion, follow these instructions and those published by TGPRO and manufacturer of any equipment you intend to use in vicinity of the battery. Review cautionary marking on the product.

PERSONAL PRECAUTIONS

a) Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.

b) Wear complete eye protection and clothing protection. Avoid touching eyes while working near the battery.

c) If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 10 minutes and get medical attention
immediately.

d) NEVER smoke or allow a spark or flame in vicinity of the battery.

e) Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.

11. When charging the internal battery, work in a well-ventilated area and do not restrict ventilation in any way.

12. Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

13. Do not expose a power pack to fire or excessive temperatures. Exposure to fire or temperatures above 130°C (265°F) may cause an explosion.

14. Have servicing performed by a qualified repair person using only identical replacement parts. This will ensure that the safety of the product is maintained.

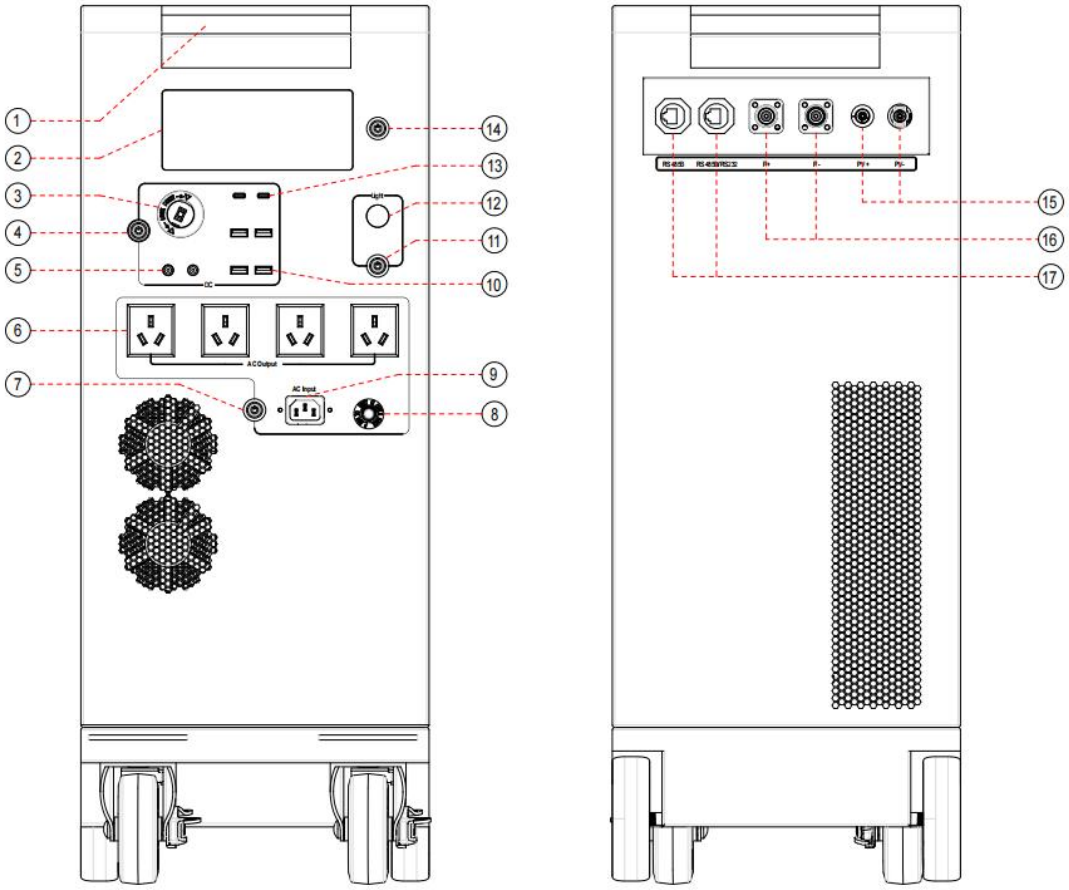
2. Technical Specifications

General	
Weight	60Kg
Size	700*450*280mm
Working Temperature	Charging: 0~45℃ Discharging:-20~45℃
Quick charge	Charge to 80% in1.5h Charge to 100% in 2h
Running Noise	＜55dB
IP Level	IP20
Battery	
Battery Voltage	51.2V
Battery Energy	5.12kWh
Cell Chemistry	LFP
Life Span	＞3500 Cycles
Battery Management System	Over Voltage Protection, Overload Protection, Over Temperature Protection, Short Circuit Protection, Low Temperature Protection, Low Voltage Protection, Over current Protection
Max.Charge Rated	Up to 0.8C/80A,default setting 50A
Battery Parallet	Max.Support Expand to 10.24kWh
Inverter	
Rated AC Output Power	5000W/220Vac/50/60Hz
Power of Over-load	102%<Load≤110% ,1 minute 110%<Load≤130% ,10 seconds 130%<Load≤150% ,3 seconds Load＞150% ,200 ms
PV	MPPT Maximum Input Power:5000W MPPT Voltage Range:120~450Vdc Max PV charge current:80A
Switch Time	＜10 ms
Input	
Charging Method	AC Wall Outlet, Solar Panel
AC Charging	Max.80A,default setting 50A
Solar Charging	Max.80A,default setting 50A
Input Voltage Range	90~280Vac,Settable
Nominal voltage	220VAC(Settable: 208/220/230/240 Vac)
Output	
AC Output Ports	4×10A
USB-A	100W
USB-C	60W

Car Power Output	12V/10A
DC output	12V/5A
Type C Port	2x100W
Smart Control	
Connection	Bluetooth and Wi-Fi
App Romote Control	Yes

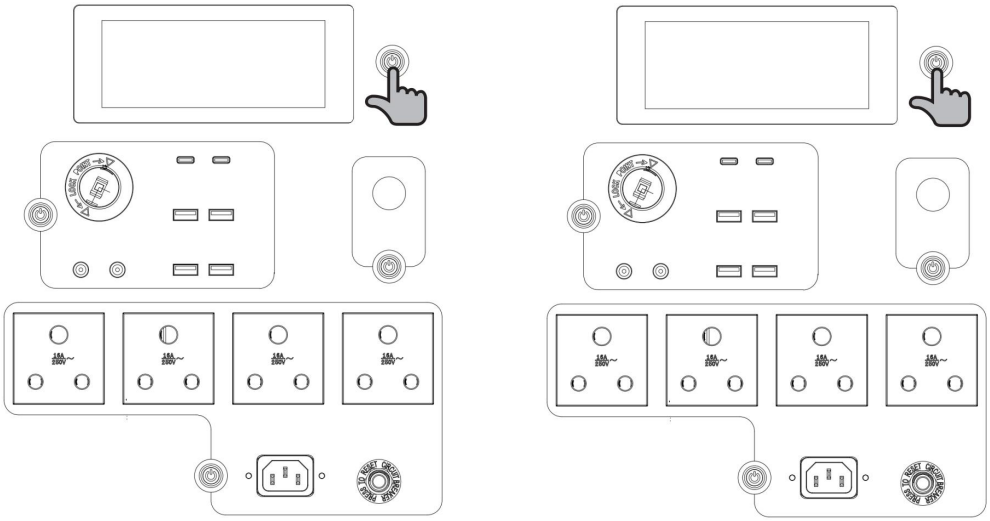
- Whether the product can be charged or discharged depends on the actual temperature of the battery pack.

3. Features



No	Name	Description
❶	Battery Handle	Used for handling and pushing equipment
❷	Screen	Display the operational status of the product, such as SOC
❸	Cart Outlet	Used for vehicle ignition and starting
❹	DC Button	Turn on and off DC output
❺	2xDC 12V/5A 0utput	Traditional ports for routers, cameras, old laptops, etc.
❻	4xAC Output	Standard AC receptacle: widely used in areas that use 220V; generates almost same AC power as a household wall outlet
❼	AC Button	Turn on and off AC output
❽	Fuse Protect	Overload protection
❾	Grid AC Input	Can connect the TGPRO to grid for AC charging
❿	USB-C 18Wx4 output	Quick charge USB-A ports
⓫	Light Button	Turn on and off light
⓬	Light	Lighting and emergency SOS rescue
⓭	Type C 60W/100W Output	Can be used to charge most devices currently on the market at 60W/100W Max
⓮	Power Button	Turn on and off storage system
⓯	Solar Input	Can be connected to solar panels
⓰	Battery Parallel Interface	Positive and negative interfaces of battery expansion pack
⓱	Battery Parallel Communication interface	Battery expansion pack communication and parallel port

4. Getting Started



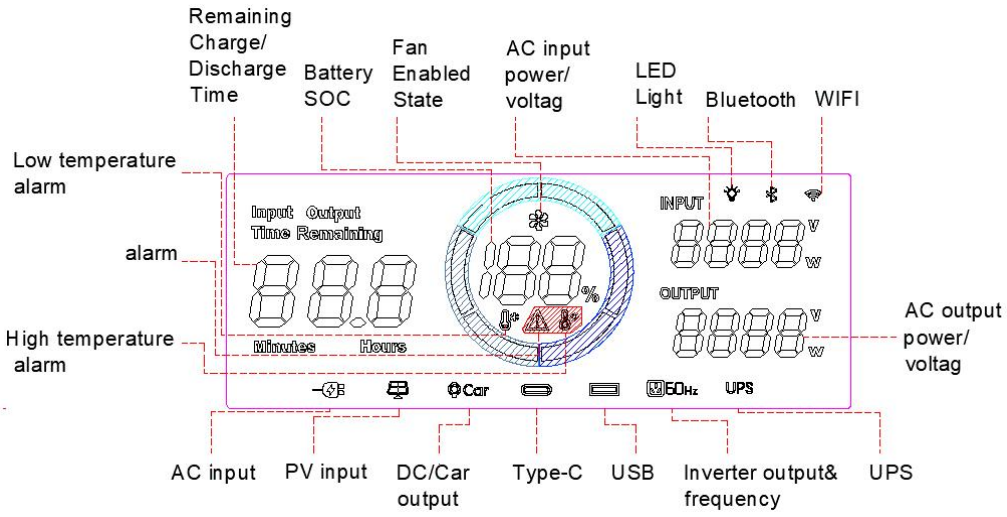
Short press to turn on

Long press to turn off

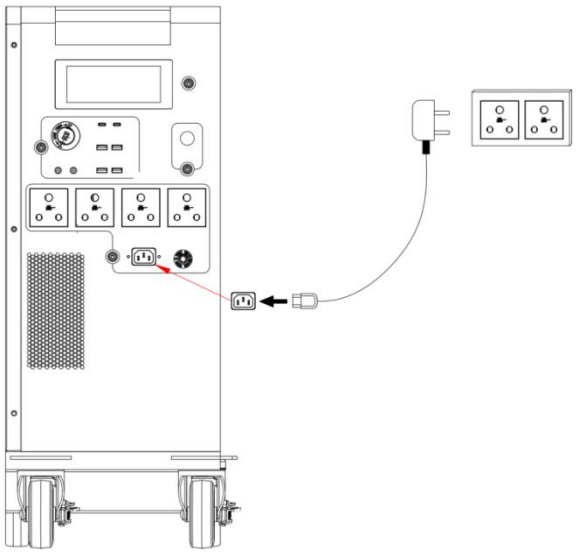
Startup: Short press the power button for 1 second,Screen illuminated.

Shutdown: Long press the power button for 3 seconds,Screen off,system shutdown.

5. Screen State



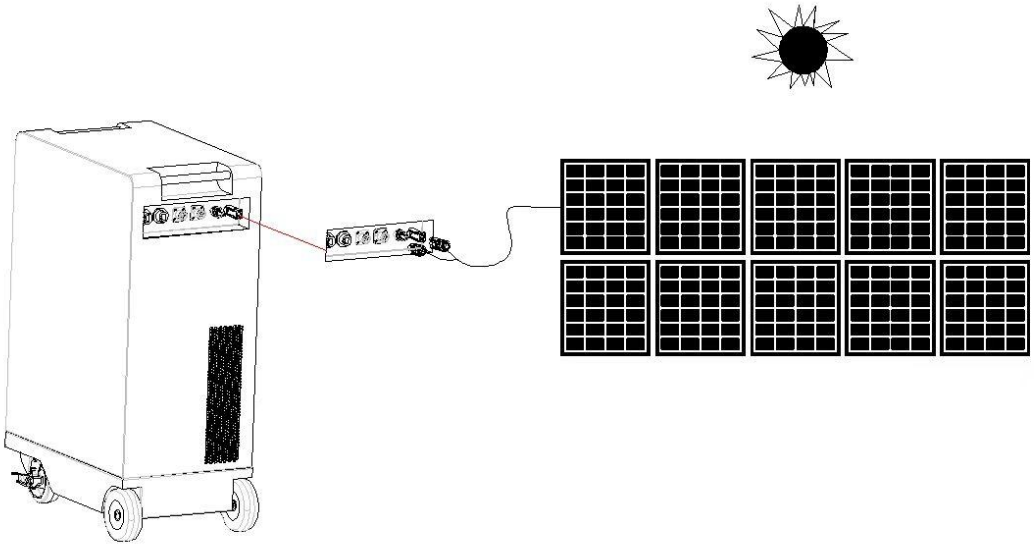
6. AC Charging



Connect the TG-MA5.12 from Grid AC Input port via the inbox 15A AC charging cable to the wall outlet.

The default battery charging current is less than 60A.

7. Solar Charging



1.Connect solar panels in series as shown in the figure, and recharge the TG-MA5.12 via

Solar Charging Cable (MC4 to aviation cable) .

2.TG-MA5.12 supports 120-450V DC input, 80A max current, and 6000W max charging power. Before connecting the solar panel, please ensure that the solar panel's output voltage is

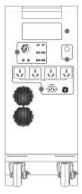
within 450V to avoid product damages.

8. App Usage

Download App:

Search for "Comfortable Life" in the Apple Store and major app markets, or scan the QR code below to download the APP and APP User Manual:

9. What's In the Box

No	Category		Quantity
1		TG-MA5.12	1
2		AC Charging Cable	1

3		Solar Charging Cable	1
4		User Manual	1
5		Warranty Card	1
6		QC PASS Certificate	1

10. Storage and Maintenance

- Ideally, use and store the product in a place of between 20°C~30°C (68°F~86°F), and always keep it away from water, intense heat, and sharp objects. For an extended product lifespan, do not store it in places of temperatures above 45°C (113°F) or below -10°C (14°F).
- For long-term storage, please discharge the product every three months (firstly discharge it to 0%, then fully recharge it, and lastly discharge it to 60%); the product will not be covered by the warranty if it is not charged or discharged for more than 6 months.

11. Safety Instructions

- Carefully read this document before installation and use. Otherwise, serious damage or personal injury may result.
- This battery contains compounds which may be harmful, carcinogenic, or cause fertility disorders if improperly handled. Do not remove the internal battery without the express permission of the manufacturer or one of its designated suppliers.
- We’re proud of TGPRO the TG-MA5.12 lightweight design, but it is still a 60kg+ product. Please be careful when handling and use an auxiliary transport tool if necessary.
- If you notice any extrusion, deformation, or other defect of your TG-MA5.12, immediately stop use of the product, and contact our support staff.
- Before undertaking any installation or wiring, first make sure the TG-MA5.12 Power Button and Breaker are in the “off” position.
- Do not dismantle or attempt to dismantle the TG-MA5.12 without the express permission of the manufacturer. Some of its parts are not replaceable. If you have any issue with your TG-MA5.12, contact our support staff. If maintenance is required, professional maintenance engineers will be required.
- To protect the product during transportation, please do not stand or sit on the TG-MA5.12 packing boxes. When opening and unpacking, be sure to handle with care. Do not place other items on top of the TG-MA5.12.
- Do not install the TG-MA5.12 near a heater or other heat source. It is prohibited to place or operate this equipment in an environment with any flammable, explosive gas, or smoke.
- Do not install the TG-MA5.12 any place where it will be directly exposed to the rain, and do not allow it to soak in water or any other liquid.

- Please do not use chemical cleaners or expose the TG-MA5.12 to any other flammable or volatile chemicals.
- Do not use spray products to clean the TG-MA5.12.
- This product should only be installed in environments that stay within its operating temperature
- range:Charging:-10°C~45°C(14℉~113℉)Discharging:-20°C~45°C(-4℉~113℉)
- Strictly follow guidelines laid out in this user manual when installing or using your TG-MA5.12.
- Only use official accessories from TGPRO to use in conjunction with your TG-MA5.12.
- Do not insert foreign objects into any of the TG-MA5.12 ports (whether AC or DC or ventilation holes). This power station generates the same potentially lethal AC power as a household wall outlet. Please use it carefully and keep children away from it.

12. Alarm Prompt Comparison Table

Alarm Code	Alarm Describe	Solution Method
E10	Battery Charge High Temp Alarm	Automatic, temperature returns to normal
E11	Battery Charge Low Temp Alarm	Automatic, temperature returns to normal
E12	Battery Discharge High Temp Alarm	Automatic, temperature returns to normal
E13	Battery Discharge Low Temp Alarm	Automatic, temperature returns to normal
E14	BMS Communication Timeout	Automatic,communication successful
E15	Battery Environment High Temp	Automatic, temperature returns to normal
E16	Battery Environment Low Temp	Automatic, temperature returns to

		normal
E17	BMS MOS High Temp	Automatic, temperature returns to normal
E18	Battery Input Alarm	Automatic, temperature returns to normal
E19	Battery Output Alarm	Automatic, temperature returns to normal
E21	Main Control Board High Temp	Automatic, temperature returns to normal
E41	Inverter Internal fault	Automatic recovery and manual reopening
E42	Inverter High Temp	Automatically turn on after automatic temperature recovery
E43	Inverter Output Alarm	Automatically and manually restart
E44	Inverter Communication Timeout	Button, communication successful
E45	PV Alarm	Automatically and manually restart
E46	Inverter Other Alarm	Automatically and manually restart
E51	USB A1 Port Alarm	Press the DC key and unplug the load before restarting
E52	USB A2 Port Alarm	Press the DC key and unplug the load before restarting
E53	USB A3 Port Alarm	Press the DC key and unplug the load before restarting
E54	USB A4 Port Alarm	Press the DC key and unplug the load before restarting
E55	PD1 Alarm	Press the DC key and unplug the load before restarting
E56	PD2 Alarm	Press the DC key and unplug the load before restarting
E61	Cigarette Lighter Alarm	Press the DC key and unplug the load before restarting