



Mango Power M

Quick Start Guide



Congratulations! You've made the best choice for your home backup energy needs by investing in the Mango Power M. Now, there are a few things you need to know to set up, maintain, and control your new power backup solution. Please read through this user guide properly and keep it in a safe place for future reference. Enjoy your Mango Power M energy backup system and welcome to the Mango Power family!

Important Safety Instructions

PLEASE SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

1. Please remember that the proper installation and servicing of the MANGO POWER M device requires a professional who can handle high-voltage electricity. Any installation, repairs, or servicing should only be done by certified installers authorized by Mango Power.
2. MANGO POWER holds no liability for any injuries or property damage caused by the use of unqualified individuals attempting repairs to the device or any failure to follow the provided instructions.
3. Strictly follow the warnings and steps outlined here while using the MANGO POWER M.

General Information

- It is important that you read this entire document thoroughly before using the MANGO POWER M.
- Failure to read this guide or disregarding any instructions or warnings outlined in this document may lead to electric shock, severe injury, or even fatalities. It can also result in damage to the Mango Power M device itself - potentially rendering it non-functional.
- It is also important to understand that working with a battery poses certain potential risks - including electrical shock, fire, or explosion due to vented gases. To ensure optimum safety, please take the proper precautions.
- Do not open the cover inside the MANGO POWER M Inverter or Cabinet as it exposes wiring which poses a risk of electrical shock.

About the Mango Power M

Now let's get to know more about the revolutionary device itself:

System Design

- The MANGO POWER M with its M Hybrid inverter and M Battery is a fully integrated battery system designed for residential or light commercial use.
- The device uses rechargeable lithium iron phosphate (LFP) battery packs for efficient energy storage for different applications – including solar self-consumption, load shifting, or off-grid use.
- The M Smart Screen gives you effective control and can be used to remotely monitor energy usage.

Solar Energy

If your Mango Power M integrates solar-powered energy, the excess solar energy can then be stored in the LFP battery during the day for use later on or during the night.

Grid Energy

Without any solar energy integration, your Mango Power M battery can easily be charged using the grid when electricity costs are low – allowing you to store energy for use during costly peak periods.

LFP Battery

The MANGO POWER M is a comprehensive energy management system that uses advanced LFP battery technology to ensure the best use of renewable energy. This makes it the most affordable and ideal choice for your home or small businesses.

Modes and Functions

The MANGO POWER M offers a range of work modes and functions that are designed to meet any of your needs. The following descriptions outline these modes and functions - providing an overview of the available options for customization and operation.

Please refer to the product manual for detailed information on the device's functions. It provides comprehensive guidance for understanding and using the product effectively.

Self-Consumption Mode (default)

- In this mode, the preferred order for power supply to loads is [PV > Generator > Batteries > Grid]
- The preferred order for power supply from solar power generation is [Loads > Batteries > Grid]

Charge First Mode

- In this mode, the preferred order of power supply from solar power generation is [Batteries > Loads > Grid]
- In this mode, the loads utilize power supplied from the grid preferentially.
- If redundant solar power is available after charging the batteries, that power will be combined with the grid power and added to the load output.

AC Charge Mode

- This mode can charge batteries with grid power during low tariff periods.
- It also supplies power to loads or the grid with batteries during a high tariff period.

Peak Load Shifting of Grid

This mode is used to specify the maximum power acquired by the inverter from the grid.

Smart Loads

- This function is designed to use the generator input as a load connection.
- When this is enabled, the device will supply power when the battery SoC and PV power are above the values set by users.

Caution: If you switch on the Smart Loads function, you should disable the connection to the generator to prevent the equipment from being damaged.

AC Coupling Connection

- The MANGO POWER M supports AC coupling connection with the existing grid-interactive solar system.
- The existing solar system is connected to the inverter's generator port.

Generator System Connection

- The M Hybrid Inverter can work with a generator through its generator ports.
- The generator used should be neutral bonded type - with 240V/120V output at the same time and the generator capacity should be larger than 6kW.

Display

The MANGO POWER M has a wonderful M Smart Screen to provide all the information you need to properly control and monitor your device. It allows you to access the:

- Running status of the device
- Live power data
- Daily and accumulated energy information
- Alarms
- Failures logs
- And more





Remember that the M Batteries should always be switched on for the device to work.

If any troubleshooting is required, please refer to the LED indicators on the M Battery and M Hybrid Inverter.

1. Switch on the Screen

To awaken the touchscreen from sleep mode, simply tap the screen and the homepage will be displayed.

2. System Icons

Home		Takes you to the homepage for an overview of the system and key information
Analysis		Allows you to access live information on solar power, batteries, grid, and backup output
Monitoring		Allows you to check all current and previous faults or alarms
Settings		Gives you access to the parameter settings of the device

Note:

- Please refer to the product manual for further details on the settings of the Mango Power M system.
- It is important to note that any changes or modifications to the settings should only be carried out by a qualified installer.

Getting Started

Now that we know more about the MANGO POWER M, let's get you started on using the device!

1. Switching On the MANGO POWER M

- First, toggle the "ON/OFF switch" to the ON position for all the M Batteries.
- Then, turn on the BATTERY+ Breaker of M Hybrid Inverter.
- Ensure that the voltage of each PV is higher than 120V and turn on the PV.

2. Generator, Backup Load, and On-Grid Wiring Checks

- Turn the range switch on the multimeter to alternating voltage.
- Connect the probes to L1 and L2 in parallel with the Generator/Backup Load /On-Grid.
- The reading should be 240 V \pm 25%.
- Check if the inverter can enter bypass and grid-connection modes as intended.

3. Check the Connection

If the normal LED on the M Smart Screen turns green, the wiring is correct and your device will start up properly.

4. Switching Off the MANGO POWER M

- Turn off the circuit breakers of the household distribution box.
- Turn off the LOAD Breaker.
- Turn off the PV switch and BATTERY+ Breaker.
- Wait until the M Smart Screen switches off.

Care and Maintenance

For optimal performance, keep your MANGO POWER M within the designated optimum temperature range:

Operating Temperature 13°F to 140°F (-25°C to 60°C)

Optimum Temperature 13°F to 113°F (-25°C to 45°C)

Care and Cleaning

- If the MANGO POWER M is installed outdoors, ensure that all sides of the device are free from fallen leaves and other debris to maintain optimal airflow and proper ventilation.
- Do not lean on, stack objects on top of, or hang anything from the MANGO POWER M device or any wires connected to it.
- Use a soft, lint-free cloth to clean the device. If necessary, you can use a lightly dampened cloth with a mild soap.
- Do not use cleaning solvents when cleaning the Mango Power M and do not expose the device to flammable and harsh chemicals or vapors.

Inverter Maintenance

- Regularly inspect the MANGO POWER M inverters every 6 to 12 months for damage to cables, fixings, terminals, and the overall device.
- Check for anomalies in operation, heat, or noise parameters every 6 months.
- Ensure that the inverters' radiators are unobstructed and promptly clean them if necessary.

Battery Maintenance

- Perform monthly dust cleaning and battery performance checks to maintain product operability.
- For batteries in long-term storage, charge them to a 50% - 60% state of charge (SoC) every 6 months.

Troubleshooting

M Battery

If the M Battery displays any warnings or faults, users can perform troubleshooting based on the states of the indicator lamps and the buzzer.

The table below gives you an overview of the different states indicated by the LEDs on the MANGO POWER M battery:

Status	Normal/Alarm/Protection	ON/OFF	RUN	ALM	SoC indicator LED						Remarks	
		•	•	•	•	•	•	•	•	•		
Shutdown	Sleep	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	All off
Standby	Normal	On	Flash 1	Off	Based on SoC indication						Standby state	
	Alarm	On	Flash 1	Flash 3	Based on SoC indication						Module LV	
Charging	Normal	On	On	Off	Based on SoC indication (max. SoC indication LED Flash 2)						LED flashes (Flash 2) on max. SoC. ALM doesn't flash on overcharge alarm	
	Alarm	On	On	Flash 3	Based on SoC indication (max. SoC indication LED Flash 2)						LED flashes (Flash 2) on max. SoC. ALM doesn't flash on overcharge alarm	
	Overcharge protection	On	On	Off	On	On	On	On	On	On	No grid power, indicator lamp toggled to standby state	
	Temperature/ overcurrent/ failure protection	On	Off	On	Off	Off	Off	Off	Off	Off	Off	Stop charging
Discharging	Normal	On	Flash 3	Off	Based on SoC indication							
	Alarm	On	Flash 3	Flash 3	Based on SoC indication							
	Undervoltage protection	On	Off	Off	Off	Off	Off	Off	Off	Off	Off	Stop discharging
	Temperature, over current, short circuit, reverse connection, failure protection	On	Off	On	Off	Off	Off	Off	Off	Off	Off	Stop discharging
Failure		Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Stop charging/discharging





Notes on LED flashes		
Way of flashes	On	Off
Flash 1	0.25s	3.75s
Flash 2	0.5s	0.5s
Flash 3	0.5s	1.5s

The table below gives you an overview of the various faults that may occur and their corresponding solutions:

Serial No.	Fault Phenomenon	Analysis of Causes	Solutions
1	No DC output after startup	Over-discharge protection due to low battery voltage	Carry out charging
2	No working of the indicating lamp after startup	BMS is in dormant state	Restart using the Reset Switch
3	Indicating insufficient electric quantity	Too low charging voltage	Adjust the floating charge voltage of the switching power supply to the required parameters
4	Short power supply time	The battery pack is not full charged	Check the charging voltage, current and other parameters of the switching power supply
5	Unstable output voltage after startup	BMS is interrupted	Restart using the Reset Switch
6	Communication failure	Problems in communication line	Check the address setting of the address switch, ports and lines

M Smart Screen

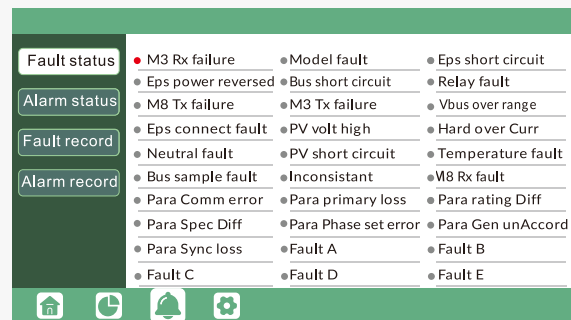
The table below shows you the different states indicated by the LEDs on the MANGO POWER M Smart Screen:

LED	Indication	Remarks	Suggestions
Green LED	On 	Normal	
	Flash 	Firmware is upgrading	Wait for the upgrade to finish
Yellow LED	On 	Warning. The inverter is working	Troubleshooting required
Red LED	On 	Fault. The inverter stopped working	Troubleshooting required

- To troubleshoot warnings or faults displayed on the M Hybrid Inverter, refer to the Smart Screen for alarm/fault information and consult the product manual for a comprehensive list of faults and alerts.
- The manual provides detailed instructions on resolving each issue effectively.

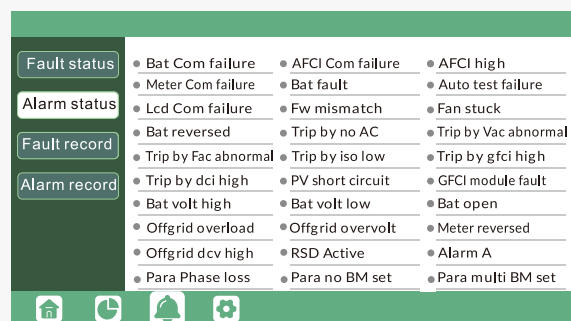
Faults

If the dot on the left of a fault entry is red, it means that this fault is current. If the dot is gray, it means that this fault doesn't exist anymore.



Alarms

If the dot on the left of a fault entry is yellow, it means this fault is current. If the dot is gray, it means this fault doesn't exist anymore.



MANGO POWER M Warranty

- The MANGO POWER M comes complete with a 10-year warranty to guarantee your satisfaction.
- To ensure the complete 10-year warranty for MANGO POWER M, it is essential to maintain a consistent Internet connection to enable remote firmware upgrades from MANGO POWER.

For additional details, please consult the MANGO POWER M warranty specific to your region at:

<https://www.mangopower.com/pages/after-sales-policy>.

Technical Support

- The MANGO POWER Customer Support team is always available to help you out.
- Visit our website at <https://www.mangopower.com/pages/contact-us> to reach us.
- You can also email us at support@mangopower.com

When contacting Mango, please have the following information readily available:

- Owner's name
- Preferred contact method for MANGO POWER (name, phone number, email)
- Serial numbers of the MANGO POWER M device
- A brief description of the issue you are experiencing.

The MANGO POWER M App

At MANGO POWER we value convenience and efficiency above all, which is why we've made it easy for you to control your MANGO POWER M at the touch of a button with the MANGO POWER App! The MANGO POWER M supports Wi-Fi connectivity so simply follow these instructions to connect your device to the app:

1. Download the MANGO POWER App from Google Play Store or the Apple App Store.
2. Sign up with an email account or from a third-party account using quick login with a Google, Apple, or Facebook account.
3. Follow the easy instructions when you open the app.
4. Or simply download the MANGO POWER App and App user manual using this link <https://dl.mangopower.com/d66783b7-5149-4584-8b2f-94c814881129> or scan the QR code on the final page.

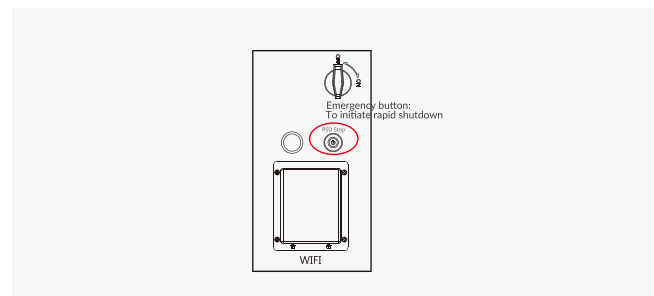
What to Do in Case of an Emergency

In the event of any health or safety threat, prioritize the following two steps before considering the additional recommendations:

- Immediately contact the fire department or the appropriate emergency response team.
- Notify anyone who could potentially be impacted and ensure their safe evacuation from the area.

Warning: Only perform the suggested actions below if it is safe to do so:

- Turn off the MANGO POWER M Inverter by pressing the emergency stop button on the left side.
- Select suitable fire extinguishers for use - like water, CO₂, and ABC Class extinguishers.
- Avoid using Class D extinguishers that are designed for flammable metals.



 MANGO POWER



Please scan this QR code for more product information