



mPanel Pro User Manual



mPanel Pro User Manual

These instructions apply to the MANGO POWER mPanel Pro device. Please read this user manual carefully before installing or using the mPanel Pro device. Keep this user manual in a safe place for future reference.

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1. Safety Precautions

Before installing, maintaining, or using the MANGO POWER mPanel Pro in any way, please read this user manual carefully and comply with all the rules and warnings provided. Do not operate this device contrary to the regulations of this user manual as it may lead to equipment damage, electric shock, severe injury, or even death.

The operator of this device must be proficient in understanding the condition of the equipment, the safety information provided, and the necessary precautions before any installation, operation, inspection, or maintenance.

This user manual categorizes safety precautions into two levels: "▲Danger" and "●Warning"

▲**Danger:** Flawed operating may be extremely dangerous and result in severe injury or death.

●**Warning:** Flawed operating may be dangerous and result in moderate or mild injuries and equipment or property damage.

The pictures in this user manual are for reference only and may differ slightly from the actual product. In order to ensure the continuous improvement of this manual, we reserve the right to modify it.

No unit or individual is permitted to copy this user manual, or any part of it, for commercial purposes without the written permission of the MANGO POWER company.

▲ **Danger:**

- ▲ When dealing with any wiring, please ensure that the power is turned off to avoid electric shock.
- ▲ This equipment should not be installed in direct sunlight, humid environments, or in any environment where rain or other liquids might make contact with it as this increases the risk of electric shock.
- ▲ Ensure reliable grounding to prevent electric shock and fire.
- ▲ All work related to the device must be performed by qualified personnel who have electrician certificates – including installation, operation, maintenance, settings, and configuration.
- ▲ Do not attempt to operate any of the switches or buttons of the device with wet hands as it may lead to electric shock.
- ▲ Please switch the power off when troubleshooting or cleaning any of the equipment.
- ▲ Do not place any objects on top of the product during installation, use, or maintenance.
- ▲ The electrical installation must comply with the local national electrical safety standards and regulations.
- ▲ Do not remove the rear bottom plate of the device during circuit operation as there is a risk of electric shock.
- ▲ Do not touch any uninsulated wires when opening the protective cover on the product as there is a risk of electric shock.
- ▲ Do not place flammable or potentially explosive materials near the device.

- ▲ All warning labels and nameplates on mPanel Pro should be clearly visible at all times and must not be removed, covered, or pasted over.
- ▲ Please keep children away from mPanel Pro and its related systems to prevent the risk of electric shock.

● **Warnings:**

- For optimal use and maintenance, the space surrounding the device should not be less than 400mm and the device's height off the ground should not be less than 1000mm.
- Only after the device is installed in its place should any electrical wiring be carried out.
- Protective sleeves must be added to the incoming and outgoing wires of the device.
- Confirm that the circuit breaker and all incoming/outgoing wires meet the requirements of the device during wiring.
- Use special prescribed tools for the installation and wiring of the device.
- If any damage to the mechanical or electrical components of the device is noted, immediately stop the installation, and contact the supplier promptly.
- If any malfunction occurs during use, turn off the power and check the cause of the malfunction. Do not strike the device while trying to repair it as it will only damage the equipment.
- Switch the power supply off when performing maintenance checks and cleaning.
- Live maintenance must be performed by professionals with the required protective measures.
- Do not modify any critical components of the device as it may lead to property, personal, or product harm..
- Do not use damaged, broken, or worn wires and connectors. Protect the wires from physical damage - such as compression, door closures, or being tied into knots or stepped on.
- Do not place incoming and outgoing wires in areas where water or other liquids may come into contact with them.

2. Product Introduction

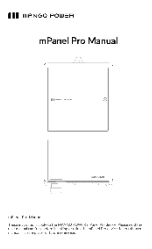
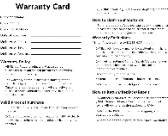
2.1 Overview

This product is an electrical control distribution box designed for MANGO POWER Union and MANGO POWER E products. The mPanel Pro connects the MANGO POWER Union or MANGO POWER E to the load to assist in automatically switching the energy supply between the grid and the MANGO POWER backup power sources.

Note: When two MANGO POWER E units are connected in parallel, the output voltage can support a 240V split-phase and allows them to meet the requirements of most household appliances.

2.2 What's in the BOX

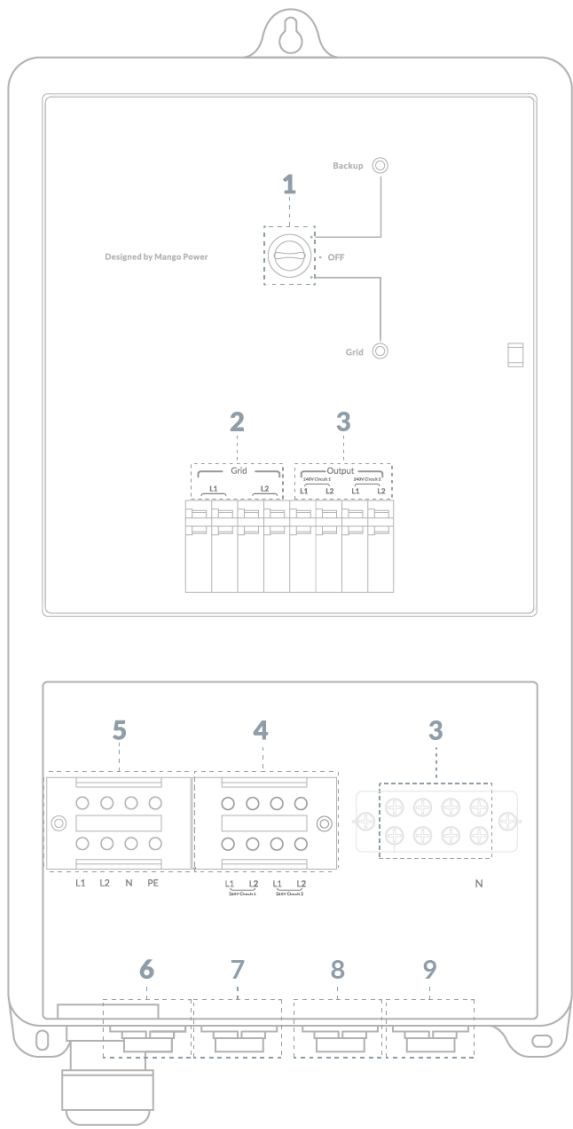
MANGO POWER Union			
No.	Type		Quantity
1	mPanel Pro		1
2	Expansion plug		3
3	Self-tapping screw		3
4	Manual		1
5	Warranty Card		1
6	AC Input Cable for POWER Move		1
7	AC Input Cable for POWER Home		1
8	AC Output Cable		2

MANGO POWER E			
No.	Type		Quantity
1	mPanel Pro		1
2	Expansion plug		3
3	Self-tapping screw		3
4	Manual		1
5	Warranty Card		1
6	AC Input Cable		2
7	AC Output Cable		2
8	E-Link Cable		1

2.3 Product specification

Product	mPanel Pro	Size	554*280*108mm
Mains input voltage	120V, 240V	Mains input current	50A
Output port	2×30A	Backup input Port	2×30A
Load output port	4×15A	Working temperature	-10°C- 45°C

2.4 Features



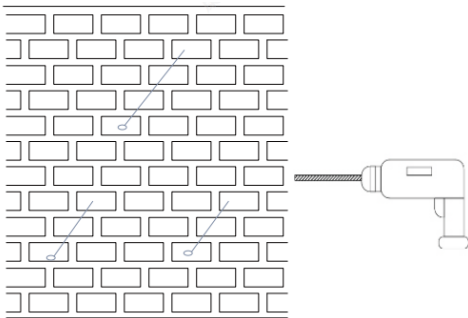
NO.	Name	Description
1	Rotary Switches	Controls the output circuit to accommodate the power supply of four output circuits and allows the power supply to be quickly switched between the grid and the power backup solution.
2	Grid Breaker	Controls the shutdown of the mains input.
3	Output Breaker	Controls the shutdown of the mains input
3	Neutral load Access Terminal	Connects to the output neutral wire line.
4	Live Load Access Terminal	Connects to the output live wire - the maximum current of a single port is 15A.
5	Mains Input	The mains input live wire is connected to the L terminal, the mains input neutral wire is connected to the N terminal, the earth wire is connected to the PE terminal, and the maximum current is 50A.
6	Output-1 Port	Connects to the input port of MANGO POWER Union or MANGO POWER E device - the maximum current is 30A.
7	Output-2 Port	Connects to the input port of MANGO POWER Union or MANGO POWER E device - the maximum current is 30A.
8	Backup Input-1 Port	Connects to the output port of a separate Power Move, Power Home, or MANGO POWER E device - the maximum current is 30A.
9	Backup Input-2 Port	Output port when connecting the MANGO POWER Union device or 2 sets of the MANGO POWER E device - the maximum current is 30A.

3. Product Installation

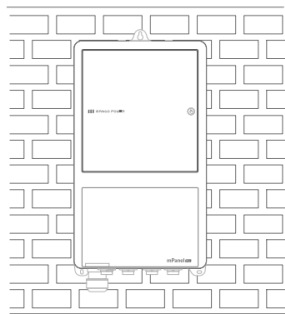
3.1 Materials Required for Installation

- Power cables:
A 6 AWG black silicone cable, a 6 AWG white silicone cable, and a 6 AWG green-yellow silicone cable.
A 12 AWG black silicone cable and a 12 AWG white silicone cable.
- Tools:
Power drill, screwdriver, and insulated gloves

3.2 Product Fixing

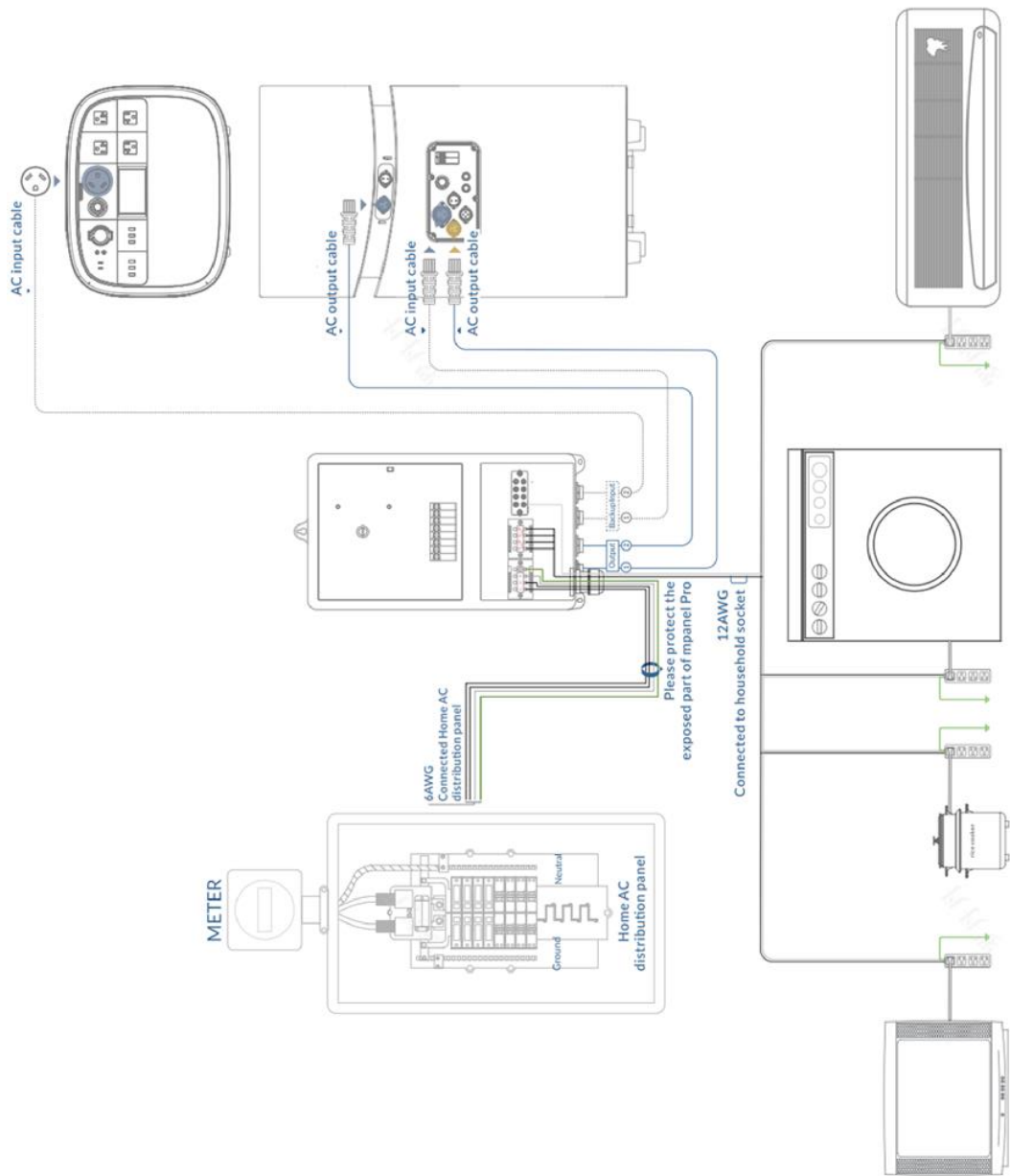


(1) Mark the positions of the three fixing holes on the wall where the product needs to be installed. Use a power drill to make holes at the marked positions for installation, insert expansion plugs into the holes, and screw a self-tapping screw into the top screw hole.

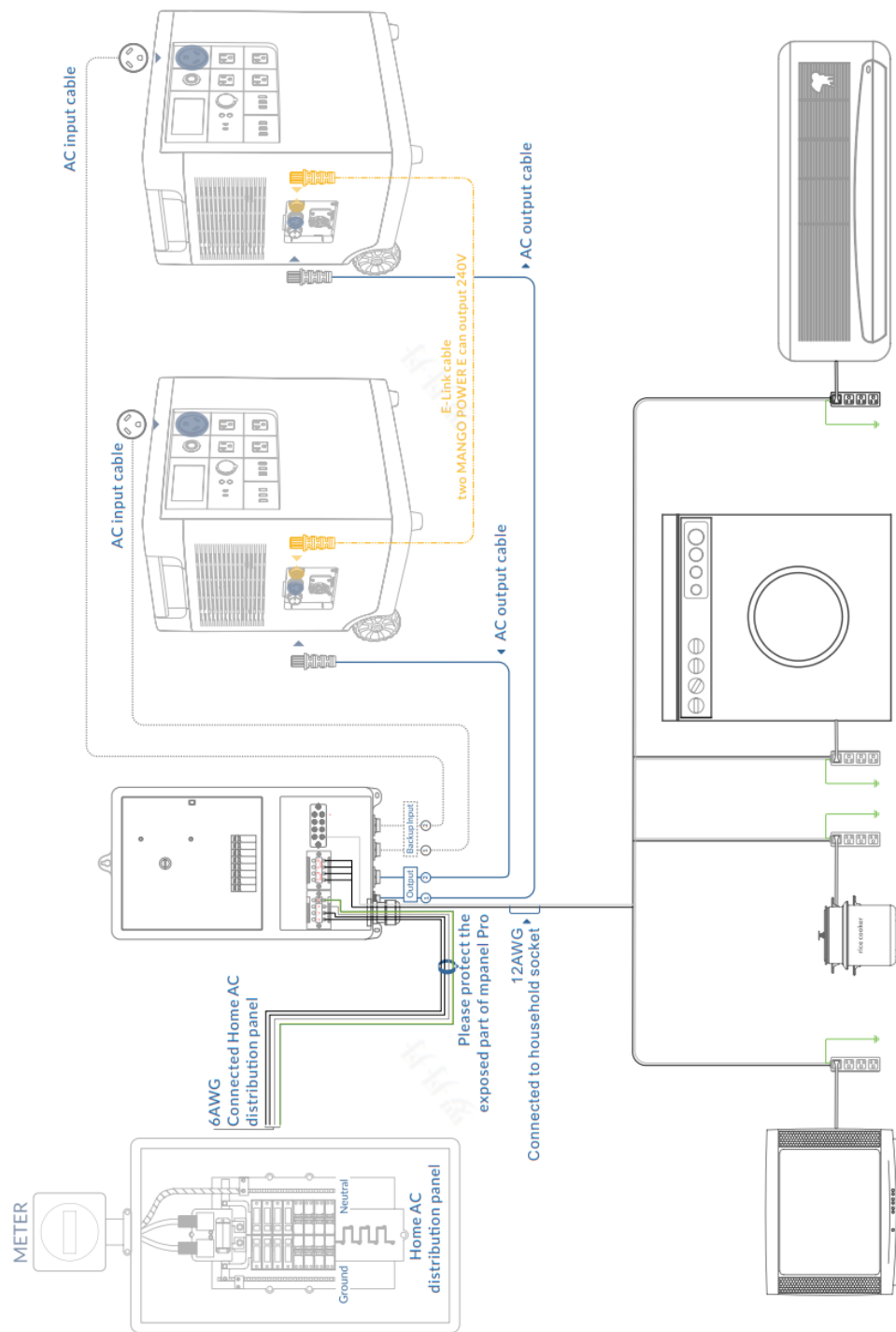


(2) Hang the mPanel Pro on the top screw that was just inserted so that the two lower screw holes align with the installation holes below the mPanel Pro. Take out the other 2 self-tapping screws, align them with the two holes, then insert and tighten them.

3.3 Wiring steps



MANGO POWER Union and mPanel Pro wiring diagram



MANGO POWER E and mPanel Pro wiring diagram

(1) Open the bottom cover then use a screwdriver to unscrew the protective cover screws and remove the inner cover. Put the prepared silicone cable onto the protective tube, and take measures to protect the exposed wires outside of mPanel Pro.

- a. Use the 6AWG wire to connect the home AC distribution box and the mPanel Pro AC input: the 6AWG black silicone cable connects to L1/L2, the 6AWG white silicone cable connects to N, and the 6AWG yellow-green silicone cable connects PE.
- b. Use the 12AWG black silicone cable to connect the energy supply to the mPanel Pro load input for the hot wire: L1/L2.
- c. Use the 12AWG white silicone cable to connect the load to the mPanel Pro load input for the neutral wire: N.
- d. After the wiring is completed, tighten the protective cover screws with a screwdriver and place the protective cover back on the device.

(2) Use the AC input cable and AC output cable to connect the MANGO POWER Union or MANGO POWER E devices to the mPanel Pro:

MANGO POWER Union:

- a. Use the AC input cable to connect the mPanel Pro's backup input to the Power Home's 40A home backup outlet or the Move's 30A AC outlet. (When only the Power Move or Power Home is available, the AC input cable can only be connected to the mPanel Pro's Backup Input-1.)
- b. Use the AC output cable to connect the mPanel Pro's Output-1/Output-2 to the Power Home or Power Move's grid AC input.

MANGO POWER E:

For 1 MANGO POWER E device:

- a. Use the AC input cable to connect the mPanel Pro's Backup Input-1 to the MANGO POWER E's 30A AC outlet.
- b. Use the AC output cable to connect the mPanel Pro's Output-1/Output-2 to MANGO POWER E's GRID AC INPUT.

For 2 MANGO POWER E devices:

- a. Connect 2 MANGO POWER E devices using the E-link cable then use the AC input cable and AC output cable to connect the input/output ports.

4. Function Usage Introduction

After the successful installation of mPanel Pro, turn on the backup mode for the MANGO POWER Union or MANGO POWER E and switch between mPanel Pro Backup and Grid modes by controlling the knob switch.

4.1 Backup Mode

(1) Turn the knob switch to the backup position then turn on the grid breaker. The output port can then charge the MANGO POWER Union or MANGO POWER E devices. Turn on the output breaker and the MANGO POWER Union or MANGO POWER E device can supply power to the load. The L1-N and L2-N can output four 120V circuits.

(2) If 2 MANGO POWER E devices are connected in parallel, the MANGO POWER E can output two L1-L2-N 240V split-phases. Note: When two MANGO POWER E devices are connected in parallel and the backup mode is turned on, only discharge is allowed and not charging. To charge, turn off the MANGO POWER E's backup mode.

(3) If it is necessary to stop supplying power to the load, the output breaker can be selectively turned off as needed.

4.2 Grid Function

(1) Turn the knob switch to the grid position then turn on the grid breaker and switch to the utility power in order to supply power to the load, the MANGO POWER Union device, or the MANGO POWER E device. The L1-N and L2-N can output four 120V circuits, and L1-L2-N can output 240V.

(2) If it is necessary to stop supplying power to the load, the output can be selectively turned off as needed or the grid breaker can be used to turn off the utility power input source.

