40020128A

Download Center

ATMOZEN APP

M–CombinerX Quick Installation Guide

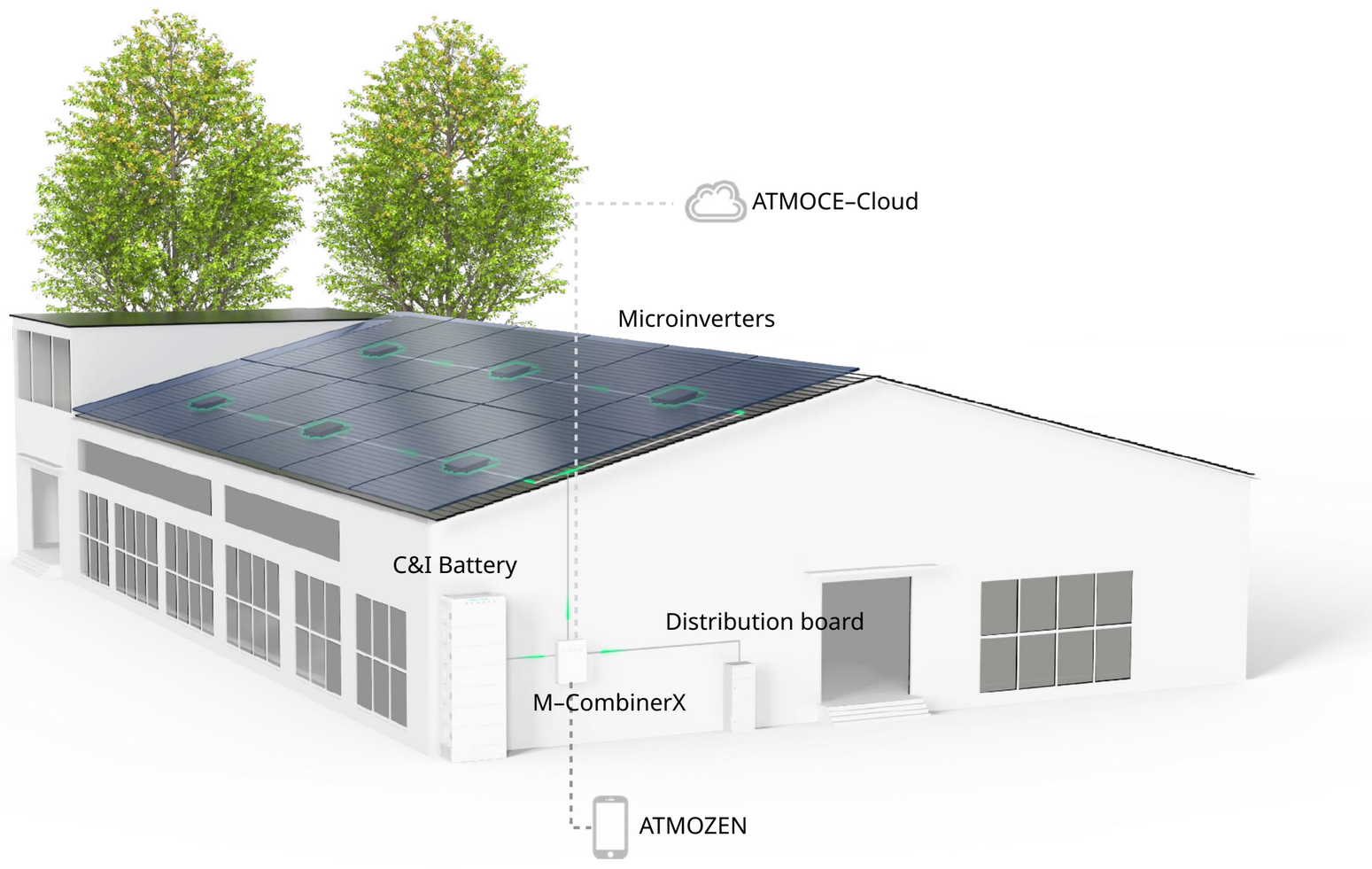
Applicable model: MC100-Wye-8in1

ATMOCE System Introduction

M-CombinerX is a smart commercial and industrial combiner that integrates power management and protection functions. It enables efficient connection of microinverters, batteries, and loads for seamless grid integration. With a built-in intelligent control M-Gateway, M-CombinerX centrally manages system performance and connects to the cloud platform and mobile app, allowing users to monitor energy production and consumption in real time while enhancing system efficiency and reliability.

The system includes the following:

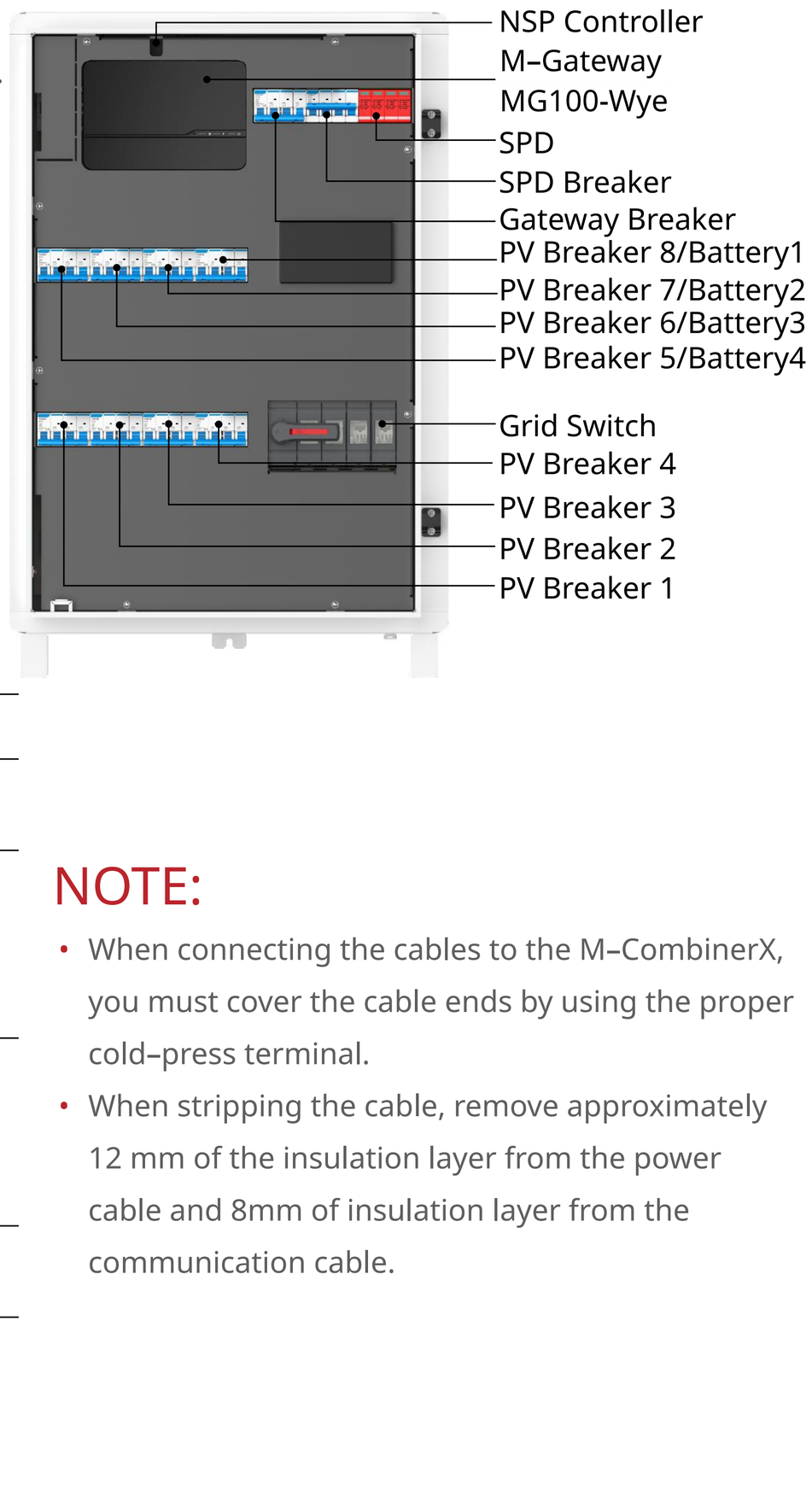
- MI-series Microinverter
- M–CombinerX
- Grid (Distribution board)
- ATMOCE–Cloud & ATMOZEN
- Battery (Optional)



Pre–installation

a. What's in the M-CombinerX

Refer to the figure on the right for pre–installed components in the M-CombinerX.



b. Check the grid voltage

The M-CombinerX should connect to a three–phase grid. Measure the AC voltages at the point of connection to confirm that they are within the ranges.

Phase setup		Voltage range
Three–phase	L1, L2, L3 to N	176 to 276 Vac

c. Prepare the cables

To properly set up the system, it is necessary to select the appropriate cables. The table below shows the recommended cable requirements.

Connection		Recommendation
Microinverter	Power cable	4 to 6 mm^2, 4–core or 5-core
Grid	Power cable PE Consumption CT signal cable	95 to 120 mm^2 50 to 70 mm^2 Provided by ATMOCE
Battery	Power cable CAN cable ETH cable	35 to 50 mm^2, 4–core or 5-core 0.25 to 0.75 mm^2, 3–core 802.3, Cat 6 UTP ethernet cable
Router	ETH cable	802.3, Cat 6 UTP ethernet cable

NOTE:

- When connecting the cables to the M–CombinerX, you must cover the cable ends by using the proper cold–press terminal.
- When stripping the cable, remove approximately 12 mm of the insulation layer from the power cable and 8mm of insulation layer from the communication cable.

d. Prepare the tools and materials

Tools: screwdriver, wire stripper, wire crimper, diagonal cutter, torque wrench, electrical drill, hole cutter with pilot, tape measure, multimeter, marker, etc.

Materials: wall anchors (Φ10) and screws (M8), corrugated protective pipe, cold–press terminal, tie wrap, etc.

e. Select how the device connects to the Internet

You can connect the combiner to the Internet through Wi–Fi and Ethernet.

- Ethernet connection: please use 802.3, Cat 6 UTP ethernet cable.
- Wi–Fi connection: install the Wi-Fi dongle to ensure stable Wi–Fi signal.

f. Download the ATMOZEN APP

You can download the app from Google Play or Apple App Store.

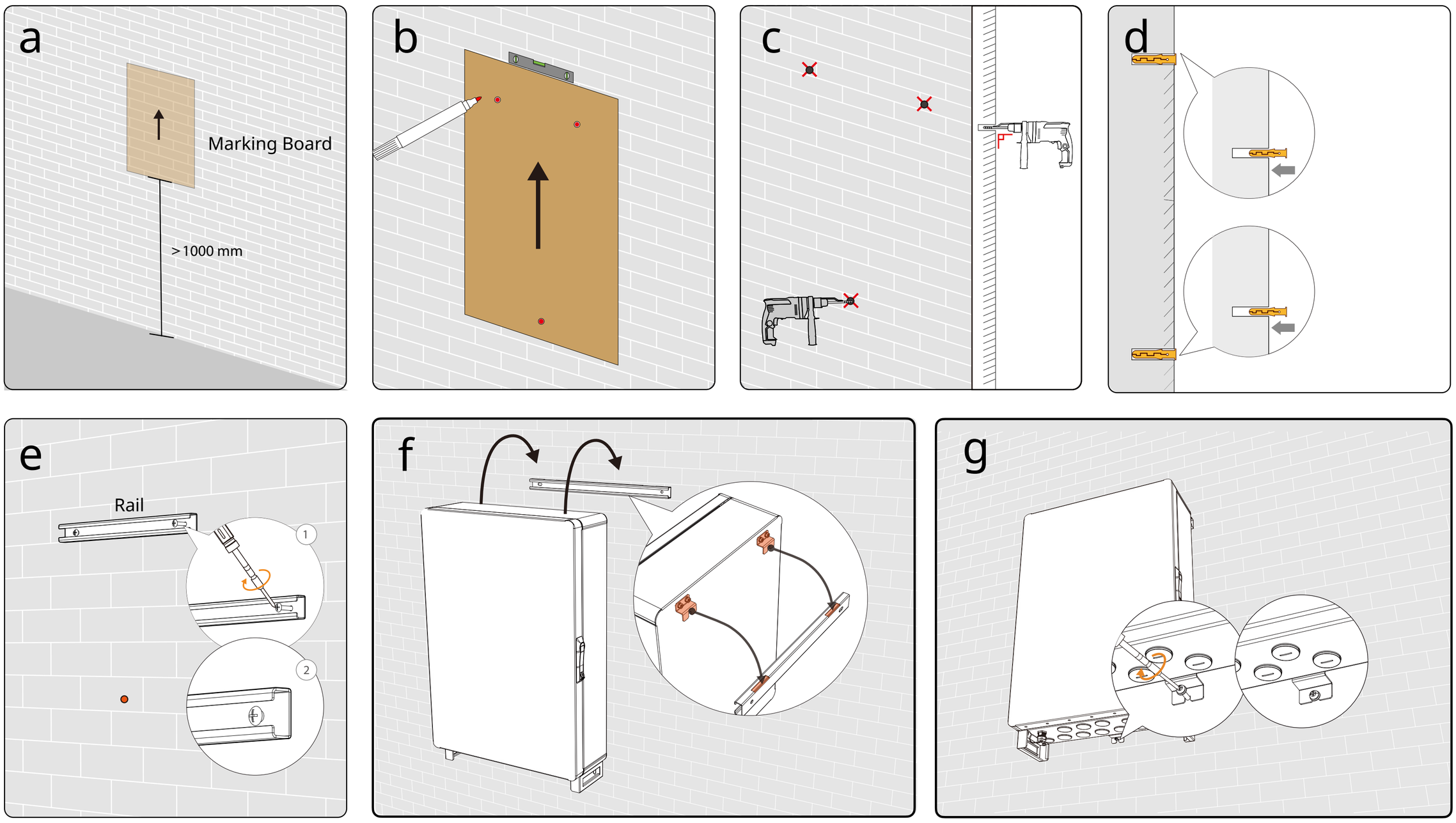
Installation

1. Mount the M–CombinerX

a. Use a tape measure to locate the marking board on the wall. It should be at least 1,000 mm vertically from the floor.
b. Use a spirit level to check that the board is level, then mark three points on the wall.
c. Drill at the three marks by using an electric drill with a bit (Φ10).
d. Insert the wall anchors into the holes.
e. Insert the M8 screws to mount the rail, and then tighten the M8 screws by using a Phillips #2 screwdriver with a torque of 9–14 N·m.
f. Hang the top mounting tabs in the corresponding position of the rail.
g. Insert the screw into the bottom hole and tighten the M8 screws by using a Phillips #2 screwdriver with a torque of 9–14 N·m.

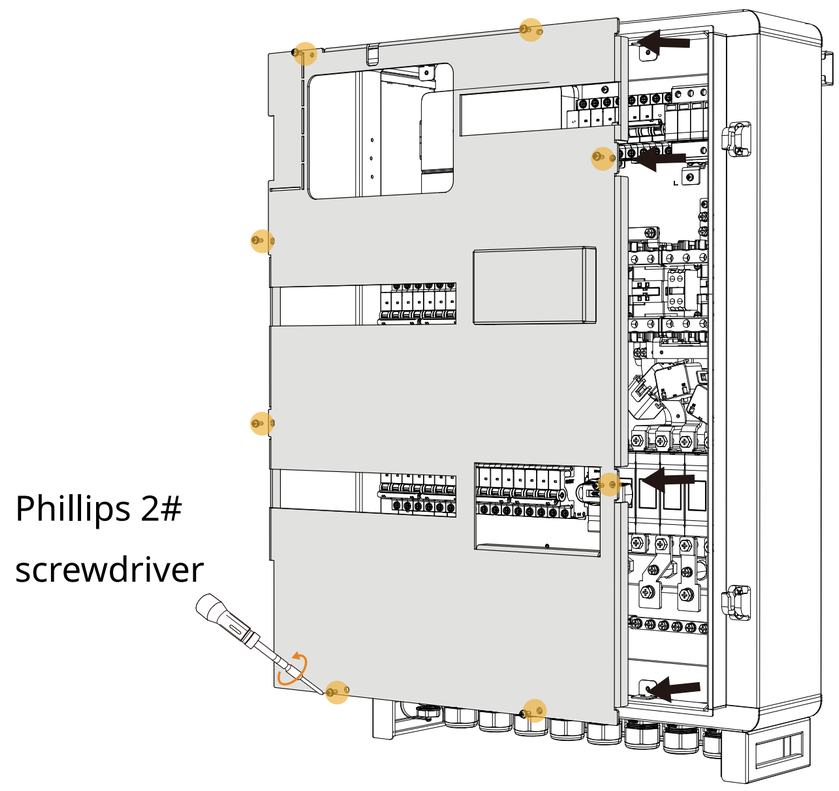
NOTE:

- Do not expose the M–CombinerX to direct sunlight, unless installing a sunshade.
- The signal cable of the consumption CT is 5 meters long. Therefore the M–CombinerX must be installed closed to the distribution panel.



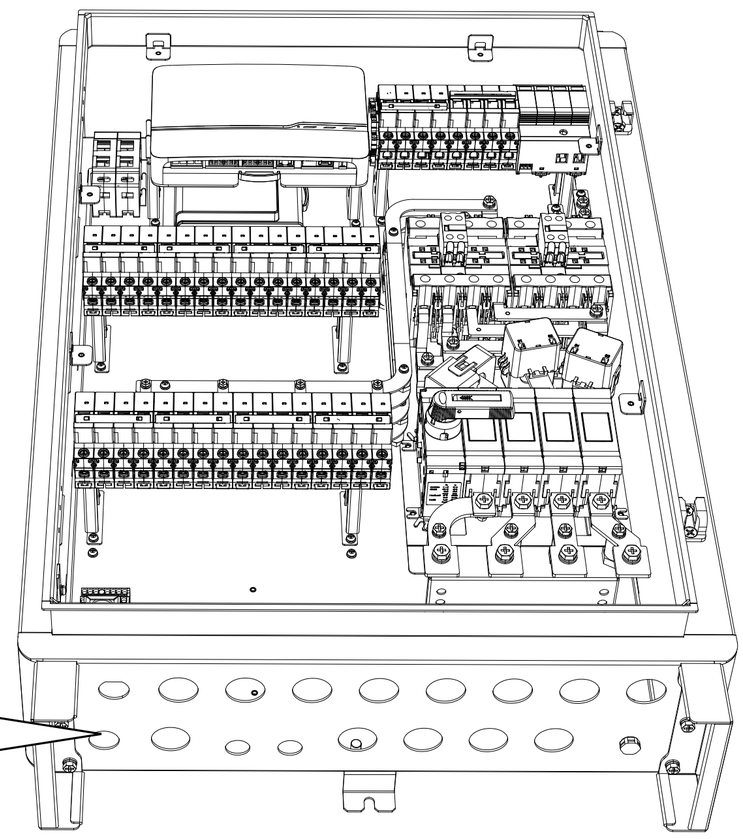
2. Remove the protective panel

a. Open the combiner door. If necessary, use the key provided in the package with this guide.
b. Use a Philips 2# screwdriver to remove the protective panel.

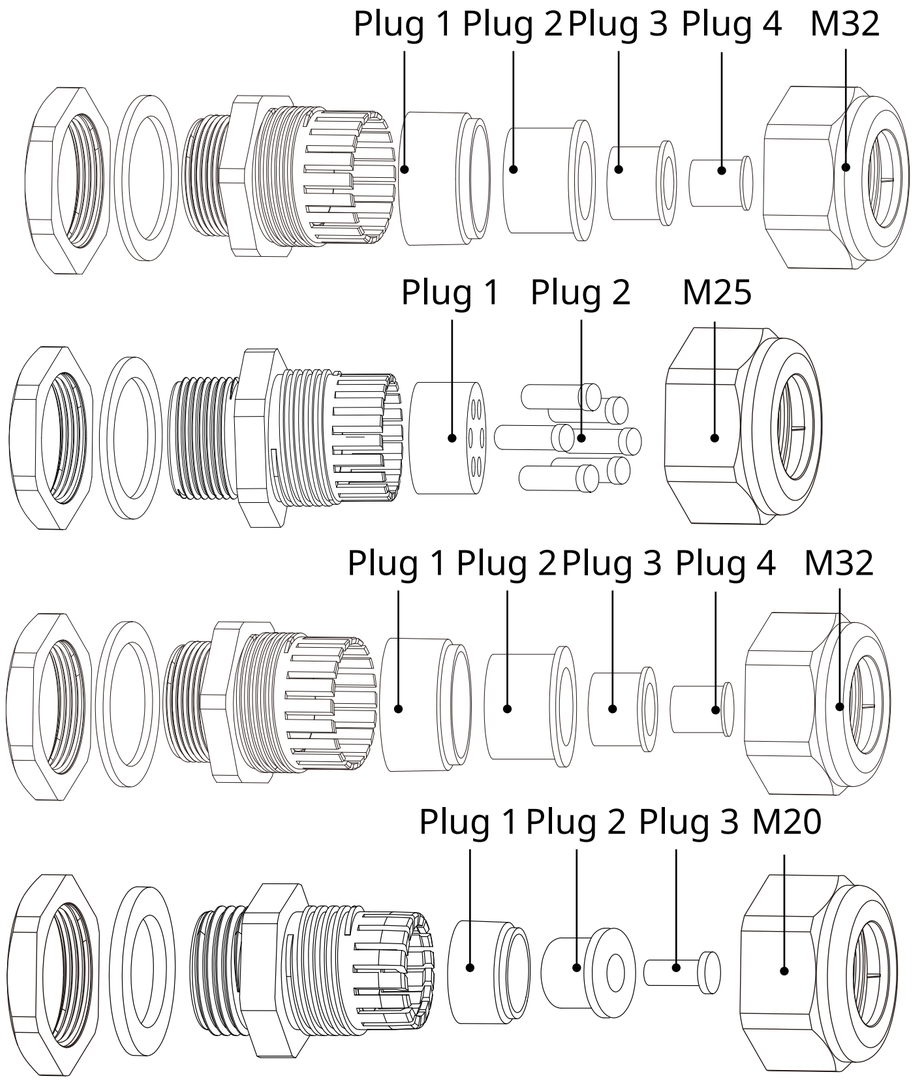


3. Check the wiring interface

a. The wiring area and recommended cable outlets can be found at the bottom of the M-CombinerX.



b. Loosen the plug as needed and thread the cable through the appropriate plug. The relationship between the plug and the wire diameter is shown in the table below.
c. Tighten the first three kinds of lock nuts of the glands with a torque of 4–5 N·m and the sealing nuts with a torque of 7–7.5 N·m. Tighten the M20 lock nuts of the glands with a torque of 1.75–2.5 N·m and the sealing nuts with a torque of 4–5 N·m.

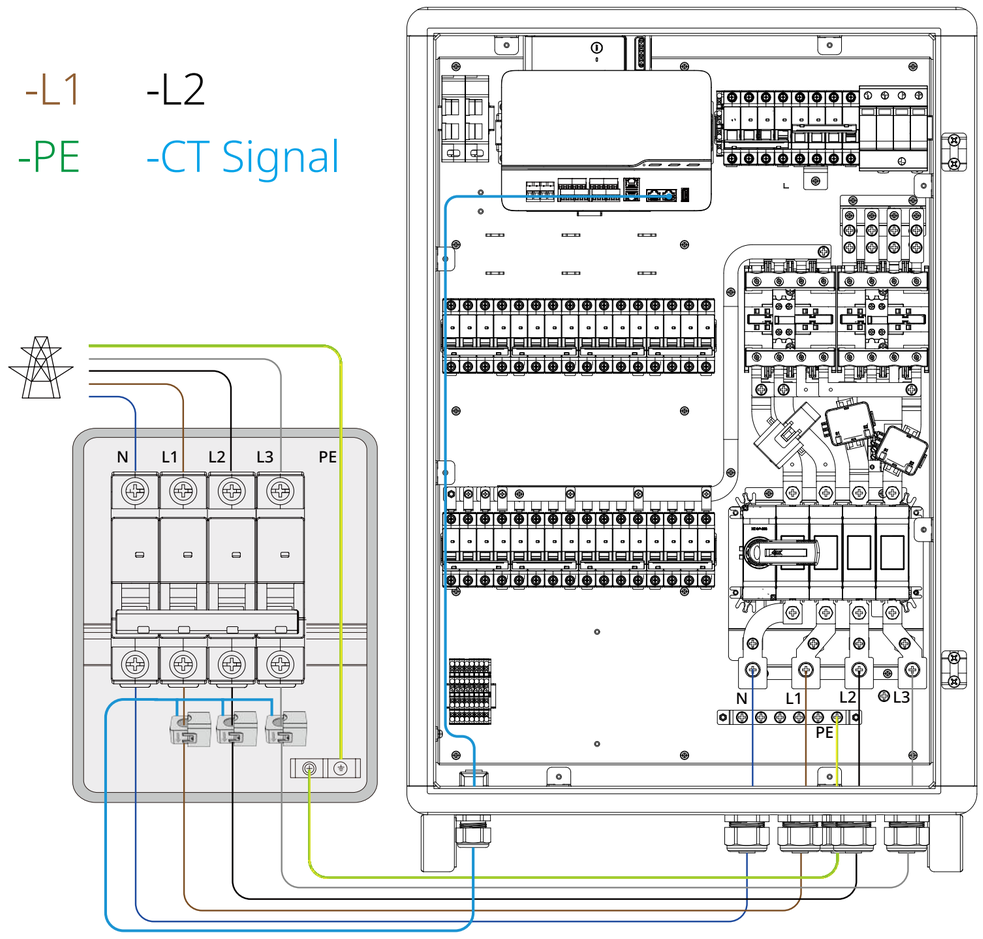


Function	Item	Recommended wire diameter
PV / Battery	Plug 1 + 2	4 × 4 to 5 × 6 mm^2 for PV 1 × 50 mm^2 for C&I BattBank
	Plug 1+2+3	1 × 35 mm^2 for C&I BattBank
	Plug 4	Cover the unused cable holes
COM	Plug 1	0.25 to 0.75 mm^2
	Plug 2	Cover the unused cable holes on plug1
Grid / PE	Plug 1	95 to 120 mm^2
	Plug 1 + 2	50 to 70 mm^2
	Plug 1 + 2 + 3	16 to 25 mm^2 for C&I Battery PE
	Plug 4	Cover the unused cable holes
Fiber	Plug 1	5 to 12mm^2
	Plug 1 + 2	Cover the unused cable holes
	Plug 3	Cover the unused cable holes

4. Wire to the M–CombinerX

4.1 Wire from the grid (distribution board)

-N -L1 -L2
-L3 -PE -CT Signal



Section A. Wire the power cables

a. Bring in the cables from the grid through the grid holes of the combiner.
b. Connect the cables (N, L1, L2, and L3) to the grid breaker and connect the ground cable to the PE terminal block as shown.
c. Tighten the screws by using a Phillips #2 screwdriver with a torque of 3.5–4 N·m.

NOTE:

- Ensure that the cable sequence (N, L1, L2, and L3) of the breaker in the M-CombinerX is consistent with that of the grid.

Section B. Wire the consumption CT

a. Install the consumption CT for electricity metering. You can find the CT in the box.
b. To install the CT, perform the following steps:

- Connect the CT signal cable to the reserved RJ45 terminal as shown above.
- Locate the arrows on the CTs' labels and clamp the the CTs with labels "L1," "L2," and "L3," into the L1, L2 and L3 cables respectively. The CTs' arrows must point away from the grid.

NOTE:

To guarantee the correct measurement of home energy consumption, the following items must be complied with:

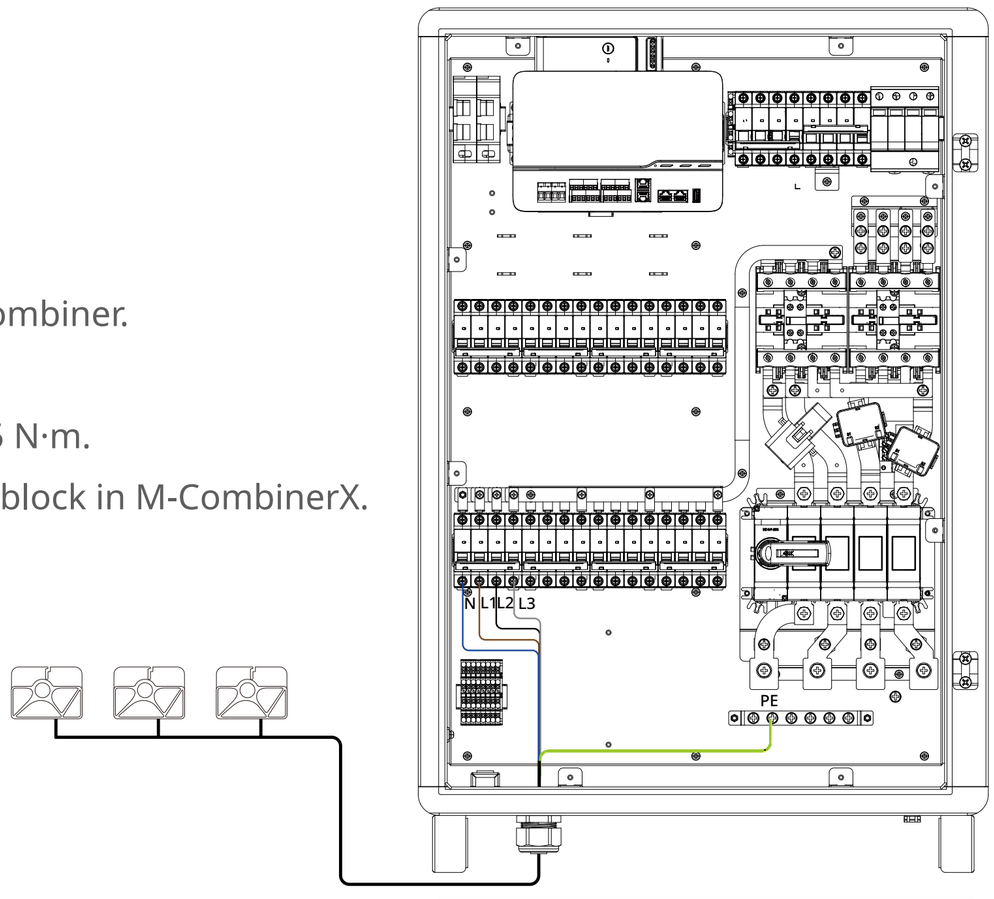
- The CT's arrow must point away from the grid.
- Ensure that the CTs with labels "L1," "L2," and "L3," are installed on the same power line as the L1, L2 and L3 of the breaker in the M–CombinerX respectively.

4.2 Wire from the PV branch (microinverter)

Supports 8 PV inputs, of which only 4 can be retrofitted for Battery input, with PV1 wiring shown as an example.

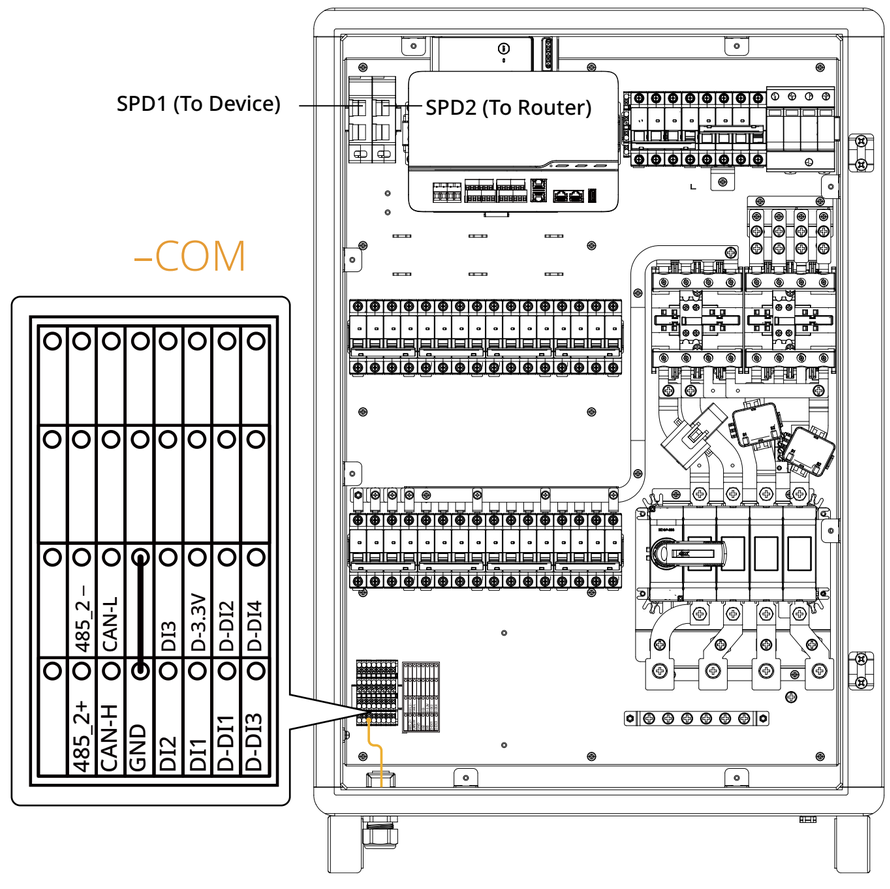
a. Bring in the cables from the PV branch circuit through the PV hole of the combiner.
b. Connect the cables (N, L1, L2, and L3) to the PV breakers.
c. Tighten the screws by using a Phillips #2 screwdriver with a torque of 2–2.5 N·m.
d. Optional: Connect the PE cable from the PV rack system to the PE terminal block in M-CombinerX.

-N -L1 -L1 -L3 -PE



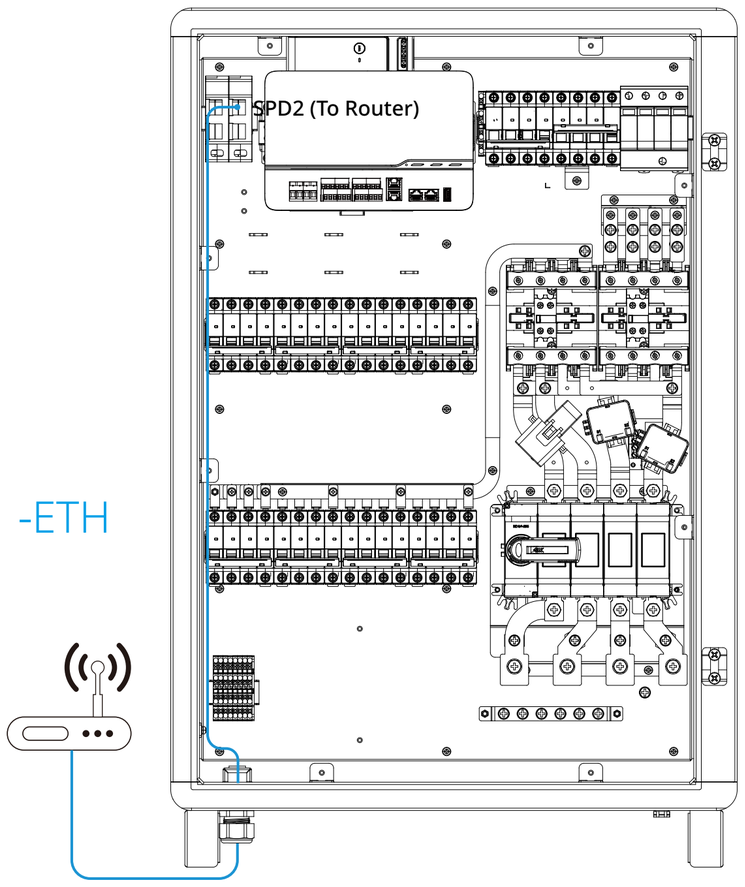
4.3 (Optional) Communication interface

a. The M-CombinerX supports ETH, RS485, CAN and DI CTRL interfaces, etc. Connect the cables from the devices to the communication terminal block as the wire diagram in the M-CombinerX.



4.4 (Optional) Wire from the router

a. When you use ETH to connect to ATMOCE–Cloud, bring in the cable from the router through the COM hole of the box.
b. Connect the 802.3 Cat 6 UTP ethernet cable to the RJ45 terminal in the combiner as shown in the figure.



4.5 (Optional) Wire from the M-ELV BattBank

Section A. Wire the power cables

a. Remove the original battery breakers, terminal blocks, and connected cables as shown in Fig.1. Install a 125A breaker in the position shown in Fig.2. The max installable breaker number could be up to two.
b. Bring in the cables (L1, L2, L3, N) from the battery through the Battery1 / Battery2 / Battery3 / Battery4 hole of the combinerX separately and connect to bottom terminals of the newly installed breaker. And then connect the top terminals of the newly installed breaker to the right busbar as shown in Fig.3..
c. Bring in the PE cable from the battery through the PE hole. Connect the ground cable to the PE terminal block.
d. Tighten the screws by using a Phillips #2 screwdriver with a torque of 2–2.5 N·m.
e. Connect the Ethernet cable of the battery to the SPD1 terminal through the COM hole.

Section B. Wire the Battery CTs

To install the CTs, perform the following steps:

- Connect the signal cable of the CTs to the Gateway as shown below.
- Locate the arrows on the CTs' labels and clamp the CTs with labels "L1,""L2," and “L3," on the the L1, L2 and L3 cables respectively. The CTs' arrows must point away from the battery.

NOTE:

- The current through the breaker must be equal or less than 100A.

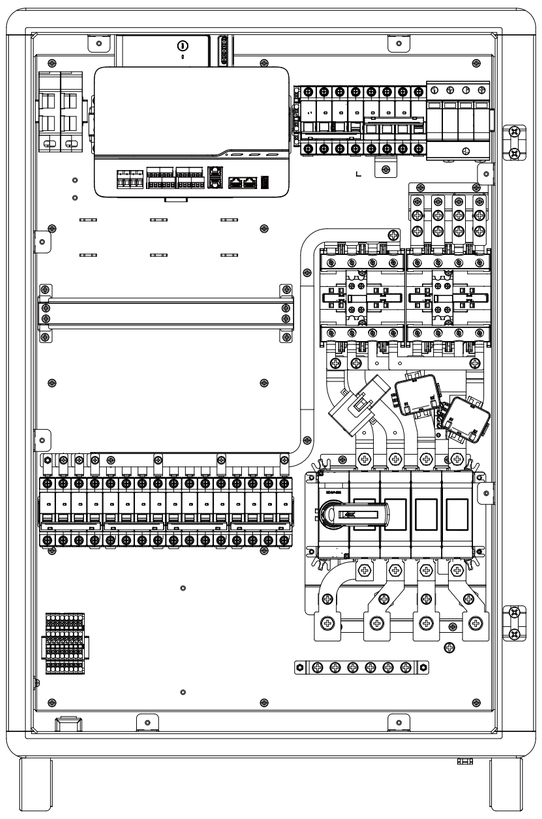


Fig.1.

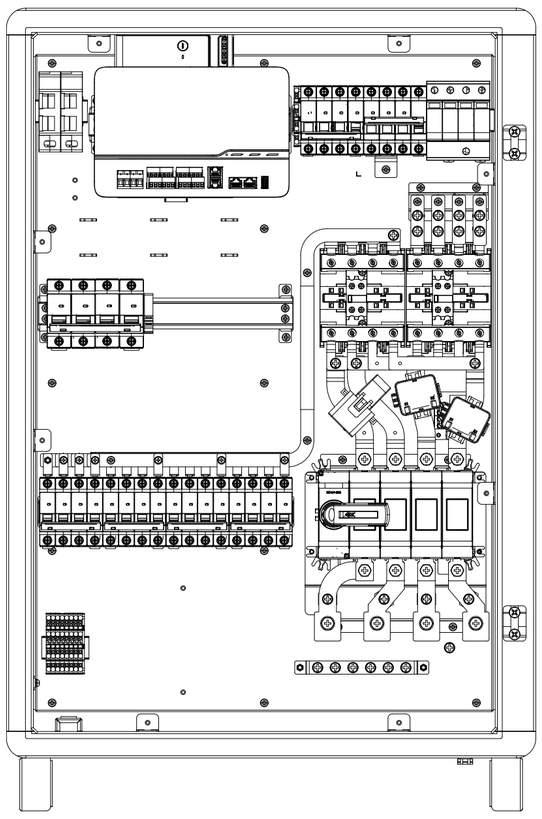
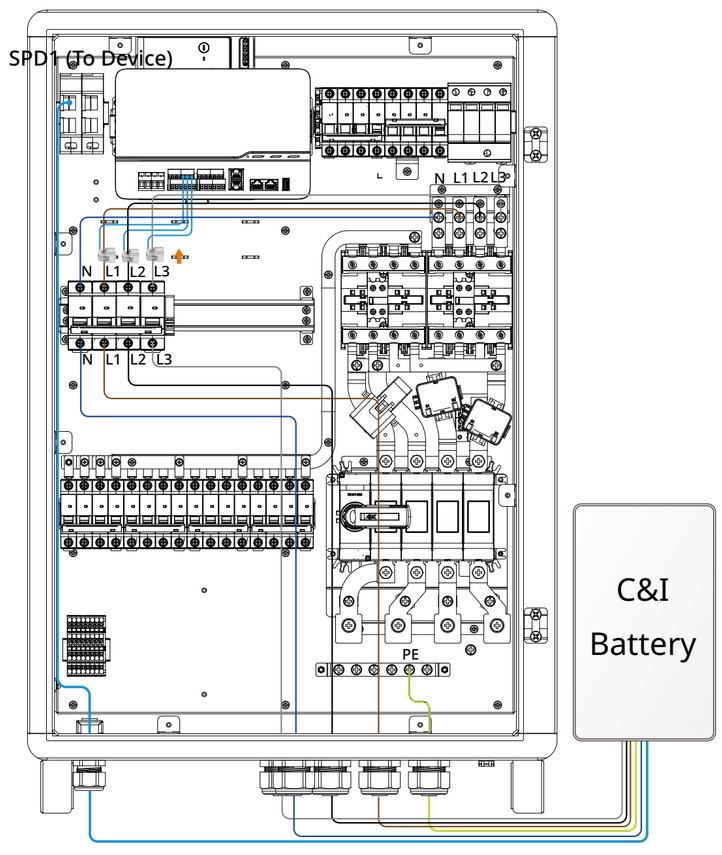


Fig.2.



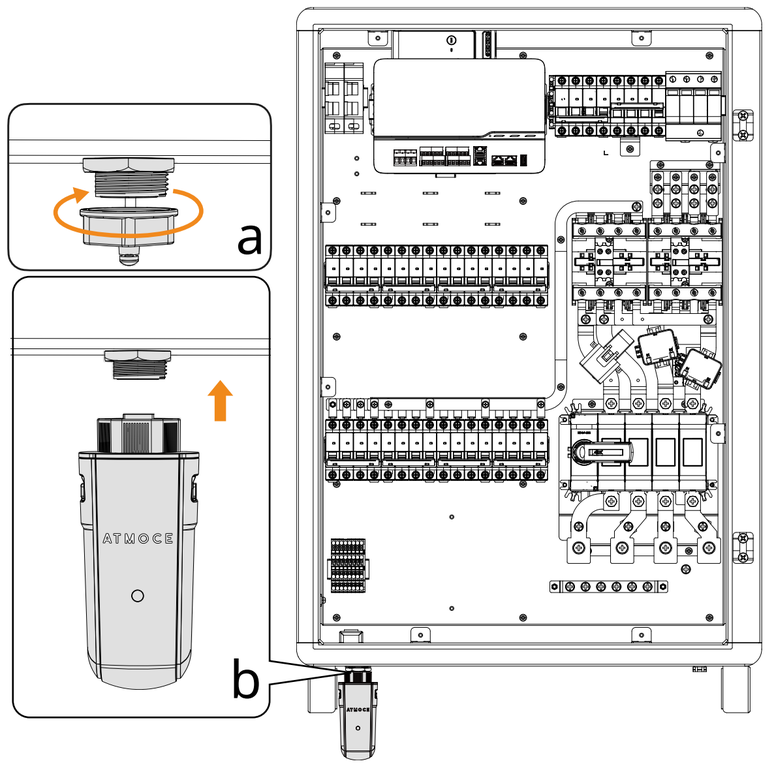
- N -L1 -L2 - L3 -PE

-CT Signal -Ethernet

Fig.3.

4.6 (Optional) Install the Wi-Fi dongle

a. When you use Wi-Fi dongle to connect to ATMOCE–Cloud, remove the sealing cap of the Wi-Fi interface.
b. Insert the Wi-Fi dongle as shown in the figure.



4.7 (Optional) Wire for master-slave operation

a. For details, please refer to the relevant section of the user manual.

5. Power on the system

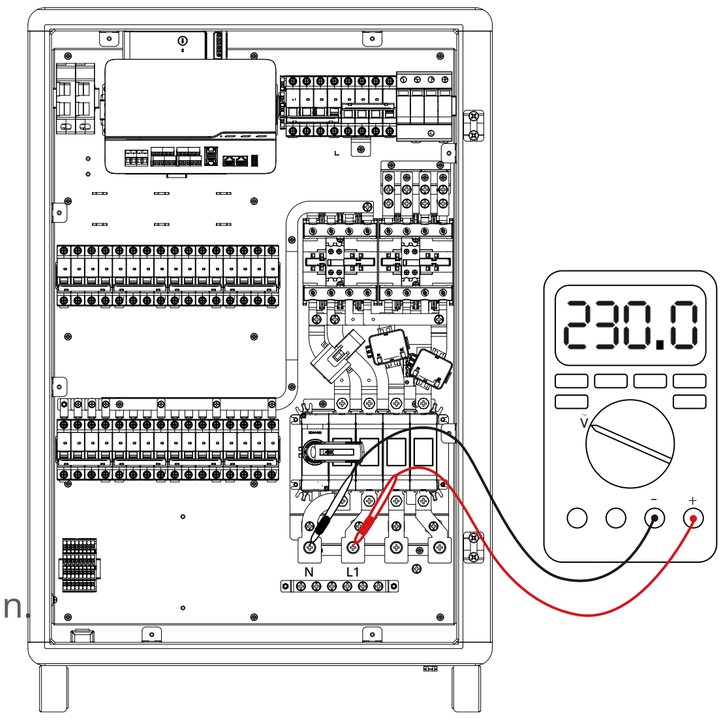
a. Turn on the main breaker in the distribution board.

b. To check the phase sequence, perform the following steps:

- Use the multimeter to measure the voltage between the N pole and L1 pole of grid breaker as shown in the figure.
- Measure the voltage between the N pole and L2 pole.
- Measure the voltage between the N pole and L3 pole.

c. If the voltage value is approximately the nominal phase voltage, e.g. 220 V, 230 V and 240 V, re–install the protective panel.

d. Turn on the grid and other breakers in the combinerX, and the LEDs on the gateway will be on.



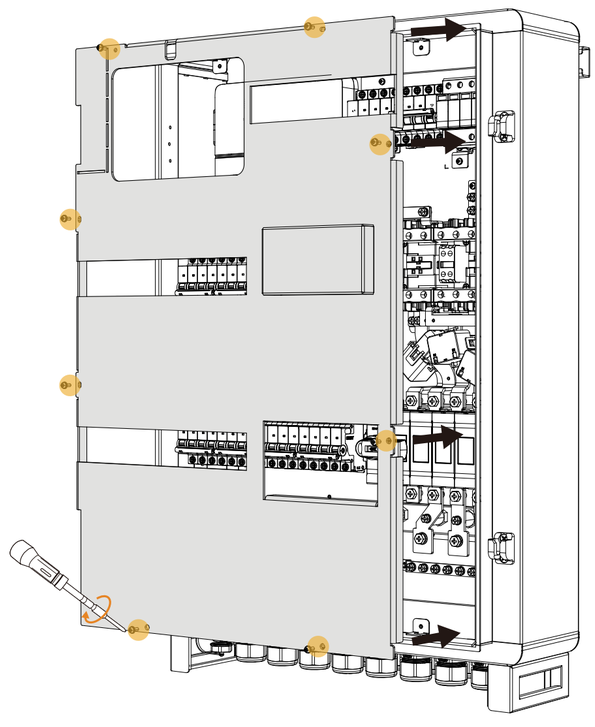
NOTE:

- If the voltage value is outside the range (176 to 276 V), do not switch on the grid breaker inside the M-CombinerX. Check the cable connection to avoid damaging the device and voiding the warranty.

6. Activate the system

a. Log in to the ATMOZEN APP on your mobile phone and follow the deployment guide in the app to activate the system.

b. After the system is activated, all LEDs will be solid green.

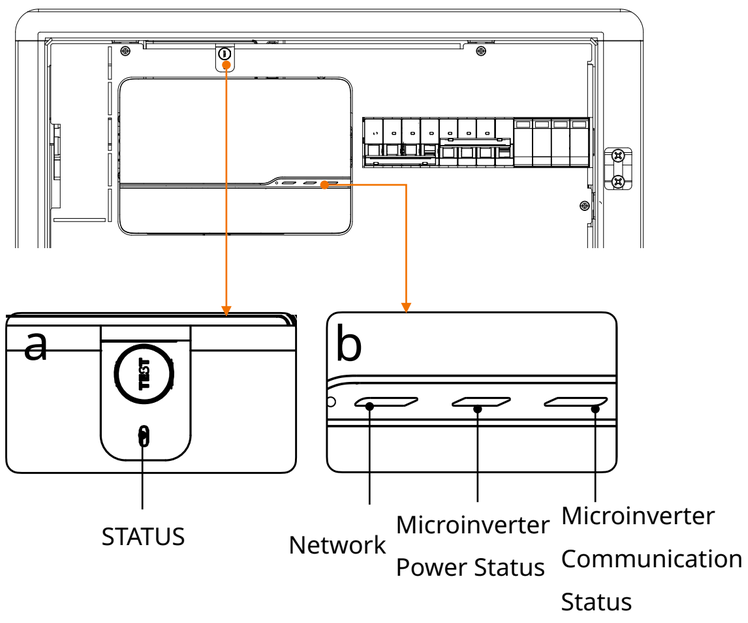


7. Close the M–CombinerX

a. Close the door of the M-CombinerX.

b. Optional: Lock the combiner in accordance with local electrical regulations.

LED indicator description



a. The NSP controller has one LED and the following table describes their status.

Function	Colour	Description
Status	Solid Green	The controller is working normally.
	Slow Flash Green	The controller is waiting for upgrade or is being upgraded.
	Quick Flash Orange	The controller is self-testing.
	Slow Flash Red	The controller is in a faulty state.

b. The three LEDs on the Gateway reveal ‘Network’ ‘ Microinverter Power Status’ ‘Microinverter Communication Statu’ from left to right.

Function	Colour	Description
Network	Solid Green	Connecting to cloud.
	Quick Flash Green	Connecting to app via Bluetooth.
	Slow Flash Red	No network available.
Microinverter Power Status	Solid Green	All communicating microinverters are generating power.
	Slow Flash Orange	At least one microinverters is not generating power.
	Dim	All microinverters are not generating power.
Microinverter Communication Status	Solid Green	All microinverters are in communication normally.
	Quick Flash Green	The MG100-Wye is detecting microinverters.
	Slow Flash Orange	At least one microinverters is not in communication.
	Slow Flash Red	All microinverters are not in communication (not due to low light or night time).
	Dim	All microinverters are not in communication (due to low light or night time).
All LEDs	Slow Flash Green	Software update is in progress.

Rev. 1.0.0 Data subject to change.

© 2026 ATMOCE HOLDING B.V. All rights reserved.

info@atmoce.com | +31 20 241 6207
ATMOCE HOLDING B.V. | Rokin 92-96, 1012 KZ Amsterdam, the Netherlands