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ATMOZEN APP

M-ELV BattBank Quick Installation Guide For Residential Applications

Applicable model: MS-16K-U & MS-SCU-RES-U

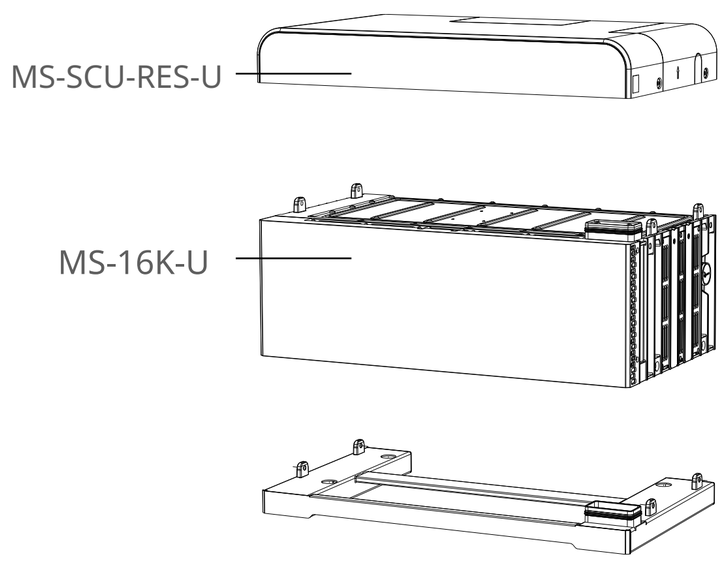
Atmoce Battery Introduction

The ATMOCE M-ELV BattBank is a modular, AC-coupled, stackable energy storage system with a usable energy capacity of 16.08 kWh per unit, scalable up to 80.4 kWh per cluster, and designed for residential applications. It supports both on-grid system and on/off-grid switch, and features multiple operating modes including self-consumption, time of use, storm guard, and AI mode. This helps users reduce energy costs, improve energy supply reliability, and enable participation in grid services.

Pre-installation Requirements

a. BattBank Structure

Function	Recommendation
MS-SCU-RES-U	Stack Control Unit (SCU) Cap & Base Kit of M-ELV BattBank for Residential Application
MS-16K-U	16 kWh M-ELV BattBank



b. Grid requirements

ATMOCE battery should connect to a three-phase grid. Measure AC line voltages at the point of connection to confirm that they are meet the voltage requirements.

Phase setup		Voltage range
Single–phase	L to N	220 to 240 Vac
Three–phase	L1, L2, L3 to N	220 to 240 Vac

NOTE:

- Installation must be carried out in strict compliance with official grid specifications and standards. Any non-compliant installation may cause irreversible equipment damage and shall not be covered by after-sales support.

c. Tools requirements

Tools: screwdriver, wire stripper, wire crimper, diagonal cutter, torque wrench, electrical drill, marker, hammer, spirit level, multimeter, socket wrench, forklift, lifting tool, etc.

Materials: tie wrap, wago connector, etc.

d. Installation site requirements

The installation base must satisfy load-bearing capacity requirements. Solid brick concrete floors are preferred. Ensure the mounting surface is flat and the reserved area complies with required installation space.

e. Cable requirements

To properly set up the system, it is necessary to select the appropriate cables, and aluminum cable is not supported. The table below shows the recommended cable requirements.

Function	Recommendation
Power cable	10 to 16 mm^2 (Single-phase) 4 to 16 mm^2 (Three-phase)
COM cable	0.25 to 1 mm^2

NOTE:

- When connecting the cables to the M-ELV BattBank, you must cover the cable ends by using the proper cold–press terminal provided in the package.
- It is recommended to adjust the cable size based on local regulation and the installation scenario.

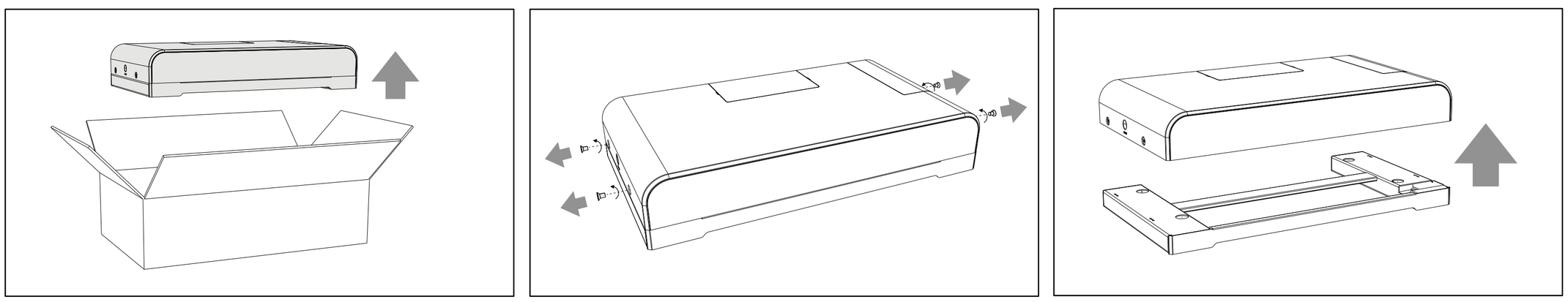
f. Download the ATMOZEN APP

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

Installation

1. Mount the base on the floor

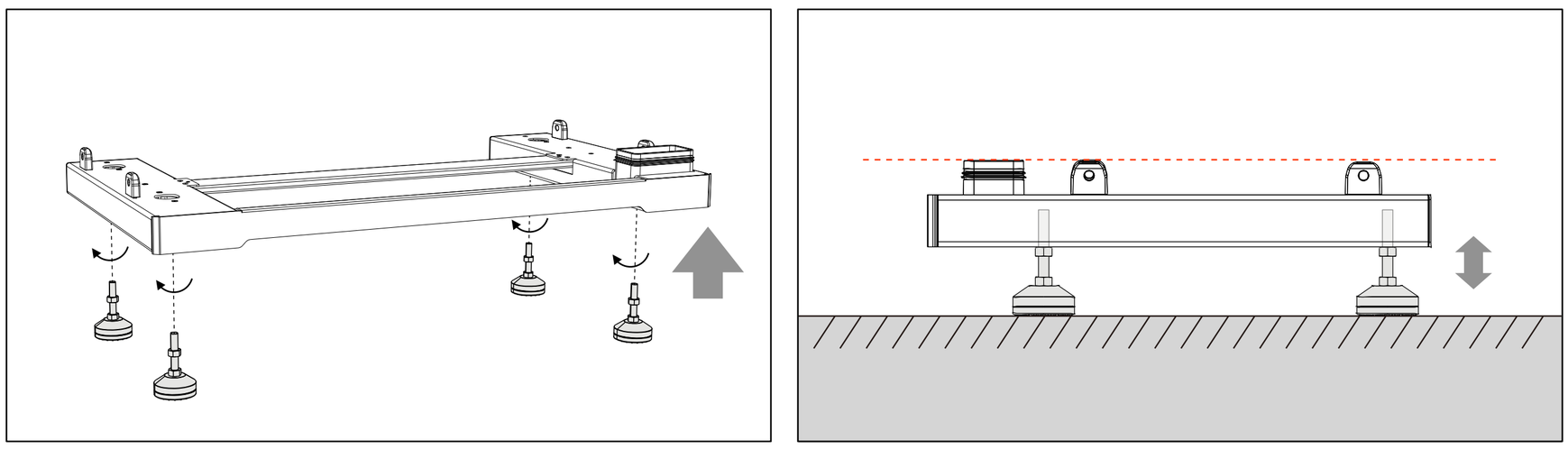
a. Unscrew the fasteners as shown, then take the base off from MS-SCU-RES-U.



1.1 Mount with adjustable foot cups

a. Install the base.

b. Level the base using a spirit level. Adjust the leveling feet as required.

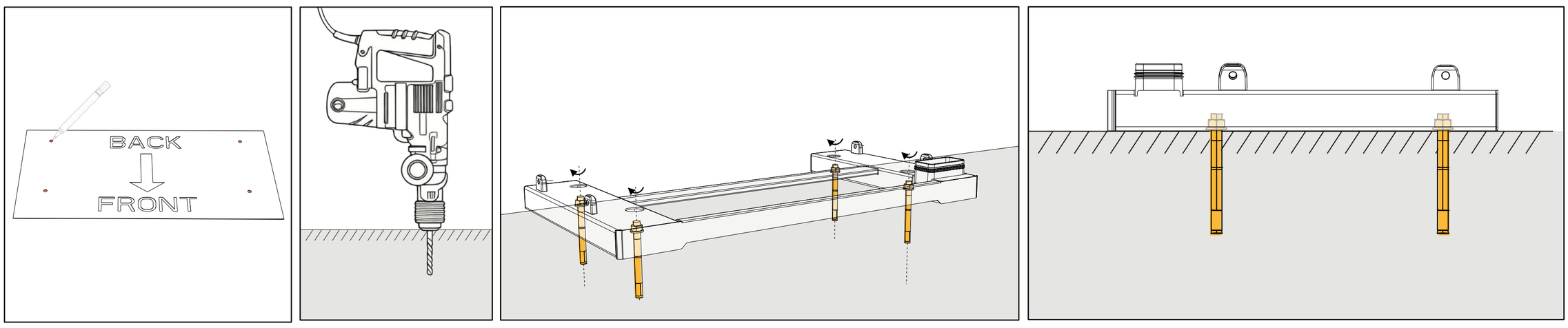


1.2 Mount using expansion screws

a. Take out the marking plate and place it on the floor. Use the spirit level to check that the plate is level, make the marks.

b. Drill at the four marks to a depth of 90 mm with a hole diameter of Φ12 by using an electric drill with a bit.

c. Refit the base into place, take out expansion bolts, align and insert into pre-drilled holes, then tighten with a socket wrench.

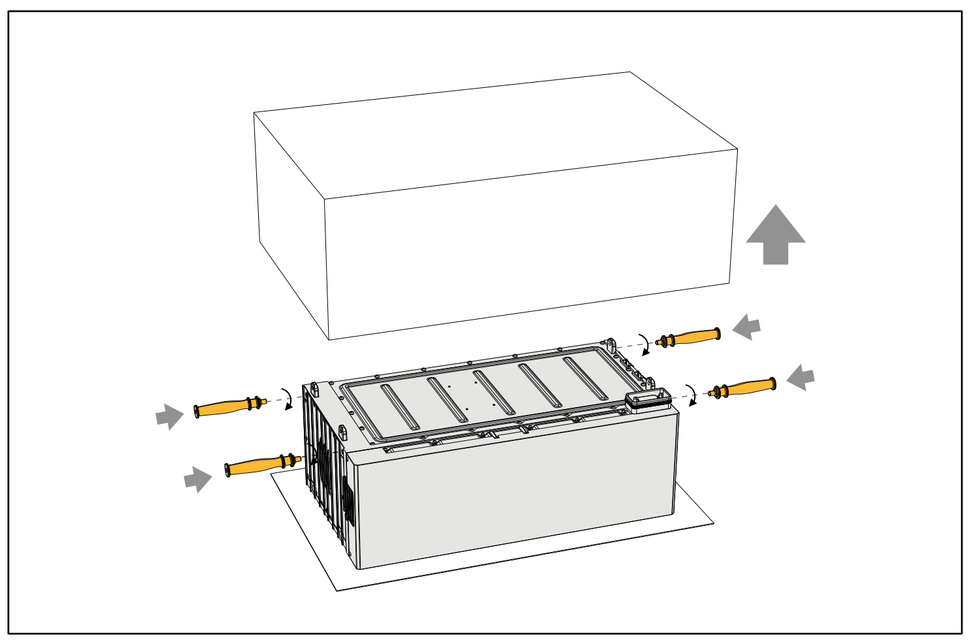


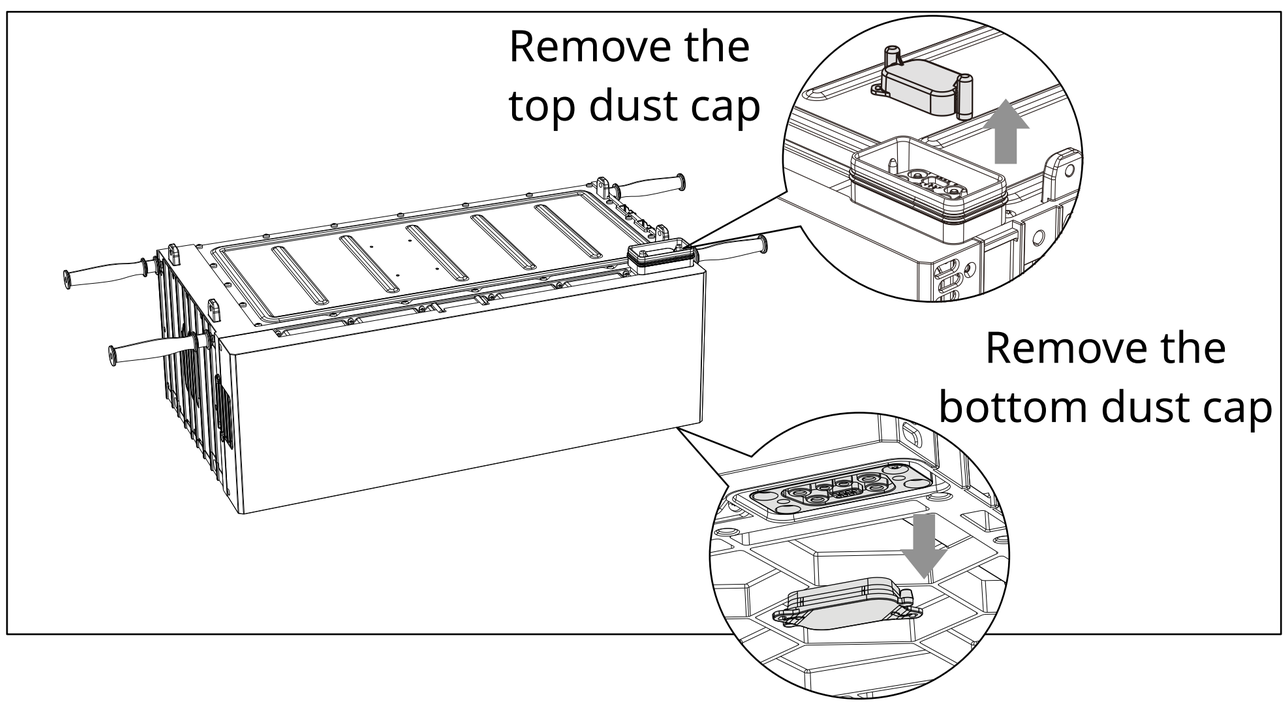
2. Mount the MS-16K-U and MS-SCU-RES-U

a. Remove the MS-16K-U out of the box.

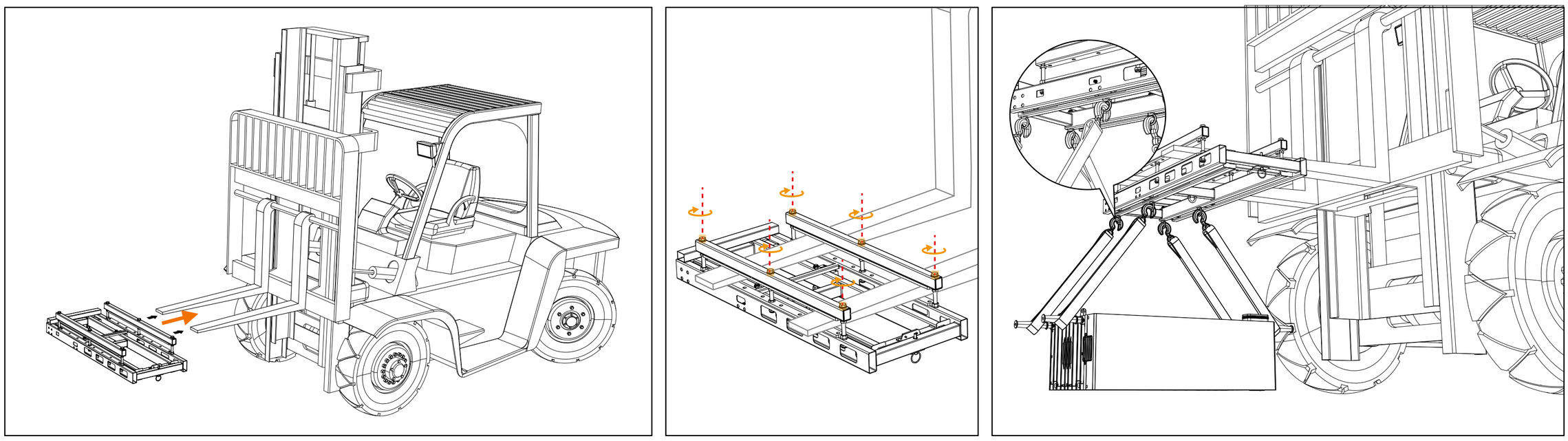
b. Take out the handlebars from the box of MS-SCU-RES-U and screw them into the mounting holes on both sides of the MS-16K-U.

c. Remove the dust caps from the plug before connection.

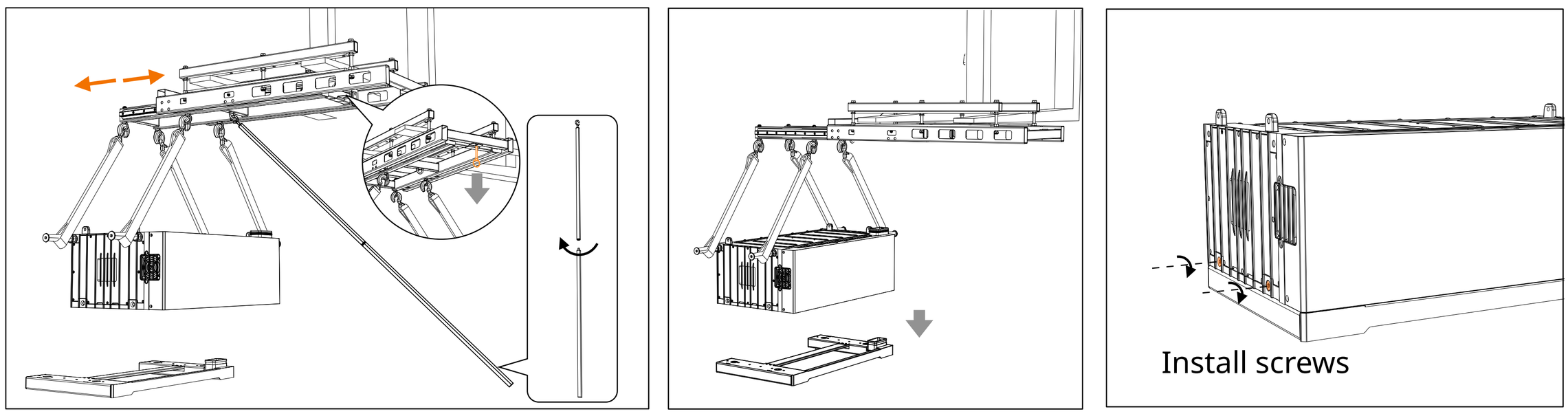




d. Insert the lifting tool into the forklift fork pockets and push it fully into position.
e. Install screws on the lifting tool frame and tighten them sequentially. Ensure the lifting tool is firmly and securely attached to the forklift with no looseness.
f. Attach the sling between the battery pack handle and the lifting eye of the lifting tool. Adjust the sling position to ensure the battery pack is centered and evenly loaded (note the lifting eye latch as shown in the diagram).



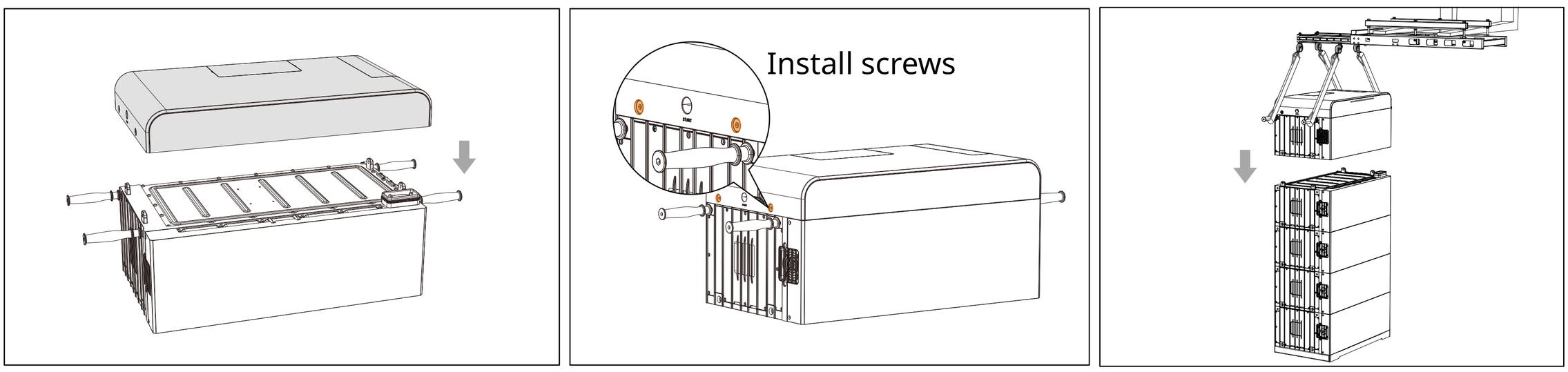
g. Remove the pin from the lifting tool and lift the battery pack smoothly. Move the lifting tool to the installation position manually or with an assist rod. Then lower the battery pack slowly into place.
h. Confirm the battery pack orientation to ensure proper plug connection. Install the screws at the locations and tighten them with a torque of 9–14 N·m.



NOTE:

- Ensure the pack is correctly oriented to allow proper plug connection.
- Keep the battery stable during installation. Lifting equipment may slip, use hooks for assistance.
- Do not stand or walk underneath the lifting tool while it is being lifted.

i. Stack all required MS-16K-U in compliance with installation requirements.
j. For the final MS-16K-U installation, mount the MS-SCU-RES-U on top first and tighten the screws.
k. Lift and position the assembly onto the upper level using a forklift and lifting equipment. Install and tighten the screws with a torque of 9–14 N·m to secure the two stacked battery packs together.

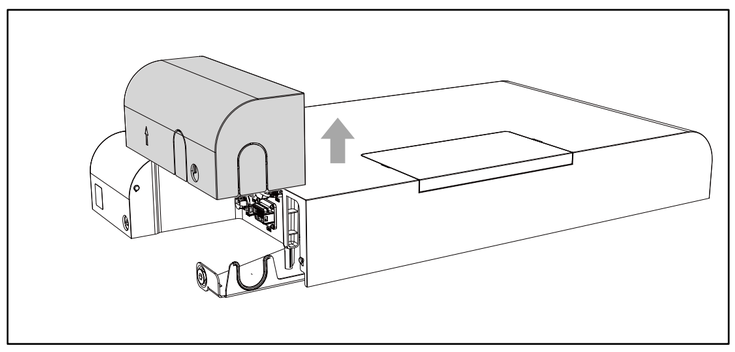


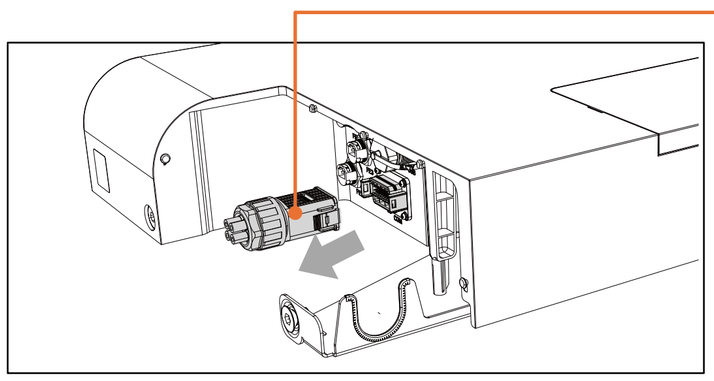
3. Wire the communication cable

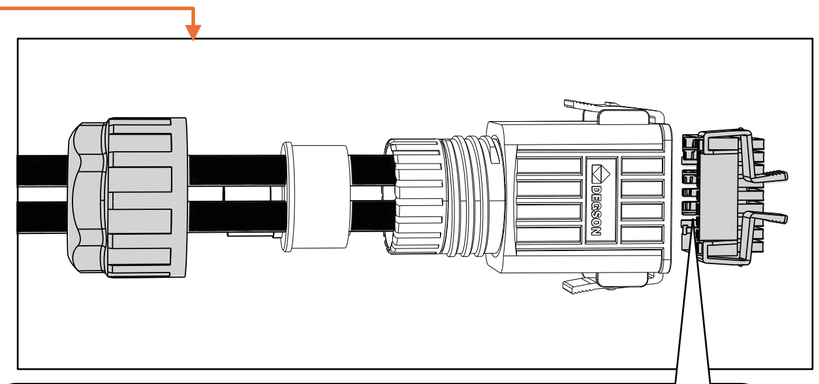
3.1 Remove the cover plate

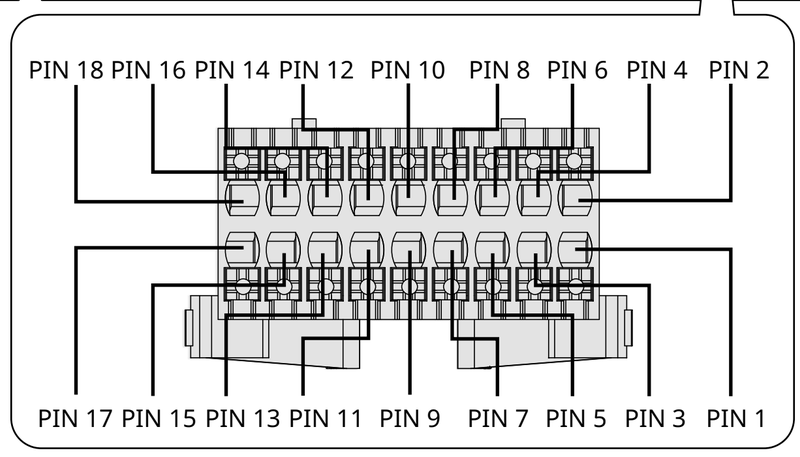
a. Remove the cover plate of the MS-SCU-RES-U.

b. Disconnect the COM connector.



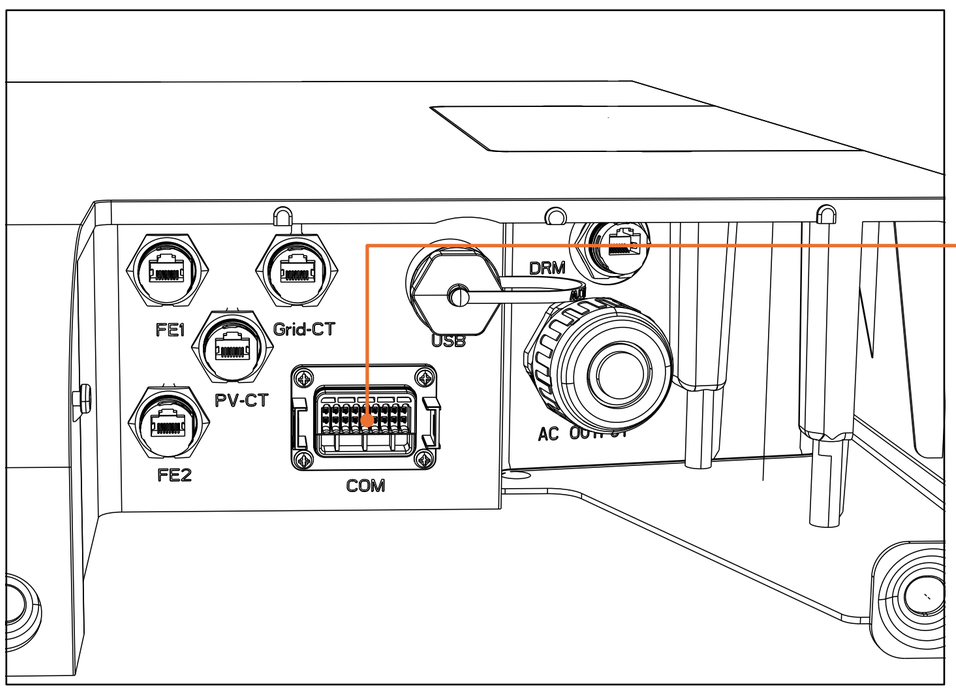


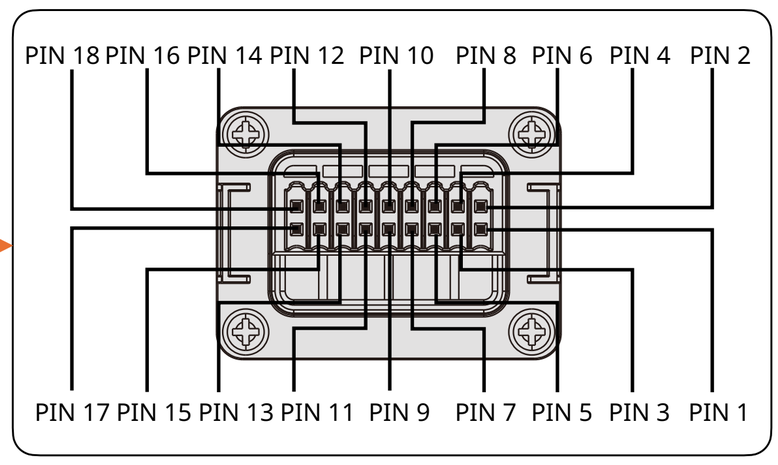




PIN 18	PIN 16	PIN 14	PIN 12	PIN 10	PIN 8	PIN 6	PIN 4	PIN 2
DO1	**DO2**	**DO3**	**–**	**DI1**	**CAN-H**	**485_1+**	**485_1-**	**GND1**
GND	**GND**	**GND**	**GND**	**GND**	**CAN-L**	**485_2+**	**485_2-**	**GND2**
PIN 17	PIN 15	PIN 13	PIN 11	PIN 9	PIN 7	PIN 5	PIN 3	PIN 1

c. Assemble the wiring harness and connect the corresponding connectors.





PIN 18	PIN 16	PIN 14	PIN 12	PIN 10	PIN 8	PIN 6	PIN 4	PIN 2
DO1	**DO2**	**DO3**	**–**	**DI1**	**CAN-H**	**485_1+**	**485_1-**	**GND1**
GND	**GND**	**GND**	**GND**	**GND**	**CAN-L**	**485_2+**	**485_2-**	**GND2**
PIN 17	PIN 15	PIN 13	PIN 11	PIN 9	PIN 7	PIN 5	PIN 3	PIN 1

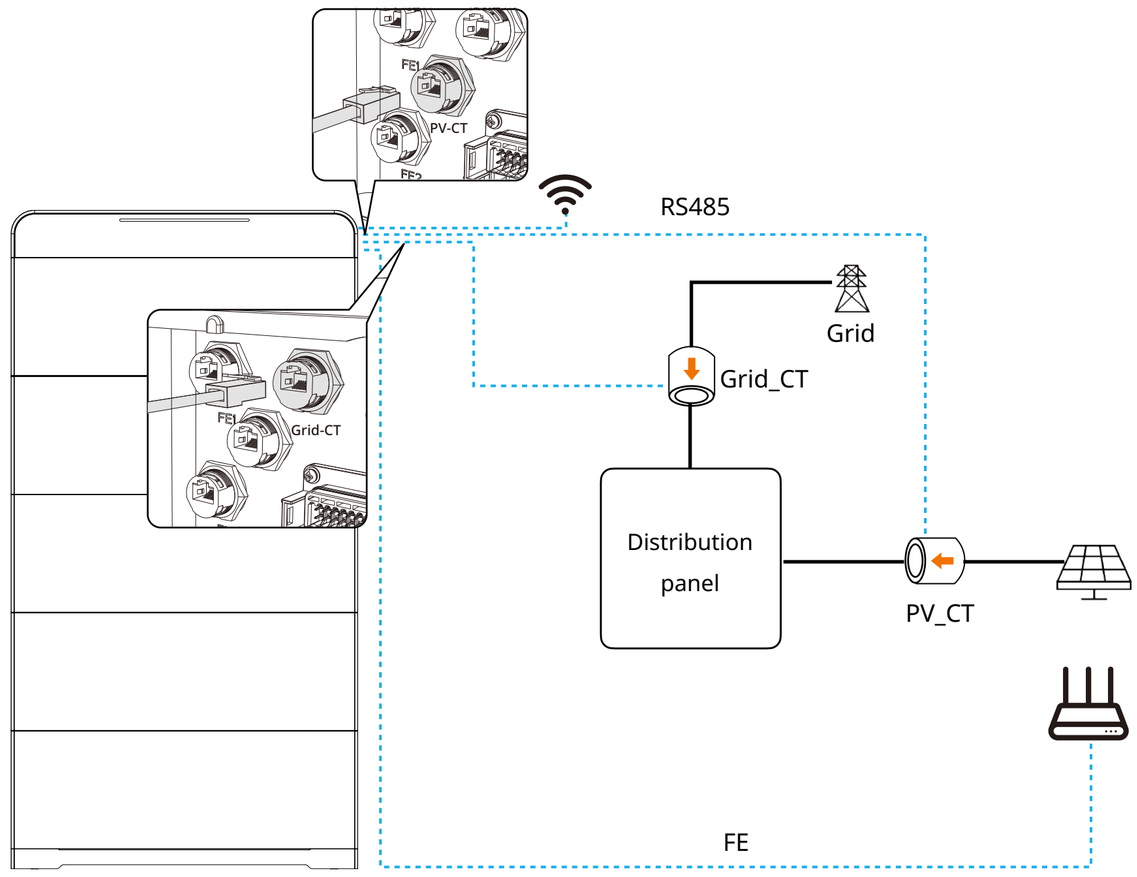
NOTE:

- FE1 connects to devices, FE2 connects to the router.
- USB: Support 4G-Dongle and Wi-Fi Dongle. DRM: Support Demand Respond Modes.

d. Connect the CT to the grid interconnection point, and connect the other end to the Grid_CT.

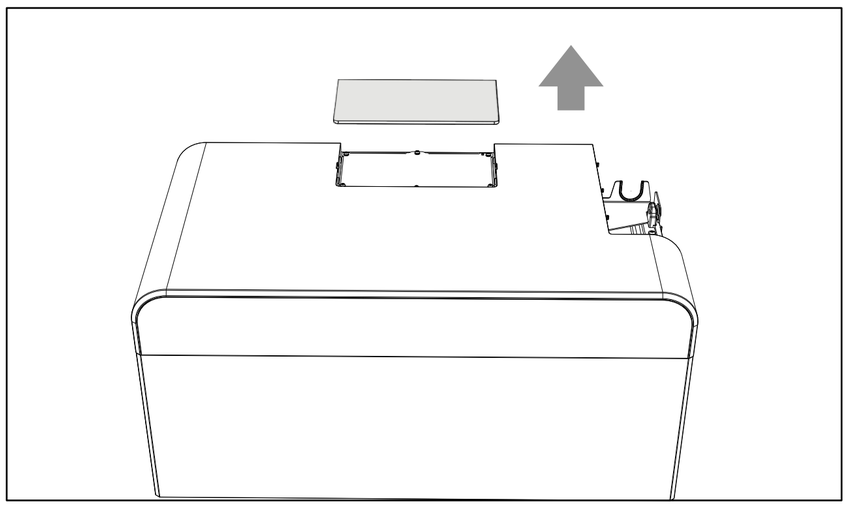
e. Connect the CT to the PV access point, and connect the other end to the PV_CT.

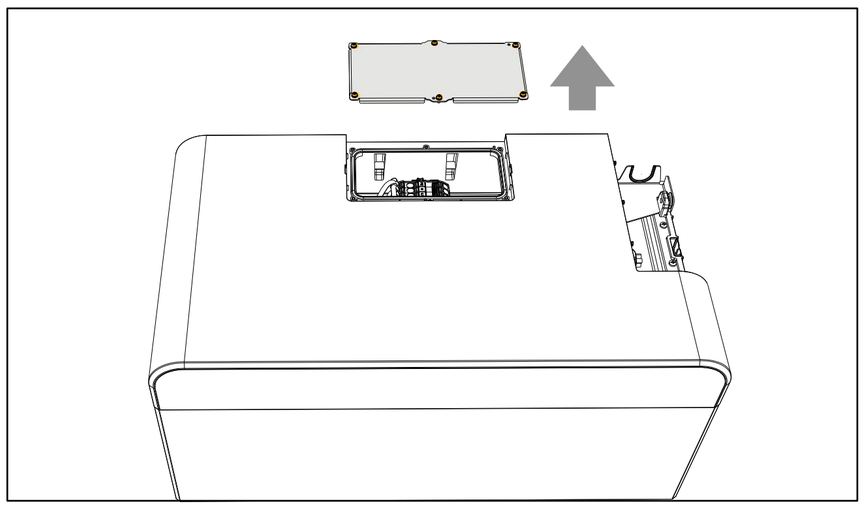
f. The MS-SCU-RES-U supports cloud connection via either FE2 or Wi-Fi.



4. Wire the power cables

a. Unscrew the screws and remove the cable duct cover.



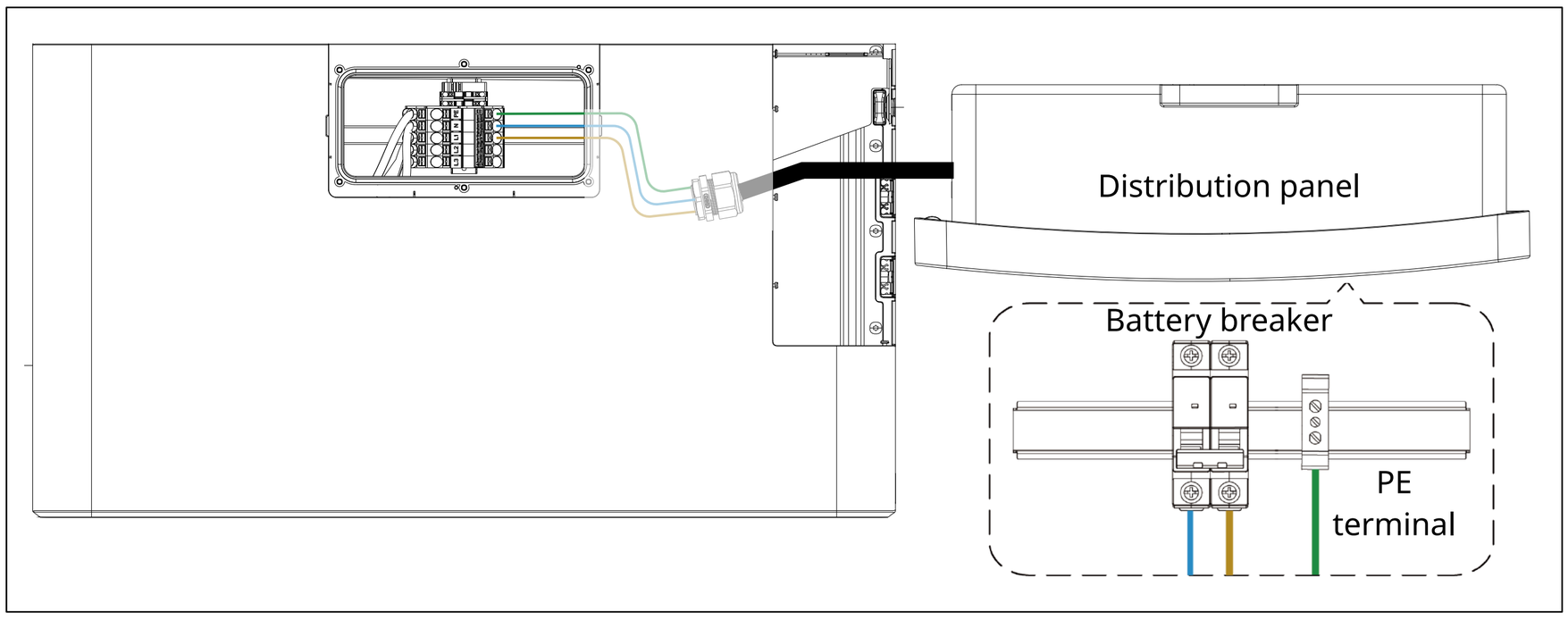


b. Connect the cables to the battery breaker and PE terminal block in the distribution panel.

c. Bring in the power cables from the distribution panel through the AC_OUTPUT hole of the MS-SCU-RES-U.

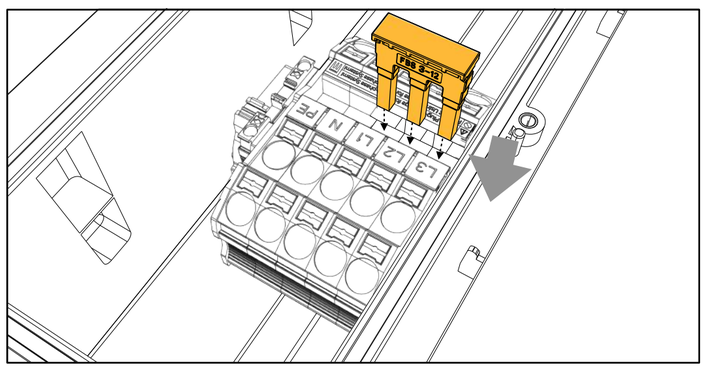
d. Connect the cables to the power and PE terminal block in the MS-SCU-RES-U.

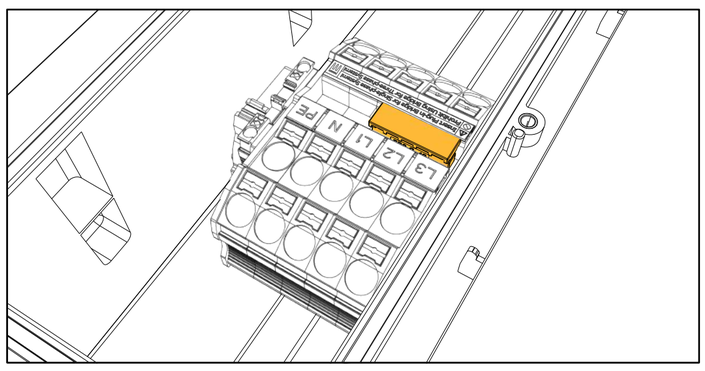
Single-phase application



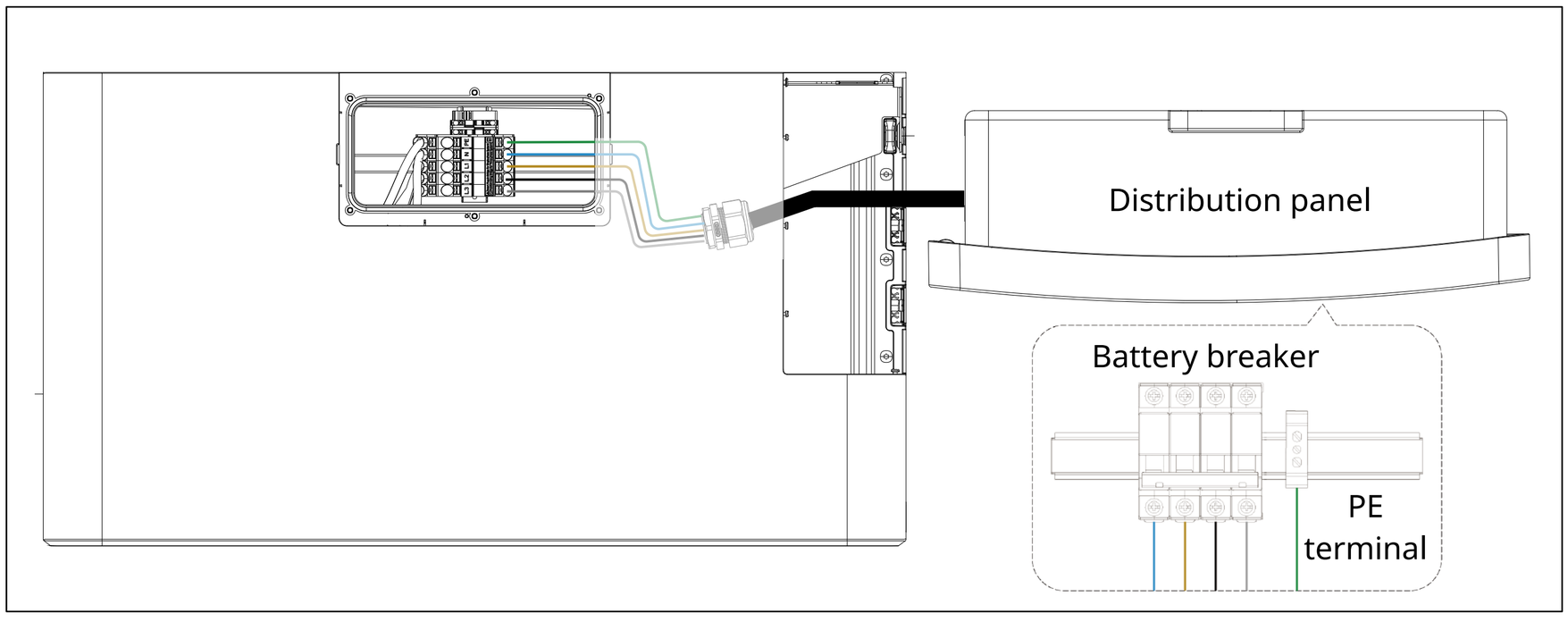
NOTE:

- For single-phase system, the plug-in bridge must be fully inserted as shown.
- After the installation, confirm that the plug-in bridge is not loose.





Three-phase application for Wye grid

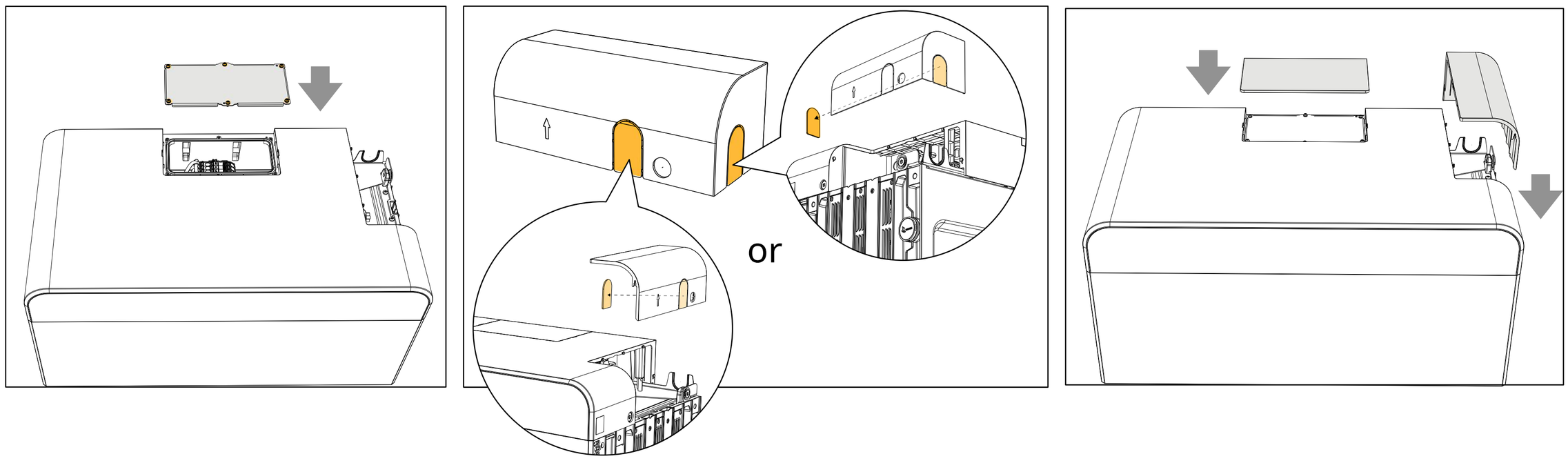


NOTE:

- For three-phase system, the plug-in bridge is strictly prohibited.

5. Reinstall the cover of the MS-SCU-RES-U

a. Install the upper sealing cover and tighten the screws using a Phillips screwdriver.
b. Remove the required cable entry knockout from the side cover according to the cable routing.
c. Reinstall the upper cover and the side cover.



6. Power on the system

a. Use the multimeter to measure the voltage between the N pole and L1 pole (and/or L2 pole, L3 pole) of the grid connection point. The voltage value should be approximately the nominal phase voltage, e.g. 220 V, 230 V, and 240 V.
b. Switch on the battery breaker in the combiner and power on the system.

7. Activate the system

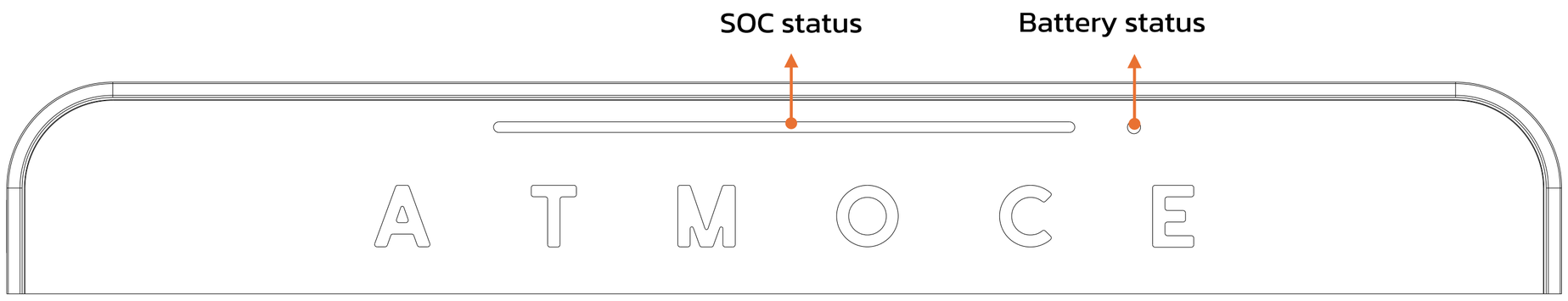
a. Log into the ATMOZEN APP on your mobile phone and follow the deployment guide in the app to activate the system.

LED Indicator Description

The M-ELV BattBank has two types of LEDs and the following table describes their status.

NOTE:

- The state of charge (SOC) accuracy may deviate if the M-ELV BattBank is used for the first time, activated after long-term storage, or left in standby mode for a prolonged period. For calibration, please perform a full charge (to 100% SOC) at least once.



Function	Colour	Description
SOC status	Solid blue	Remaining battery energy percentage
Battery status	Quick flash red	Environmental failure
	Slow flash red	Grid fault
	Solid red	The battery has an internal fault
	Quick flash orange	Upgrading
	Dim	Normal operation

Rev. 1.0.1 Data subject to change.

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