User Manual

Hoymiles MS-A2

Contents

1. Packing List

> **NOTICE**
> - Immediately contact your supplier or distributor upon noticing any damaged or missing parts.
> - In these instructions, the Hoymiles MS-A2 is referred to as "MS-A2" for short.
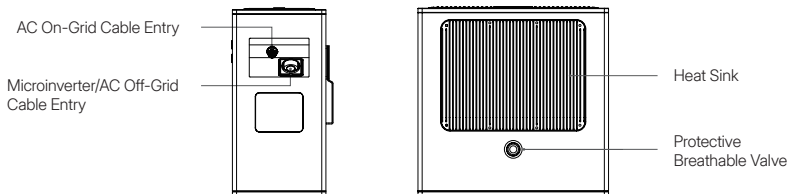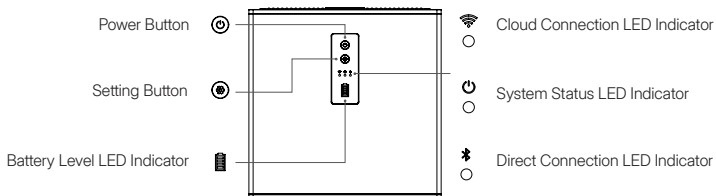
Hoymiles MS-A2 × 1   MS Plug-and-Play Cable × 1   User Manual × 1

2. Product Overview

Power Button

Setting Button

Battery Level LED Indicator

Cloud Connection LED Indicator

System Status LED Indicator

Direct Connection LED Indicator

AC On-Grid Cable Entry

Microinverter/AC Off-Grid Cable Entry

Heat Sink

Protective Breathable Valve

Button Quick Reference Guide

Button	Action	Function
⏻	Press ⏻ for 2 seconds*.	Turn on the MS-A2.
	Press ⏻ for 2 seconds.	Turn off the MS-A2.
	Press ⏻ twice in succession**.	Enable the AC off-grid output.
	Press ⏻ for 0.5 seconds.	Check the battery level.
⚙	Press ⚙ for 10 seconds.	Restore the network configuration.
	Press ⚙ for 5 seconds.	Enable Bluetooth.
	Press ⚙ for 1 second.	Pair the MS-A2 via Bluetooth.

* : If the MS-A2 is not connected to the grid, press and hold the power button ⏻ for 8 seconds.
**: Leave the AC On-Grid Cable Entry unconnected before and during the AC off-grid output process.

LED Quick Reference Guide

	LED Status	Indications
📶 ◯		Solid white when connected to the S-Miles Cloud.
		Blinking white when connected to the router, but not connected to the S-Miles Cloud.
		Off if no network is available.
⏻ ◯		Solid white when the system status is normal.
		Solid red when the device faults.
		Slow blinking white when the MS-A2 is ready for AC off-grid output.
		Alternating blinking red and blinking white when there's an off-grid port fault.
		Blinking red when overloaded.
✳ ◯		Solid white when connected to your phone.
		Off when not connected to your phone.

3. Installation

3.1 Installation Tools
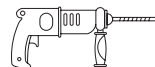
Rubber Mallet   Marker   Electrical Screwdriver (M5, M6)   Hammer Drill (φ8)

3.2 Mechanical Installation

⚠ **WARNING**
- All installations must adhere to local electrical standards and the national electrical code.
- Shield the MS-A2 from direct sunlight and rainfall.

NOTICE
For safe operation and to avoid device damage, observe the following requirements when selecting the installation site.
- The installation site must be convenient for electrical connection, operation, and maintenance.
- The installation surface must be suitable for the weight (32 kg), dimensions, and cable length of the MS-A2.
- The installation site must have sufficient air clearances around the MS-A2. Clearances may vary depending on specific installations, and we suggest a general minimum guideline: maintain at least 3.5 mm clearance to the nearest adjacent sidewall on the up, bottom, left, and right sides.

Method 1 Floor-Mounted

Position the MS-A2 on a flat and stable surface. The back of the device must be separated from the wall by at least 1 cm.

Method 2 Wall-Mounted

NOTICE
The mounting kit (brackets, screws, and expansion bolts) must be purchased separately. You can contact the distributor or email our sales team at **sales@hoymiles.com** to order the mounting kit.
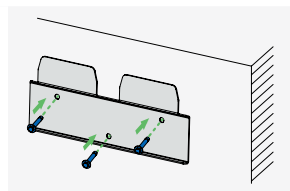
A) Choose a location to mount the MS-A2.

B) Use a level to ensure the wall-mount bracket is completely level. Then mark drilling positions.

C) Drill in the marked positions. (Depth ≥ 50 mm)

D) Secure the wall-mount bracket to the wall with the M6 × 50 expansion screws. (Torque: 9 N•m)

B).

Depth ≥ 50mm

C).

D)-1.
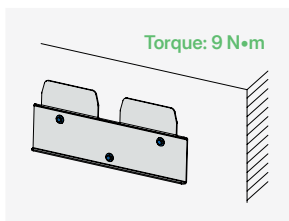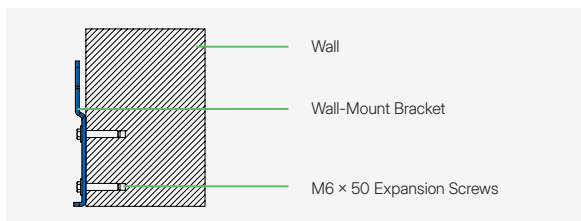
Torque: 9 N•m
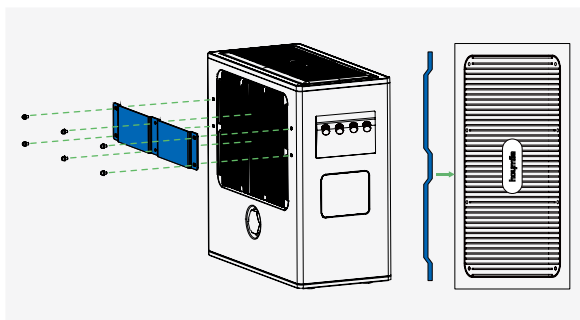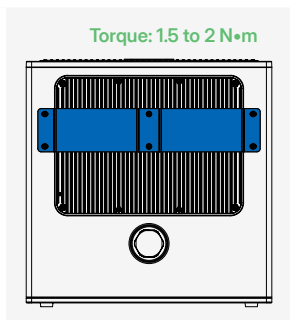
D)-2.

Wall

Wall-Mount Bracket

M6 × 50 Expansion Screws
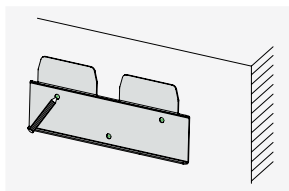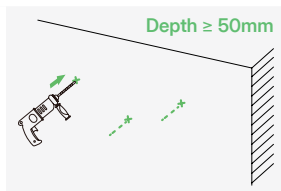
D)-3.

E) Install the other mounting bracket into the MS-A2 and secure them using the M5 × 10 screws. (Torque: 1.5 to 2 N•m)

E)-1.

Torque: 1.5 to 2 N•m

E)-2.

F) Hang the MS-A2 onto the wall-mounted bracket.

F)-1.

F)-2.
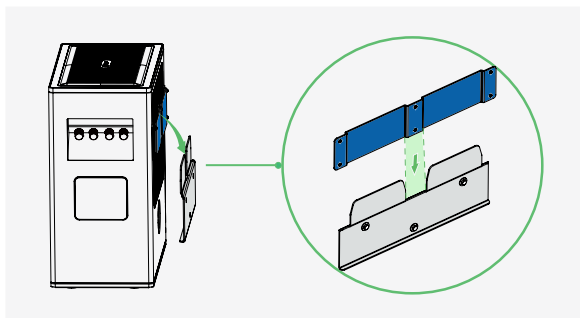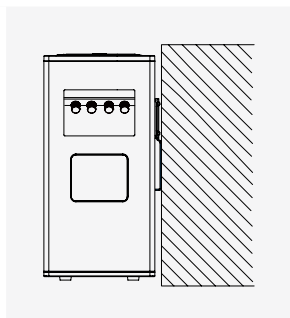
⚠️ **DANGER** Before proceeding with the installation make sure the microinverter system is disconnected from the power supply, the solar panels are shaded or isolated, and the MS-A2 is turned off.

Step 1 Disconnecting the microinverter system from the grid

A) Unplug the AC Cable of microinverter from the socket.
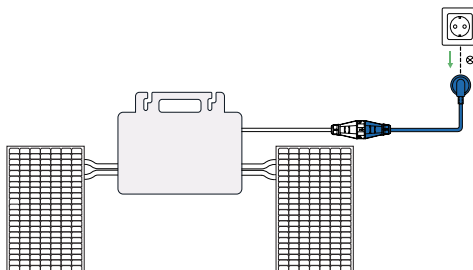
Step 2 Connecting the microinverter system to the MS-A2

A) Insert the AC Cable of microinverter into the AC Off-Grid cable entry of the MS-A2. Listen for a click to ensure proper engagement.
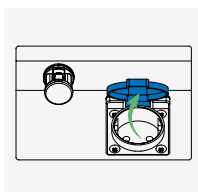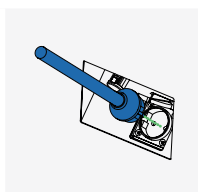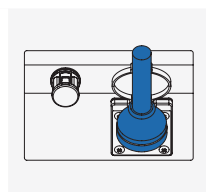
| A)-1. | A)-2. | A)-3. | A)-4. |

Step 3 Connecting the MS-A2 to the grid

A) Insert the MS Plug-and-Play Cable into the AC On-Grid cable entry of the MS-A2. Listen for a click to ensure proper engagement.

B) Plug the other end of the MS Plug-and-Play Cable into the socket.

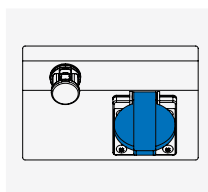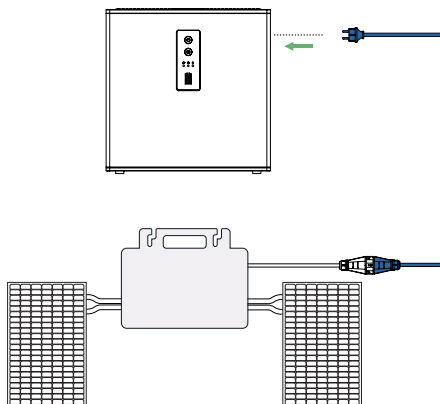| A)-1. | A)-2. | A)-3. | A)-4. |
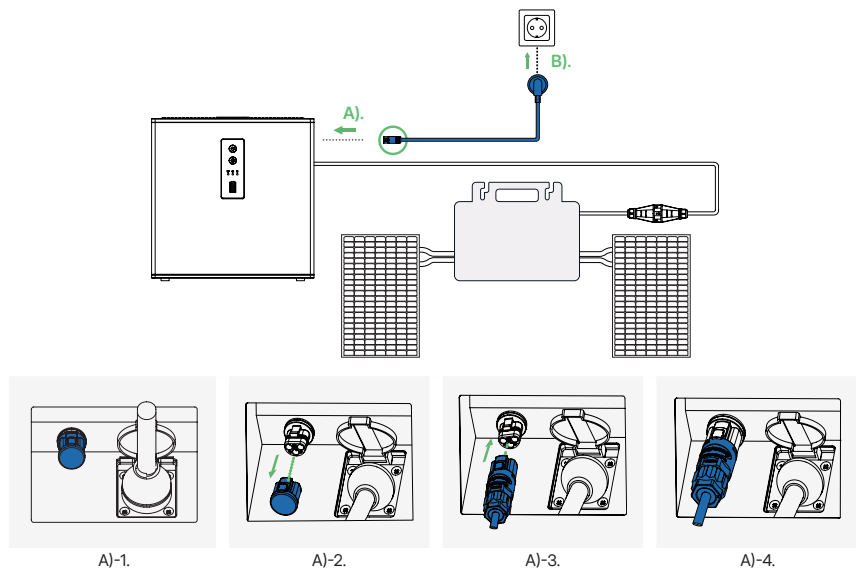
Step 4 （Optional）Connecting two MS-A2s in one system

A) Plug the other end of the MS Plug-and-Play Cable into the AC Off-Grid cable entry of the second MS-A2.

B) Insert the second MS Plug-and-Play Cable into the AC On-Grid cable entry of the second MS-A2.

C) Plug the other end of the second MS Plug-and-Play Cable into the socket.
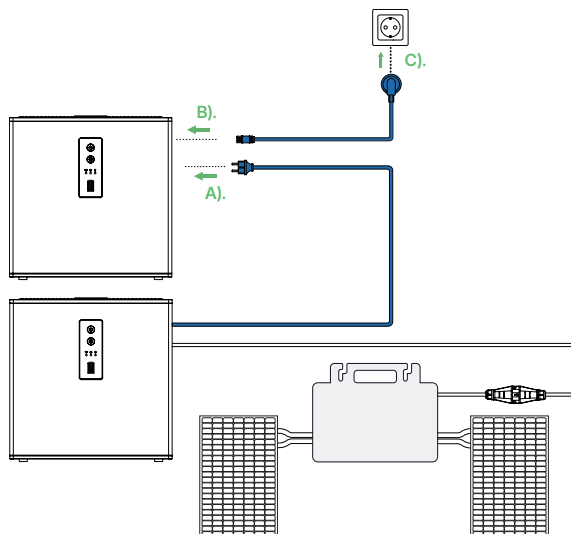
4. Using the MS-A2

4.1 Downloading the App

There are two ways to download the S-Miles Home App:

- Scan the QR code on the right side.
- Search for "S-Miles Home" on the App Store (iOS) or Play Store (Android).

4.2 Creating an Account

A) Open the app and tap **Register**.

B) Enter your information and select the required checkbox. Then tap **Register** to complete registration.
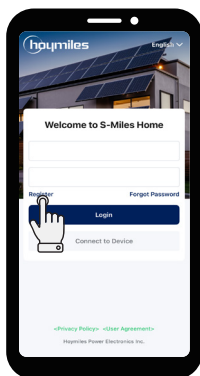
A).
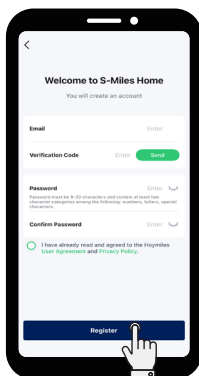
B).

4.3 Powering on the MS-A2

> **NOTICE**
>
> If the MS-A2 is not connected to the grid, press and hold the power button ⏻ for 8 seconds.

A) Press and hold the Power Button ⏻ for 2 seconds, and the status indicator will blink white.

B) When the MS-A2 is successfully powered on, the indicator will remain solid white.
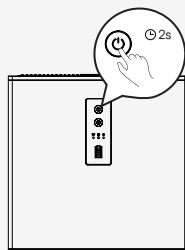
> **NOTICE** Make sure the Bluetooth is turned on, and the Wi-Fi network signal is stable. Do not place the MS-A2 too far away from the router.

A) Launch and log in to the app using your credentials.

B) Tap **Devices** ▌ > **Add Device**.

C) Tap the MS-A2 to be added, and follow the prompts to pair your phone to the MS-A2.

D) Select or enter your home Wi-Fi name and enter the password. Then tap **Confirm** to connect the MS-A2 to Wi-Fi. When the connection is succeeded, tap **Next**.

E) Fill in the required information, and tap **Confirm** to create a home energy system.

F) If you only need to add one MS-A2, tap **Finish**.
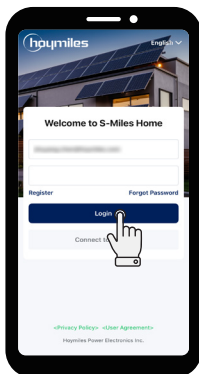
A).
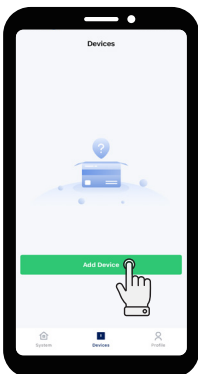
B).
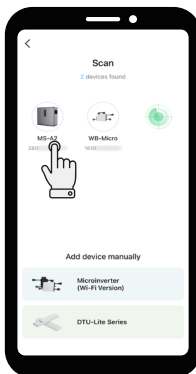
C)-1.
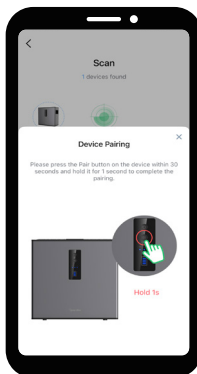
C)-2.
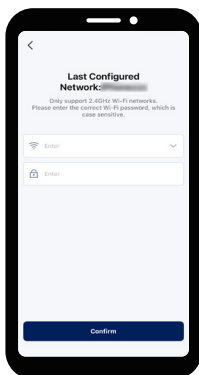
D)-1.
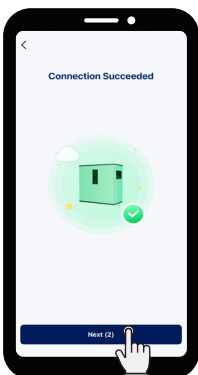
D)-2.
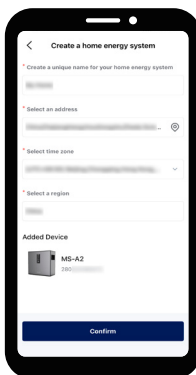
E).

F).

4.5 Adding Two MS-A2s in One System

> **NOTICE** The two MS-A2s should be configured to the same Wi-Fi network.

A) If you need to add two MS-A2s in one system, tap **Continue adding** after system creation.

B) Repeat steps C to D in *4.4* to connect the other MS-A2.

C) Tap **Start** to establish communication between MS-A2s.

D) Tap **Confirm** to finish adding.

A).   C).   D).

4.6 Upgrading the Firmware

A) Tap **Devices** ☐ > **MS-A2** > **Device settings** ⚙.

B) Tap **Firmware Upgrade** to check the version, and upgrade the firmware if needed.
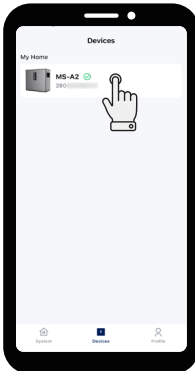
A)-1.   A)-2.   B).
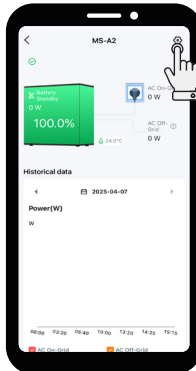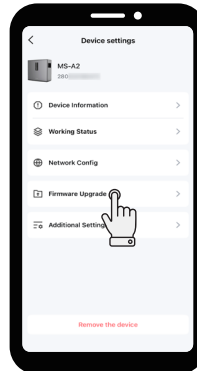
Setting the Load Power Curve

A) Tap **System** 🏠 > **System Settings** ⚙️.

B) Tap **Home Load Setting** > **Load power curve**.

C) Tap the curve to be set.

D) Choose the day for which you want to set up the load power curve. Divide the day into different periods and enter the load power value for each period. Then Tap **Confirm** to save your setting.
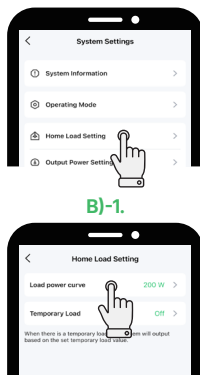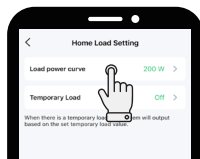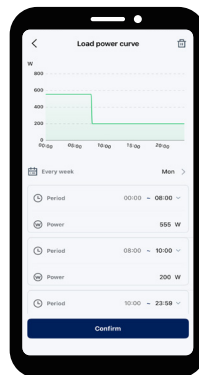
A).   **B)-1.**   **B)-2.**   **C).**   **D).**

Setting the Output Power

A) Tap **System** 🏠 > **System Settings** ⚙️.

B) Tap **Output Power Setting**.

C) Drag the slider to set the desired output power, and tap **Confirm** to save your setting.

A).   **B).**   **C).**
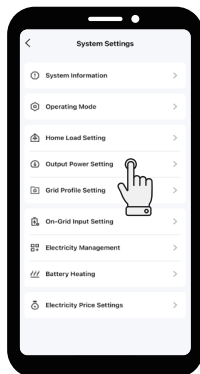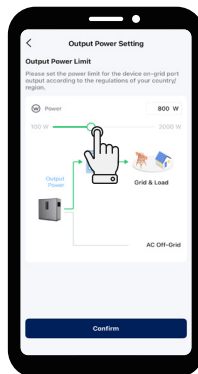
NOTICE
Load power curve setting provides more detailed control over power delivery throughout the day. You can configure up to seven load power curves but only one curve can be applied per day. We recommend configuring load power curves to maximize the use of solar energy generated by PV modules.

4.8 Adding Smart Devices

A) Tap **System** 🏠 > ⊕ > **Link Smart Device**.

B) Tap the MS-A2.

C) Tap the smart device.

D) When all smart devices are added, tap **Finish**.
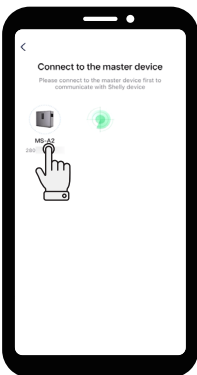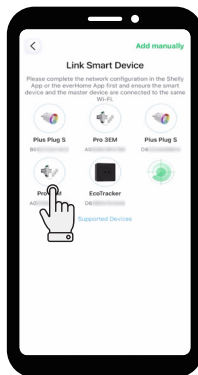
| A). | B). | C). | D). |

4.9 Setting the TOU Mode

A) Tap **System** 🏠 > **System Settings** ⚙️.

B) Tap **Operating Mode**.

C) Select the TOU mode.
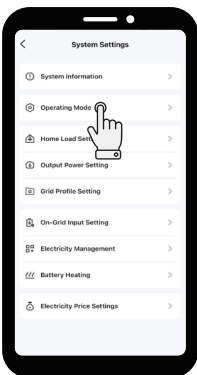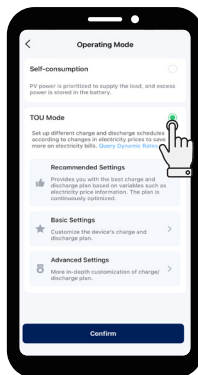
| A). | B). | C). |

D) Select one setting mode.

- **Recommended Settings**

  It can provide you with the best charge and discharge plan based on different variables and you don't need to set anything.

- **Basic Settings**

  a) Tap ⊕ to add a new plan, or edit the default plan.

  b) Tap **Add Time Period** to set charge and discharge periods, and tap **Confirm** to save your settings.
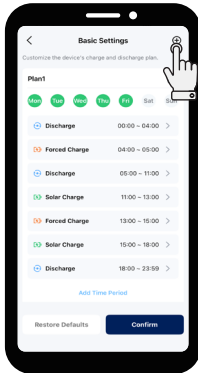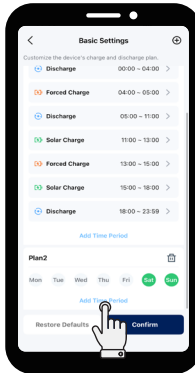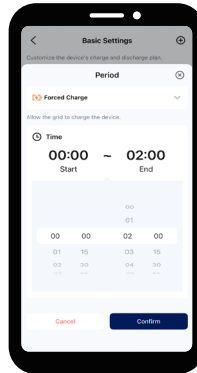
| a). | b)-1. | b)-2. |

- **Advanced Settings**

  a) Tap Daily Schedule 🗓.

  b) Tap ⊕ to add a new schedule.

  c) Tap **Add Time Period** to set charge and discharge periods, and tap **Confirm** to save your settings.
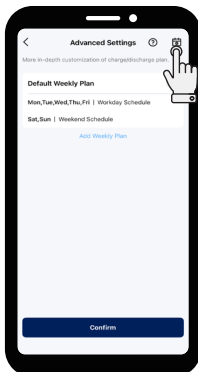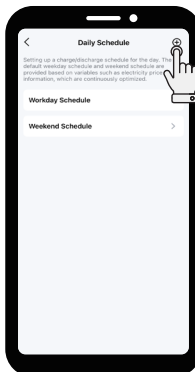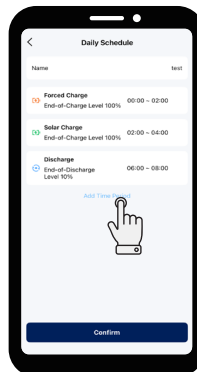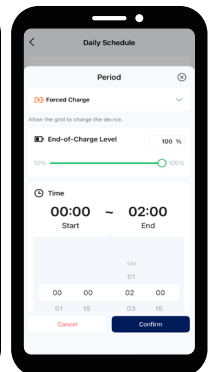
| a). | b). | c)-1. | c)-2. |

d) Go back to **Advanced Settings**, and tap **Add Weekly Plan** to select the schedule. Then tap **Confirm** to save your settings.

e) Select one plan and tap **Confirm**.
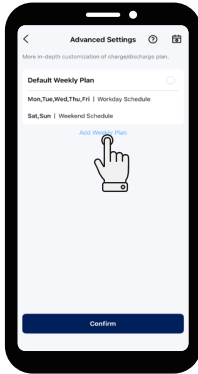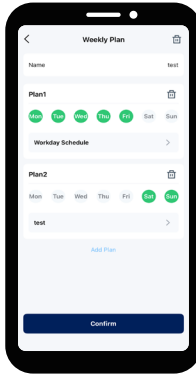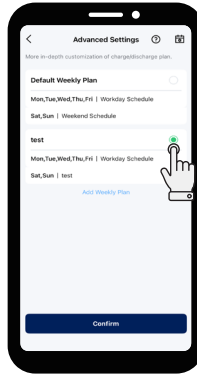
d)-1.   **d)-2.**   **e**

4.10 Checking the MS-A2 and Energy System Performance

- **Checking the MS-A2 Performance**

  Tap **Devices** ▮ > **MS-A2**.
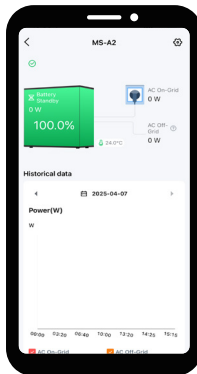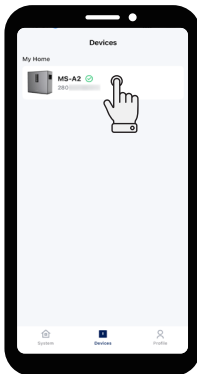
- **Checking the Energy System Performance**

  Tap **System** 🏠.

5. Storage and Maintenance

The following requirements should be met if the MS-A2 is not put into use directly:

- Keep the MS-A2 on a flat surface when storing it.
- Clean the MS-A2 and its components only with a cloth or a soft brush moistened with clean water.
- For the best preservation of battery life, charge it regularly. Even if you're not using the battery, periodically charge it every few months.
- Check the battery enclosure and connectors for damage or corrosion regularly to ensure they work properly.
- If you're storing the battery for a long time, charge the MS-A2 to 40%-50% at room temperature before storing it.

6. Technical Specifications

AC Output (On-grid Port)	
Nominal output apparent power (VA)	800
Max. output apparent power (VA)	800 [1]
Grid type	Single-phase
Nominal AC voltage/range (V)	230/180 - 270 [2]
Nominal AC frequency/range (Hz)	50/45 - 55 [2]
Nominal output current (A)	3.48
Max. output current (A)	3.48 [3]
Power factor (@Nominal Load)	> 0.99 0.8 leading ... 0.8 lagging
Total harmonic distortion (@Nominal Load)	< 3%
AC Input and Output (Off-grid Port)	
Max. output apparent power (VA)	800
Peak output apparent power (VA)	1200, 10s
Grid type	Single-phase
Connector type	Schuko socket
Nominal AC voltage (V)	230
Nominal AC frequency (Hz)	50
Max. output current (A)	3.48
Total harmonic distortion (@Linear Load)	<3%
Max. input power (VA)	1800
Max. input current (A)	7.83
Battery	
Capacity (Wh)	2240
Cell type	LiFePO4
Life cycles	≥6000
Charging temperature (°C)	0 to 55
Discharging temperature (°C)	-20 to 55
Nominal apparent power (VA)	1000 (charge and discharge)
General	
Weight (kg)	32
Dimensions (L × W × H [mm])	455 × 220 × 457
Mounting	Wall-mounted or Floor-mounted
Cooling	Natural convection-No fans
Wireless type	Bluetooth, 2.4 GHz Wi-Fi
Interface	LED & APP
Protection degree	IP65 [4]
Pollution class	PD3
Over-voltage rating	II
Maximum altitude (m)	2000
Operating temperature range (°C)	-20 to 55
Relative humidity (%)	5 to 95

[1] It can be customized by using the S-Miles Home App and can be adjusted up to 1000 VA.
[2] The nominal voltage/frequency range may vary based on local requirements.
[3] It is the ratio of max. output apparent power to nominal AC voltage.
[4] The product is rated IP65 overall, with the exception of the standard AC socket.

7. Safety Information

Please read all instructions carefully before using this product.

⚠ DANGER!

- PV modules produce DC electricity when exposed to light and can cause an electrical shock. Be aware of this.
- Do not exceed the MS-A2's output rating to prevent fire or injury. Overloading outputs above the rating may lead to fire or injury.
- Do not use the MS-A2 or any attachments if they are damaged or modified, as this may result in unpredictable behavior and pose a risk of fire, explosion, or injury.
- Do not operate the MS-A2 with a damaged cord, plug, or output cable.
- Keep the MS-A2 away from fire or high temperatures.
- Do not throw batteries into the fire. Batteries may explode in fire.

⚠ WARNING!

- Only use attachments recommended or sold by Hoymiles to prevent the risk of fire, electric shock, or injury.
- Do not attempt to disassemble the MS-A2. Seek help from a qualified service person for servicing or repairs to prevent the risk of fire or electric shock.
- Before performing any service, disconnect the power supply to reduce the risk of electric shock.
- Do not open or damage batteries, as released electrolytes may be toxic and harmful to skin and eyes.
- Do not use this product around strong static electricity or magnetic fields.
- Disconnect the entire system from the power source during installation.
- Do not put your fingers or hands into the MS-A2.
- Avoid misuse, dropping, or applying excessive force to prevent damage to the MS-A2.
- Shield the MS-A2 from direct sunlight to prevent rapid temperature increase.
- Keep the MS-A2 away from flammable, explosive gases, or smoke.
- The MS-A2 has an IP65 protection level and should not be submerged in liquids. If the MS-A2 accidentally falls into water, place it in a safe and open area to dry completely. Do not reuse the dried product.

⚠ CAUTION!

- The MS-A2 is a Class 1 product and is required to be grounded for safety. But, since the MS plug-and-play cable already has a protective earth wire, you can simply use this cable for grounding without any additional steps.
- It is recommended to use a residual current-operated protective device (RCD) or a residual current monitor (RCM) of type B on the power supply side of this product.
- Before use, check the MS-A2 for any signs of damage, such as cracks, leaks, heat, or cable damage. If any abnormalities are detected, discontinue use immediately and contact our Technical Support Team.
- Battery servicing should be performed or supervised by a competent electrician who is knowledgeable about batteries and safety precautions.
- When replacing batteries, use the same type and number as the original. Follow these precautions:
  - Remove watches, rings, and other metal objects.
  - Use tools with insulated handles.
  - Wear rubber gloves and boots.
  - Keep tools and metal parts away from the batteries.
  - Disconnect the charging source before connecting or disconnecting battery terminals.
- Make sure the battery isn't accidentally grounded. If it is, disconnect the ground source. A grounded battery can cause electrical shock. To reduce this risk, remove any grounds during installation and maintenance. This rule applies to both equipment and remote battery supplies that don't have a grounded supply circuit.
- Ensure battery terminals and connectors are accessible for maintenance with the proper tools.
- Place batteries with liquid electrolytes so that the cell caps are accessible for testing and adjusting electrolyte levels.
- To minimize the risk of injury, closely supervise the MS-A2 when in use near children. Keep it out of reach of children and pets.
- Do not stand on the MS-A2.
- The MS-A2 must not be disposed of with other waste, and instead must be taken to the waste collection points for treatment, collection, recycling, and disposal.

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