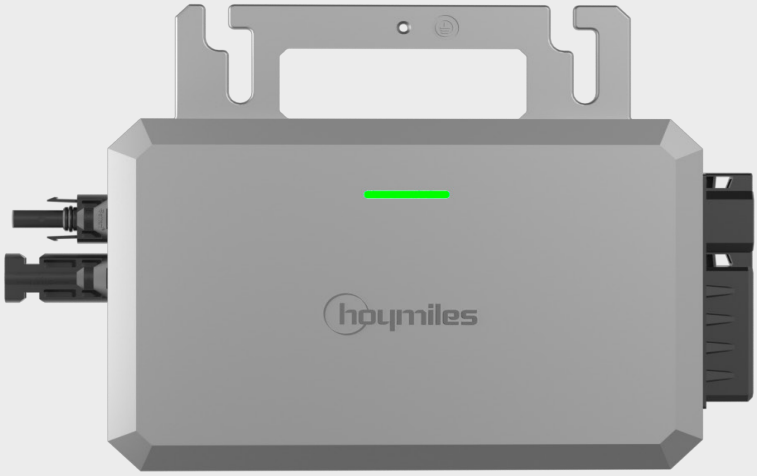
Open Energy for All



HiFlow Series Microinverter

USER MANUAL

HF-800-WB

Legal Notice

Hoymiles has made every effort to ensure the accuracy and completeness of this manual. However, this manual may be changed and revised due to product enhancements or user feedback.

Hoymiles reserves the right to modify this manual without prior notice at any given time. The latest version of this manual can be found by visiting the Hoymiles official website (www.hoymiles.com) or scanning the QR Code below.

Emission Compliance

This equipment has been tested and found to comply with the limits applied by the local regulations. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

** Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.*

Warranty

Follow the installation instructions in this manual to ensure warranty compliance and reliability. The current warranty conditions can be accessed at www.hoymiles.com.

Contact Us

If you have technical queries or any questions concerning our products, please contact our support through the Hoymiles service portal:

Germany
service.de@hoymiles.com

Spain
service.es@hoymiles.com

France
service.fr@hoymiles.com

Italy
service.it@hoymiles.com

Netherlands
service.nl@hoymiles.com

Norway
service.no@hoymiles.com

Poland
service.pl@hoymiles.com

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hoymiles.com

Using This Manual

Symbols

·	List (first level)
▷	List (second level)
Step 1, Step 2, ...	Operation steps in a defined order
A), B), C) ...	Operation steps in a defined order

Abbreviations

Abbreviation	Meaning	Abbreviation	Meaning
AC	Alternating Current	PPE	Personal Protective Equipment
DC	Direct Current	PV	Photovoltaic
MPPT	Maximum Power Point Tracking	SN	Serial Number
O&M	Operations and Maintenance	-	-

** Unless otherwise stated, the devices mentioned in this manual are referred to using the abbreviations defined above.*

Revision History

Version	Description
REV1.1	This issue marks the initial official release.

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1 About This Manual

1.1 Purpose

This manual provides information on the installation, electrical connections, operation, and maintenance of the HiFlow microinverter.

Please consider the following before installation:

- Carefully read this manual before operation.
- Keep this manual for reference.

1.2 Audience

This manual is intended for use by qualified persons only. Qualified persons must have the following skills:

- Understanding of microinverter operations and related functionalities.
- Knowledge of microinverter installation, use, and maintenance.
- Competence in handling risks occurring in microinverter installation, use, and maintenance.
- Familiarity with local electrical codes and regulations.

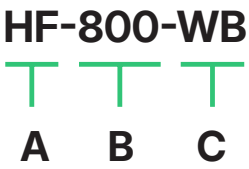
1.3 Validity

This manual is valid for:

Model	Output Power (VA)
HF-800-WB	800

NOTE

Model identifier:



[A]: Series Name

[B]: Output Power Level

[C]: Features (built-in Wi-Fi and Bluetooth module)

2 Safety Instructions

2.1 Safety Symbols

Safety symbols are used in this manual as follows:

Symbol	Description
⚠ DANGER	This symbol indicates potential risks that, if not avoided, may lead to death or serious physical injury.
⚠ WARNING	This symbol indicates potential risks that, if not avoided, may lead to personal injury or device damage.
⚠ CAUTION	This symbol indicates potential risks that, if not avoided, may lead to device malfunctions or financial losses.
NOTICE	This symbol indicates potential risks that, if not avoided, may lead to minor injury or damage to the equipment.
ⓘ NOTE	This symbol indicates an important step or tip that leads to the best results but is not safety or damage-related.

2.2 Additional Symbols

The product label contains the following symbols with their meanings described below:

Icon	Explanation
	**Treatment** Electrical equipment that has reached the end of life must be collected separately and returned to an Approved recycling facility to comply with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation as national law. Return any devices you no longer need to an authorized dealer or an Approved collection and recycling facility.
	**Caution** Risk of electrical shock. Wait at least 5 minutes after the microinverter is disconnected from all external power supplies before starting maintenance.
	**High Voltage** Microinverters may contain high voltages, causing a risk of death.
	**Hot Surface** The microinverter may become hot during operation. Do not touch metal surfaces.
	**CE mark** The microinverter conforms to the Low Voltage Directive of the European Union.
	**Read the manual first** Read this manual carefully before performing any installation, operation, or maintenance.

2.3 Safety Instructions

The HiFlow microinverter has been designed and tested in compliance with international safety standards and thus requires careful installation and operation. Installers must carefully read and strictly follow the safety instructions in this section. Failure to do so may result in:

- Injury or death to the installer or operator
- Damage to the microinverter

⚠ DANGER

General

- All installation, start-up, troubleshooting, maintenance, and all other operations must be performed by a licensed electrician and follow local wiring codes.
- Always use personal protective equipment (PPE), like gloves and goggles, during installation.
- The microinverter should only be used when all technical parameters are observed and applied correctly. (You can refer to 8 Technical Data for more details.) Improper use of the microinverter will void the warranty.

Installation

- Do not use microinverters in a manner not specified by the manufacturer.
- Do not install the equipment in flammable, explosive, corrosive, extreme heat/cold, or humid environments.
- Each microinverter input should only be connected to a single PV module. Do not connect batteries or other power supply sources. These unsupported devices have different output characteristics that differ from standard PV modules, potentially damaging the microinverters and posing safety hazards.
- Do not use the equipment in environments where safety devices are not working properly.
- Do not use the equipment if any unusual operations are detected.
- Check and ensure that all AC and DC wiring is correctly installed and free from any tangles, shorts, or damages.
- Hoymiles shall not be liable for any damages caused by incorrect or improper operations.
- Ensure that none of the DC conductors or DC connectors are exposed.

Maintenance

- Do not attempt to repair the product as it contains no user-serviceable parts. If it malfunctions, contact Hoymiles Support to obtain a return merchandise authorization number and start the replacement process. Tampering with or opening the microinverter will void the warranty.
- Always de-energize the whole system before any maintenance. Do not disconnect the AC and DC connectors under load.
- Maintain extreme caution even if the microinverter is disconnected from the grid. Hazardous voltages may still be present in some components.

⚠ WARNING

General

- Disconnect the microinverter from all power supplies before making or modifying any device connections.
- Only authorized maintenance personnel from Hoymiles can install or replace this product.

Installation

- Make sure to obtain all necessary Approvals from electrical network operators before connecting the microinverter to the power grid or energizing the AC circuits.
- Install the microinverter beneath the PV module. Avoid exposing the AC and DC connectors to rain or moisture before the connectors are engaged to protect them from rain, UV, and adverse weather conditions.

⚠ WARNING

- Use the Hoymiles Compatibility Calculator to verify the electrical compatibility of PV modules with microinverters. To maintain the Hoymiles warranty, only use Hoymiles microinverters with the compatible PV modules shown on the Hoymiles Compatibility Calculator.
- Make sure that the PV module's maximum open circuit voltage falls within the maximum DC input voltage of the microinverter. (You can refer to 8 Technical Data for more details.)
- Improper use, incorrect installation, or unauthorized removal of necessary protections may result in damage to the equipment or serious safety and electric shock hazards.
- Microinverter surfaces can reach high temperatures during operation and within a short time after powering off the whole system. Avoid direct contact with these surfaces.
- Do not expose the cables or cable connectors to continuous immersion.
- Prevent any contaminants or debris from entering the connector.

Maintenance

- Equipment maintenance should only be performed by the Hoymiles Service Team, a repair team authorized by Hoymiles, or by authorized personnel familiar with all warnings and operating procedures contained in this manual.
- The surface of the microinverter may become hot during operation or shortly after power-off. To reduce the risk of burns, use caution when working with the microinverter.

⚠ CAUTION

Installation

- Before installation, inspect for transportation damages compromising insulation integrity and safety clearances.
- Do not remove or cover any warning labels or nameplates on the microinverter.
- Lift the microinverter carefully. Take the weight of the microinverter into account.
- Follow the wiring safety instructions to ensure proper polarity and secure connections.
- Inspect the microinverter system for functionality and performance after installation. Double-check the electrical connections, communication status, and monitoring features.

Maintenance

- The microinverter packaging has been intentionally designed to be reusable. Retain the packaging for future use.
- Do not clean the equipment with filamentary or corrosive material-based rags to prevent corrosion and electrostatic charges.

3 Product Information

3.1 Overview

Functions

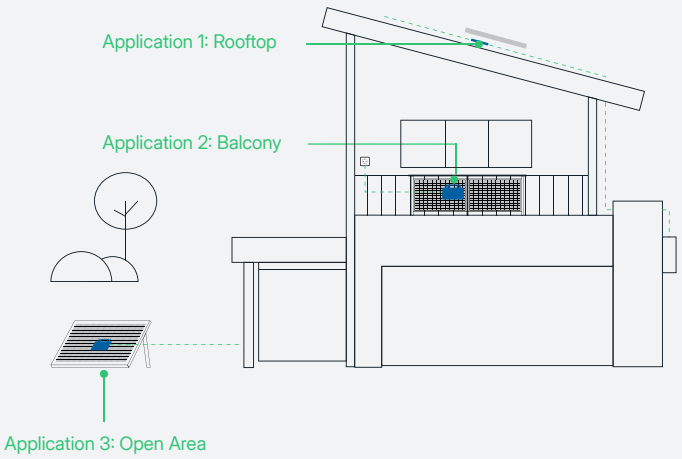
Microinverters are module-level power electronics that convert direct current (DC) into alternating current (AC). The HF-800-WB microinverter provides a cost-effective solution for residential PV systems. It is lighter, smaller, but has a maximum output of 800 VA.

Features

- Plug & play connection, eliminating complex wiring
- Built-in Wi-Fi & Bluetooth module, supporting device management without App registration
- Peak efficiency 97%, fully utilizing energy
- MPPT efficiency 99.8%, ensuring efficient power generation
- IP 67 rating, -40 °C to 65 °C operating temperature range, adapting to various harsh environments
- 12-year long warranty period
- Compliant with GDPR and RED-EN 18031 for enhanced data security
- Instant voltage cut-off to 34 V within 1 second

Applications

The HF-800-WB microinverter is designed for small residential solar installations, including balcony solar systems and DIY solar setups. Its flexible and convenient installation makes it suitable for various locations such as balconies, gardens, and front lawns.



⚠ CAUTION

Given the complexity of balcony installations, ensure that your installation adheres to the required environmental and safety standards. Seek professional advice if necessary.

How the Hoymiles Microinverters System Works

In a typical microinverter system, a few parts team up to turn sunlight into power you can use.

- **PV modules**

The PV modules capture sunlight and change it into DC electricity.

- **Microinverters**

Microinverters are small inverters installed directly on PV modules or nearby. They convert DC electricity from the PV modules into AC electricity, which can power homes or be fed back into the grid.

- **S-Miles Cloud**

The S-Miles Cloud is a comprehensive monitoring and analysis platform. It watches over the microinverter system from afar, providing real-time insights into the whole system's performance and enabling you to keep track of your microinverter system's status. The S-Miles Cloud also enables remote monitoring, module-level monitoring, as well as efficient operations and maintenance (O&M).

What's New in the HiFlow Series Microinverter

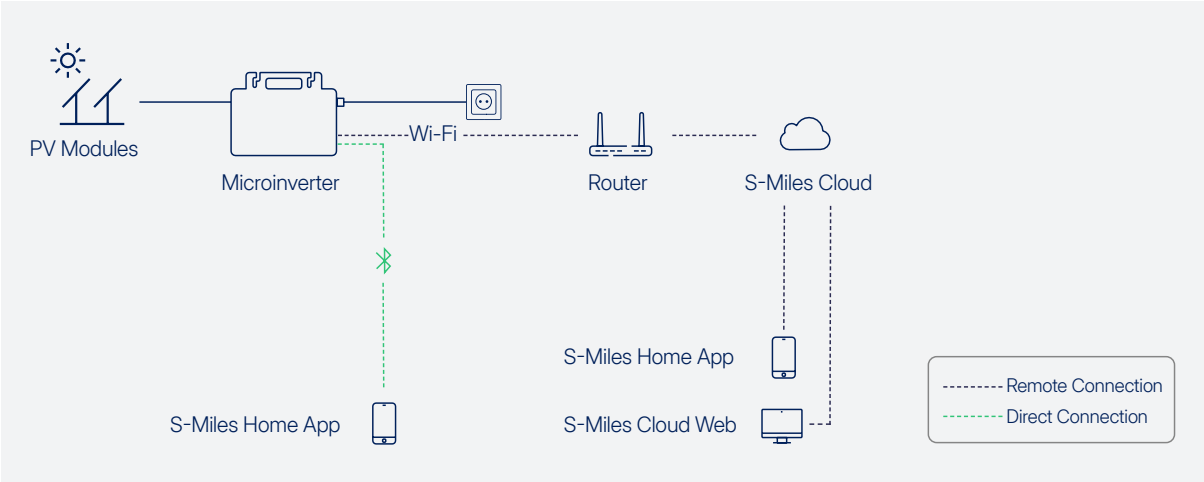
The HF-800-WB microinverter introduces two ways to track, manage, and optimize your solar system:

- **Remote Connection**

In this mode, one or multiple microinverters communicate with the S-Miles Cloud via Wi-Fi. You can monitor all connected microinverters from anywhere by logging into your Hoymiles account and setting up an online power system. This requires connecting the microinverter to a Wi-Fi router for cloud access.

- **Direct Connection**

This method allows you to monitor the microinverter without signing up or setting up an online account. Using the S-Miles Home App, you can connect directly to the microinverter via its built-in Bluetooth. This provides real-time data access and local control without internet dependency.

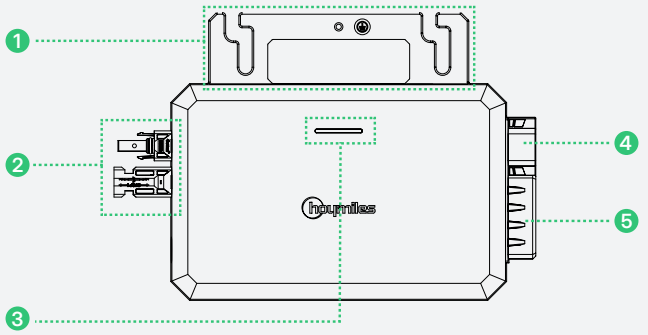


3.2 Appearance and Dimensions

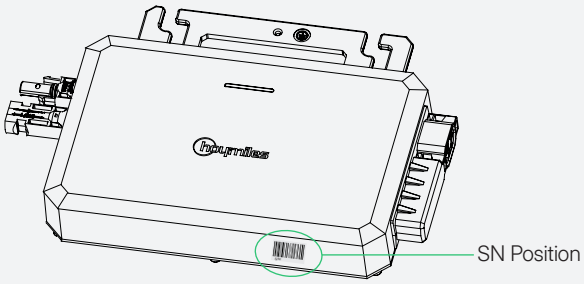
NOTE

The appearance and dimensions shown here are for reference only. The actual product you receive may differ.

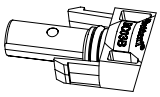
Appearance



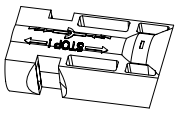
No.	Name
1	Bracket (used to secure the microinverter)
2	DC Connectors* (connect to PV modules)
3	LED Indicator
4	AC Connector (connects to the Flex-S3 Plug and Play Cable-CEE7/7)
5	Built-in Wi-Fi and Bluetooth Antenna



NOTE

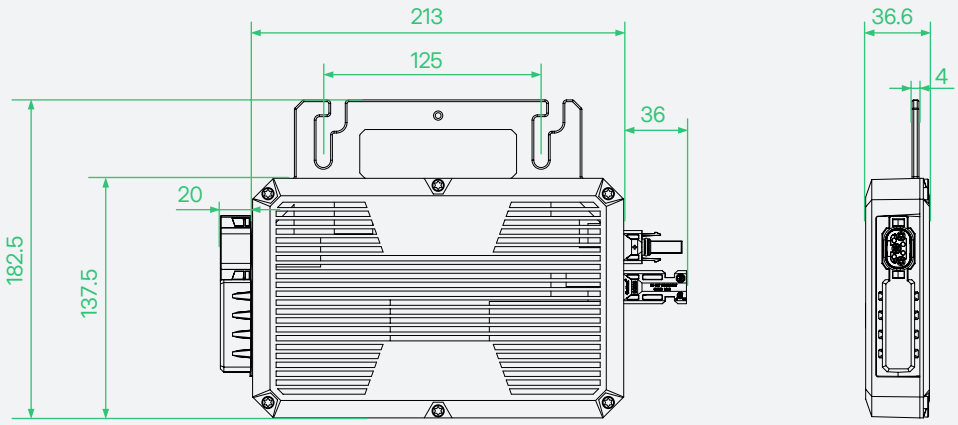


DC Connector (Male)



DC Connector (Female)

Dimensions (mm)



4 Installation

4.1 Preparation

Unpacking the Box

The microinverter has been thoroughly tested and was subject to a strict inspection before delivery. However, damage may still occur during shipping.

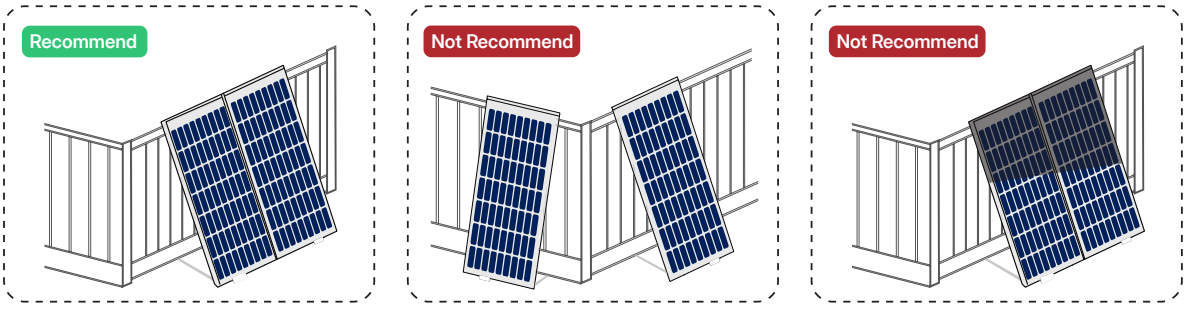
Conduct a detailed inspection after unpacking the microinverter:

- Check for any external damage
- Check and confirm that all items have been included

Item	Quantity	Remark
Microinverter	1	Immediately contact your supplier or distributor upon noticing any damaged or missing parts.
Flex-S3 Plug and Play Cable-CEE7/7	1	
Disconnect Tool	1	
Installation Guide	1	

Selecting Installation Site

- To avoid communication interference, the installation site should be free of metal obstacles or large obstructions.
- The installation site should not have any corrosive, flammable, or explosive material.
- The Installation site's environmental conditions should meet microinverter requirements specified in 8 Technical Data, including protection level, temperature, humidity, altitude, and more.
- The installation site should be inaccessible to children or pets.
- The installation site should provide a minimum clearance of 2 cm around the microinverter enclosure to ensure proper ventilation and heat dissipation.
- To ensure optimal power generation performance, it is recommended that the two PV modules face the same direction, and avoid being shaded by trees, adjacent buildings, rain shelters, etc.



Checking the Tools

Installation tools include but are not limited to the following recommended ones. If necessary, use other auxiliary tools on site.

Item	Quantity	Function	Source
M8 Screws	2	Securing the microinverter	Not Include
Electric Screwdriver (2 to 9 N·m)	1	Tightening screws	
Cable Ties	As needed	Securing the whole system to prevent it from falling.	
Steel Tape	1	Measuring distance	
Marker	1	Marking installation site	

4.2 Installation Steps

A balcony solar system is used as an example of a single microinverter setup.

⚠ DANGER

- Make sure there is no electrical connection before proceeding with the installation.
- During installation, secure the whole microinverter system to prevent it from falling.

⚠ WARNING

- Ensure that your installation adheres to the required environmental and safety standards. Seek professional advice if necessary.
- Check the balcony railing for stability, weight capacity, and a smooth, level surface for bracket attachment.

Step 1 Mount the microinverter

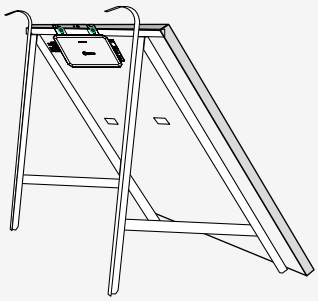
A) Follow the manufacturer's instructions to assemble the PV module mounting bracket.

B) Attach the microinverter to the bracket.

ⓘ NOTE

For easy observation of the indicator, the microinverter's indicator side should orient outward (away from the PV module).

C) Secure the microinverter to the bracket with M8 screws (torque: 9 N·m). Do not over-torque.



Step 2 Connect the PV modules

A) Connect two PV modules in series as a string.

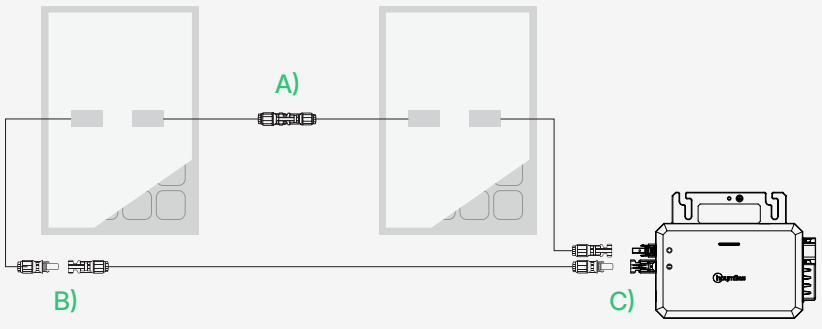
B) (Optional) Connect one or more DC extension cables according to the distance between the PV module and the microinveter.

ⓘ NOTE

You can contact your distributor to purchase the DC extension cable.

C) Connect the microinverter's positive (female MC4) connector to the PV module's positive (male MC4) terminal.

Connect the microinverter's negative (male MC4) connector to the PV module's negative (female MC4) terminal.

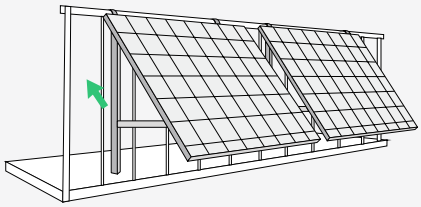


Step 3 Attach the bracket

A) Mount the two PV modules above the microinverter, and attach the bracket to the balcony railing or place it in the open area.

B) Verify the bracket is aligned correctly, level, and stable.

C) Use cable ties to fasten the system to the railing.



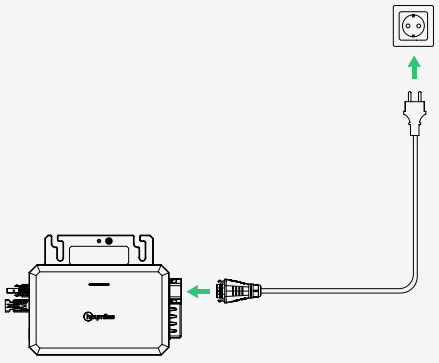
Step 4 Power on the microinverter system

A) Connect one end of the Flex-S3 Plug and Play Cable-CEE7/7 to the microinverter, and the other end to the socket.

B) Wait five minutes for the system to start generating power.

C) Check the LED status.

- Flashing Green: System operating normally.
- Other LED Status: Fault. Refer to 6.2 LED Indicator Status for troubleshooting.



5 Setting Up and Activating Monitoring

This section guides you through connecting to the S-Miles Home, setting up your power system, adding devices, and configuring system settings. You can monitor and control your microinverter through remote connection and direct connection.

NOTICE

Each microinverter has a default PIN code: 123456.

NOTE

- The screenshots provided here are for reference only. The actual screens may vary.
- Refer to S-Miles Home's User Manual for more details.
  On S-Miles Home App, you can tap **Profile** > **Help Center** to find the user manual.
- In the App, PIN code and Bluetooth password refer to the same thing.

5.1 Downloading the Application

Download the S-Miles Home Application. To download,

- Scan the QR code below, or,
- Search for "S-Miles Home" on the App Store or Google Play Store

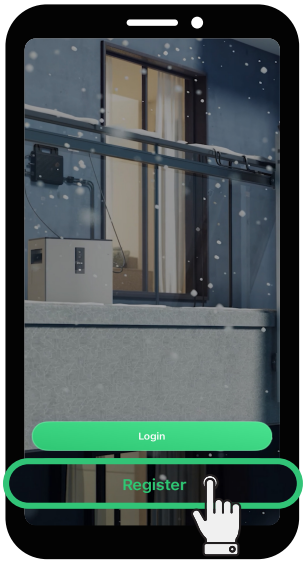
5.2 Connecting to the Device

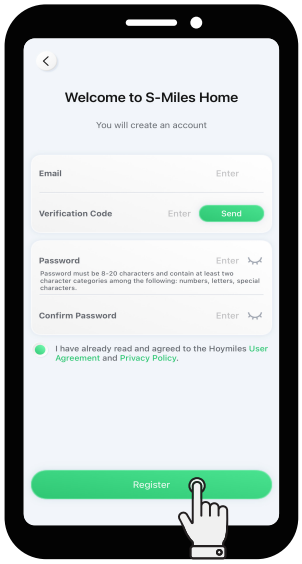
5.2.1 Remote Connection

Step 1 Register an account

A) Tap **Register**.

B) Fill out the registration form. Then tap **Register**.



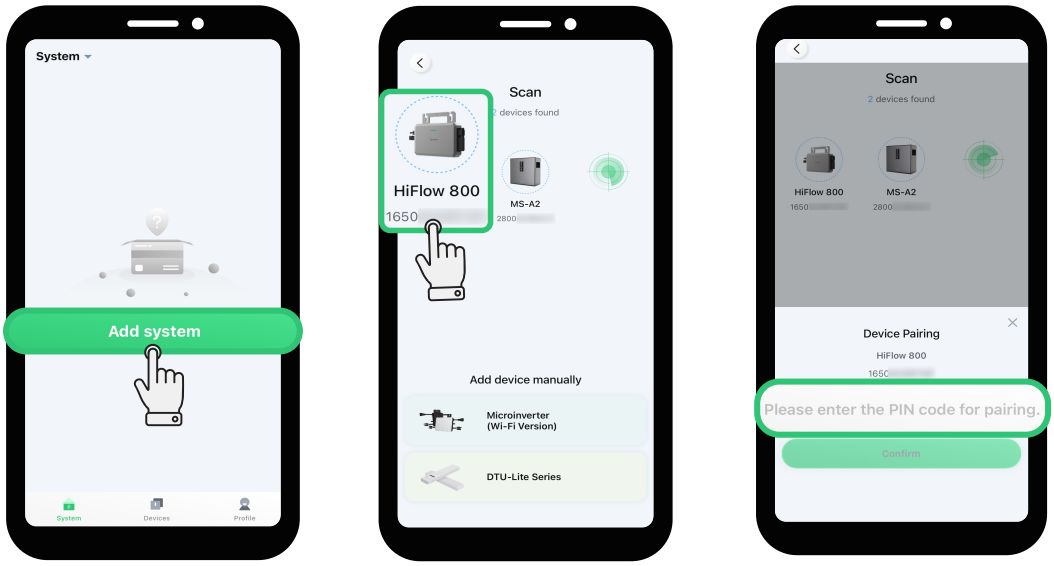


Step 2 Create your system

A) Tap **System** > **Add System**.

B) Tap the microinverter icon.

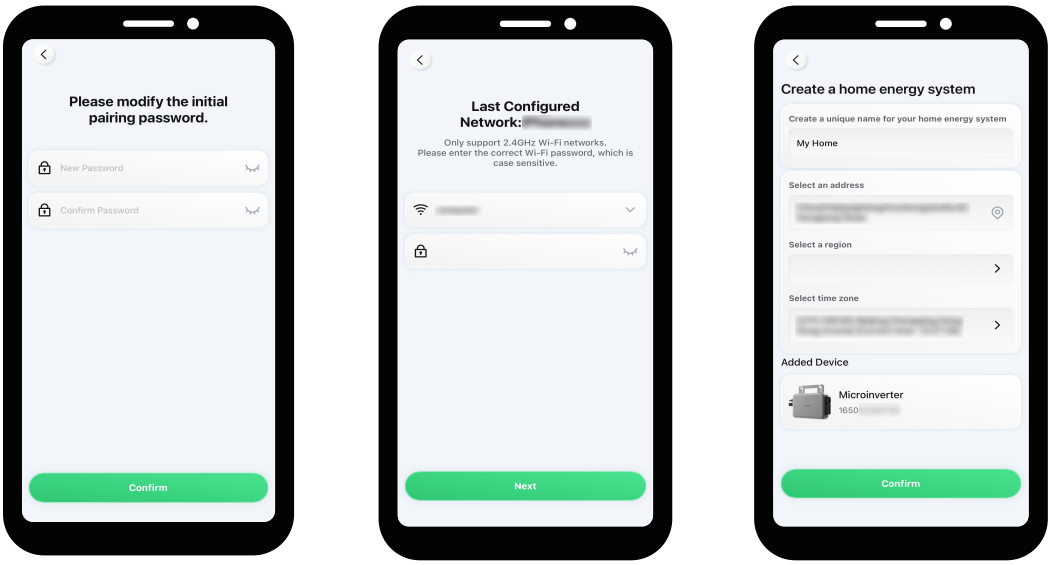
C) Enter the PIN code (defualt: 123456) and tap **Confirm**.



D) Follow the on-screen instructions to change the PIN code.

E) Select or enter your router's Wi-Fi and enter the password.

F) Fill out the system creation form. Then tap **Confirm**.



Step 3 Add devices to your system

NOTE

- All devices in your system must be connected to the same local area network (LAN).
- Supported third-party devices: Shelly smart meters and Shelly smart sockets (version 1.0 or later).

Adding Hoymiles Devices

Tap **System** > + > **Add Device**, and then follow the on-screen instructions.

Adding Third-Party Devices

Tap **System** > + > **Link Smart Device**, and then follow the on-screen instructions.

5.2.2 Direct Connection

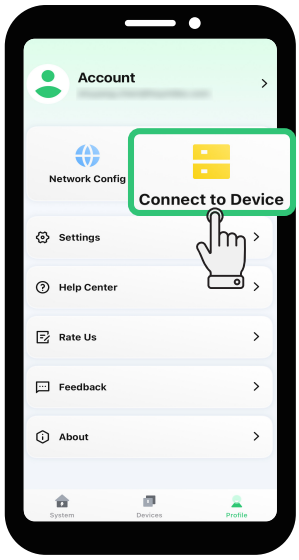
NOTICE

Place the device as close as possible to your phone or tablet. For best performance, keep the distance within 3 meters.

A) If you are not logged in, tap **Connect to Device**.

If you are logged in, tap **Profile** > **Connect to Device**.

Not Logged in

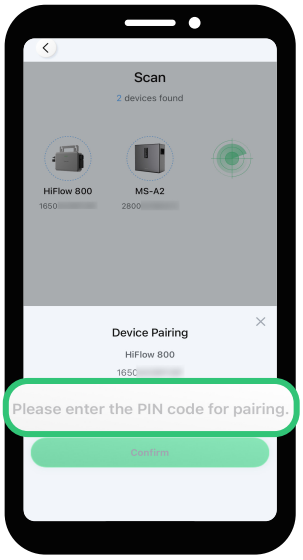


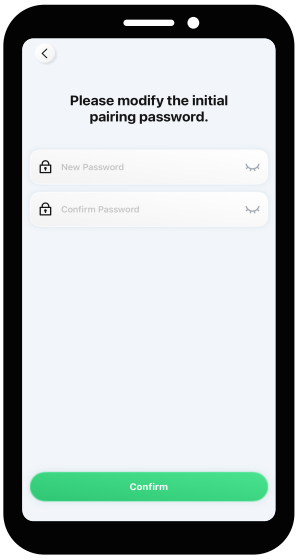
Logged in

B) Verify the SN below the microinverter icon with the recorded one, and tap the icon.

C) Enter the PIN code and tap **Confirm**.

D) Follow the on-screen instructions to change the PIN code.





5.3 Setting the System

5.3.1 Viewing Your System Homepage

System name. Tap it to switch between systems.

Tap it to create new systems or add devices to current system.

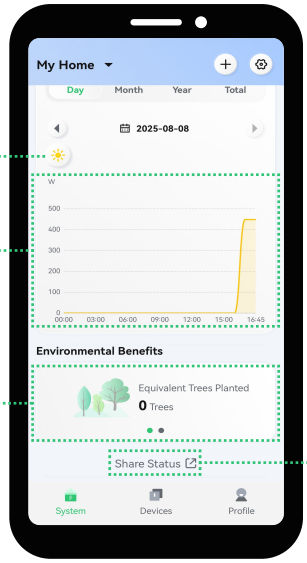
Tap it to manage the system.

Visualization of real-time system performance
- Green waves on the PV modules: Power production level
- Green stream: Power flow

Real-time power production (updated every three seconds)
** When global MPPT is enabled, there will be short-term fluctuations in the data during global MPPT scanning, which is normal.*

Real-time power fed into the grid or supplied to your home electrical devices (load) (updated every three seconds)

Tap it to set electricity price. Then, you can view revenue here.



Tap it to hide/show the chart below.

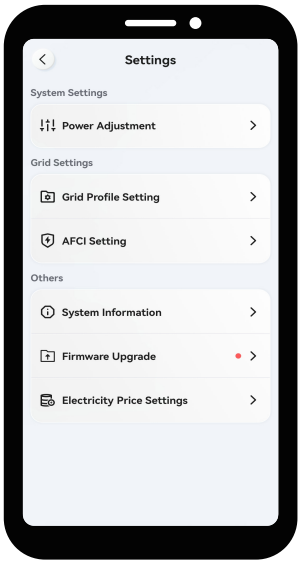
Visualized power production in a selected day/ month/year, or in total (updated every five minutes).
- To view data for a specific time, tap or drag on it.
- To reduce the time interval, pinch to zoom.

Swipe left to view CO_2 emission reduction.

Tap it to save a screenshot of this tab and share it with others.

5.3.2 Managing Your System

Tap ⚙ to enter the system settings screen.

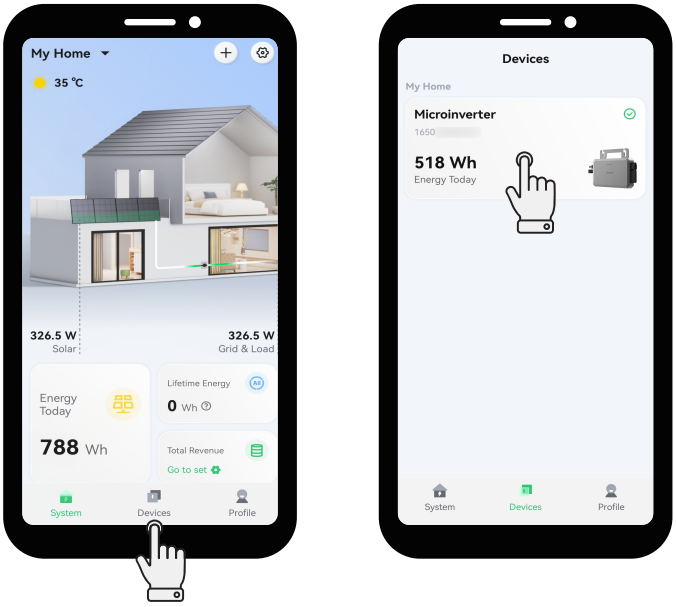


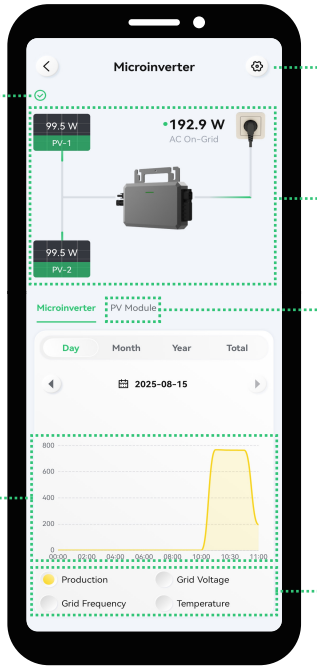
Item	Description
Power Adjustment	You can enter the active output power in percentage or drag the slider to set the output power limit to comply with local regulations, to prevent system overload, or to minimize grid export. This setting works even if there's no meter connected to the system.
Grid Profile Setting	You can update the device's grid profile. This ensures the system uses the latest grid settings that meet local requirements.
AFCI Setting	When you enable the function, the device will automatically detect arc risks. When arc risks are detected, the device will automatically shut down the system to ensure electrical safety.
System Information	You can view and edit system name, region, etc.
Firmware Upgrade	You can update all devices in the system to the latest version.
Electricity Price Settings	You can set the unit electricity price and currency. After completing this setting, you can view the system's power generation revenue on the system homepage.

5.4 Setting the Device

5.4.1 Managing under Remote Connection

Tap **Devices**, and tap the device picture to enter the overview screen.





Real-time status
- : Running normally
- : Alarm (Tap it to see details and troubleshooting suggestions.)
- : Offline

Navigates to the **Device settings Screen**.

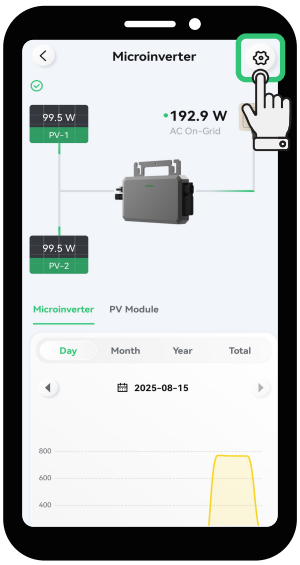
- Green area on the PV modules: Module power level
- Green stream: Power flow
- AC On-Grid: Power fed into the grid or supplied to your home electrical devices (load)

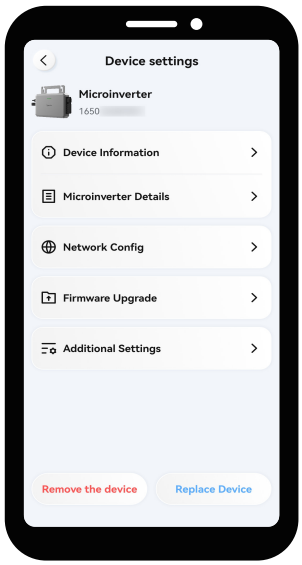
Tap it to view detailed PV module performance.

- To view data for a specific time, tap or drag on it.
- To reduce the time interval, pinch to zoom.

Tap the buttons to hide/show respective data.

Tap ⚙ to enter the device settings screen.

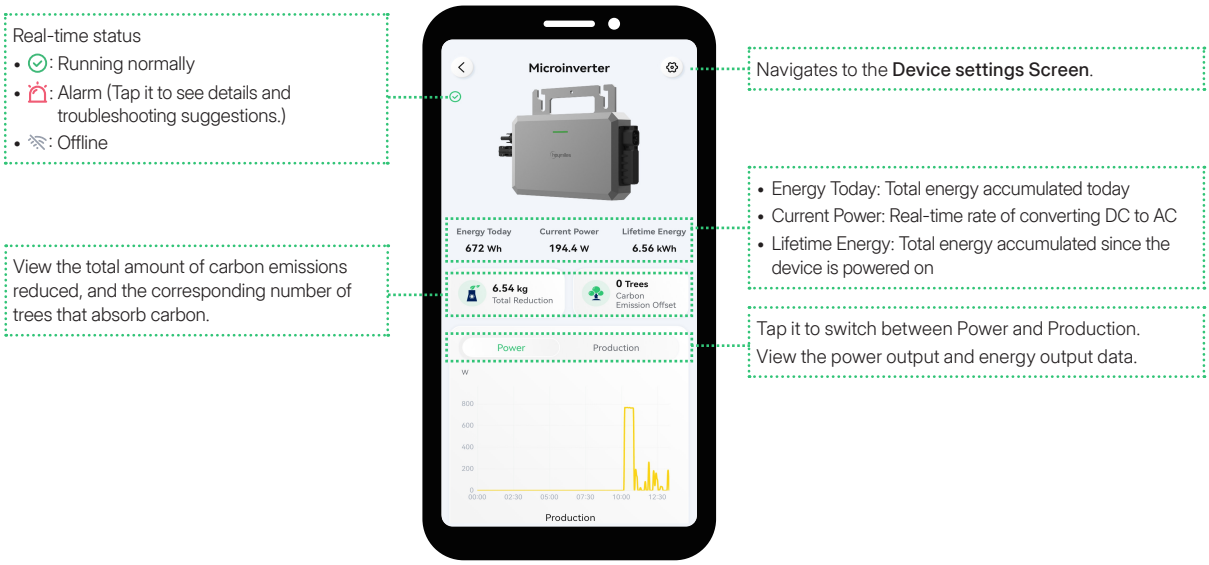




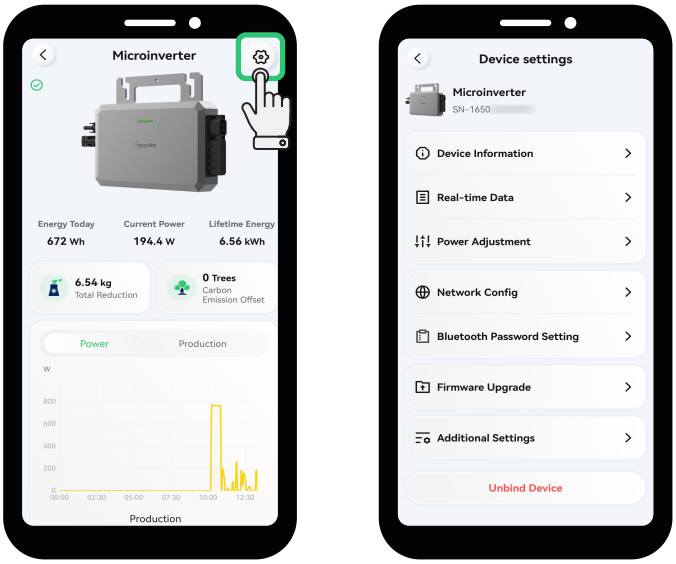
Item	Description
Device Information	You can view hardware version, software version, etc.
Microinverter Details	You can view production, grid voltage, grid frequency, temperature, etc.
Network Config	If the device is offline, you can reconnect it to your home Wi-Fi or connect it to another Wi-Fi. Follow instructions in 5.2.1 Remote Connection to reconnect.
Firmware Upgrade	You can update the device to the latest version.
Additional Settings	You can turn on, turn off, restart, or restore the device.

5.4.2 Managing under Direct Connection

Once connected, you will be directed to the overview screen.



Tap ⚙ to enter the device settings screen.



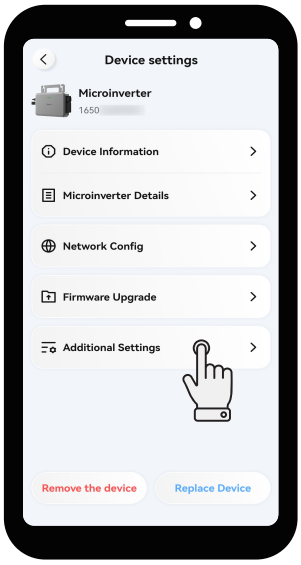
Item		Description
ⓘ	Device Information	You can view hardware version, software version, etc.
☰	Real-time Data	You can view PV voltage, grid voltage, etc.
⚙	Power Adjustment	You can enter the active output power in percentage to comply with local regulations, to prevent system overload, or to minimize grid export. This setting works even if there's no meter connected to the system.
🌐	Network Config	You can connect the device to your home Wi-Fi. Follow instructions in 5.2.1 Remote Connection to connect.
📋	Bluetooth Password Setting	You can edit the PIN code.
⬆	Firmware Upgrade	You can update the device to the latest version.
⚙	Additional Settings	You can turn on, turn off, restart, or restore the device.

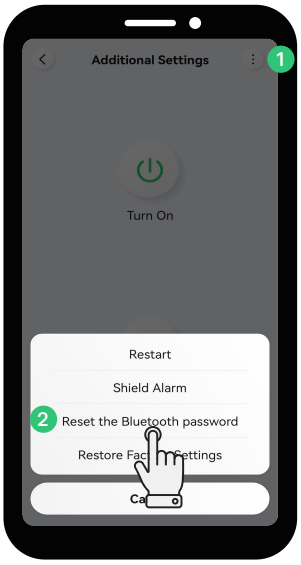
5.4.3 Setting Bluetooth Password

- **Reset to Default (123456)**

  Method One: Follow the instructions in Section 6.3 Bluetooth PIN Code Troubleshooting.

  Method Two: For remote connection, tap ⚙ > **Additional Settings** > ⋮ > **Reset the Bluetooth password**.

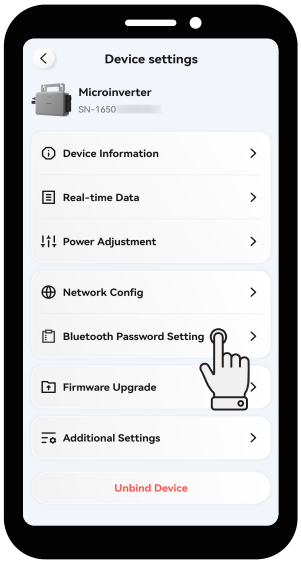


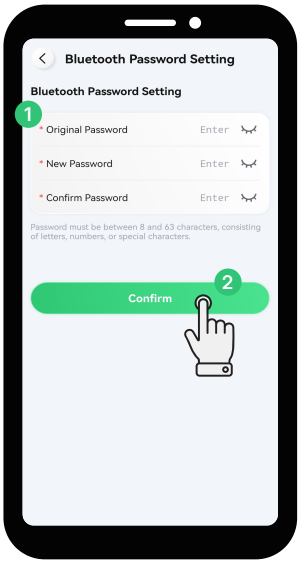


- **Set a New Bluetooth Password**

  A) For direct connection, tap ⚙ > **Bluetooth Password Setting**.

  B) Enter the original password and new password, and tap **Confirm**.

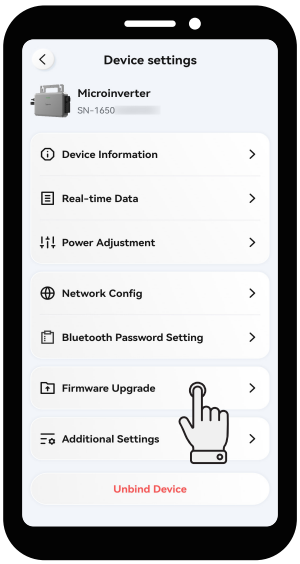


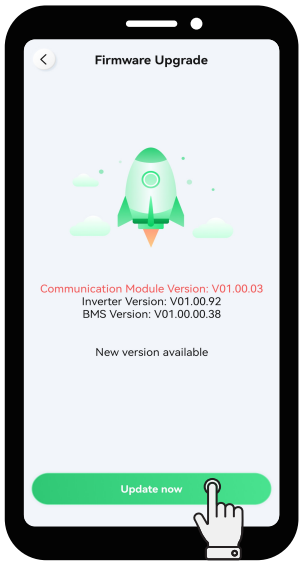


5.4.4 Upgrading Device Firmware

A) Tap ⚙ > **Firmware Upgrade**.

B) Tap **Update Now**.



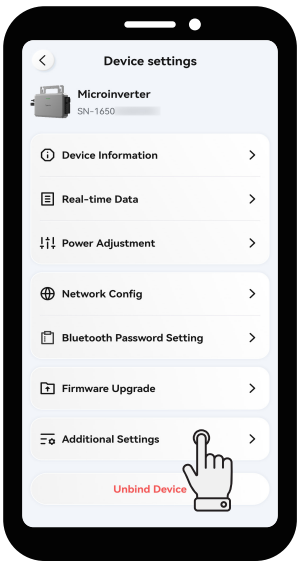


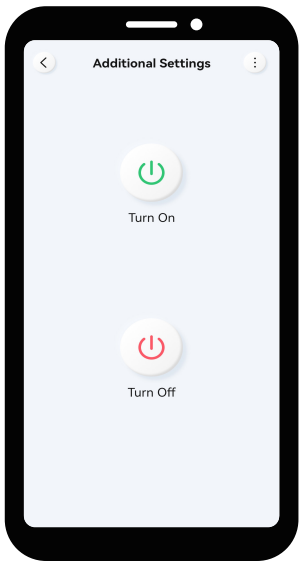
5.4.5 Turning On/Turning Off/Restarting/Restoring the Device

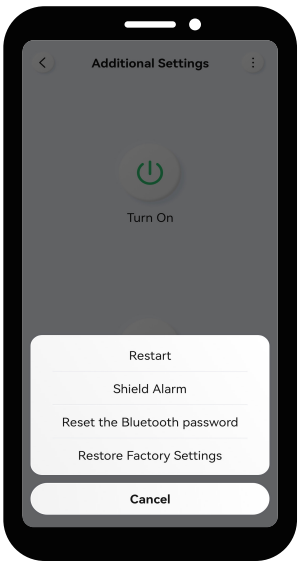
Tap ⚙ > **Additional Settings** > **Turn On** or **Turn Off** to control the device's power.

Tap ⚙ > **Additional Settings** > ⋮ > **Restart** to reboot the device.

Tap ⚙ > **Additional Settings** > ⋮ > **Restore Factory Settings** to reset the device to its original settings.



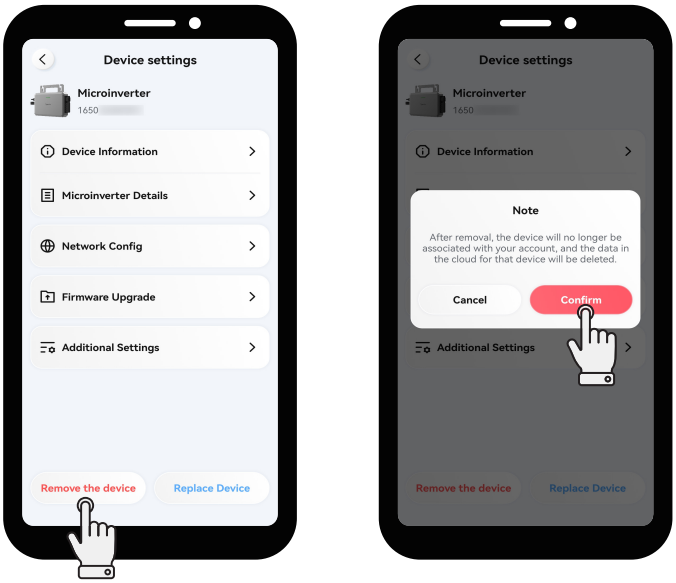




5.4.6 Removing/Unbinding the Device

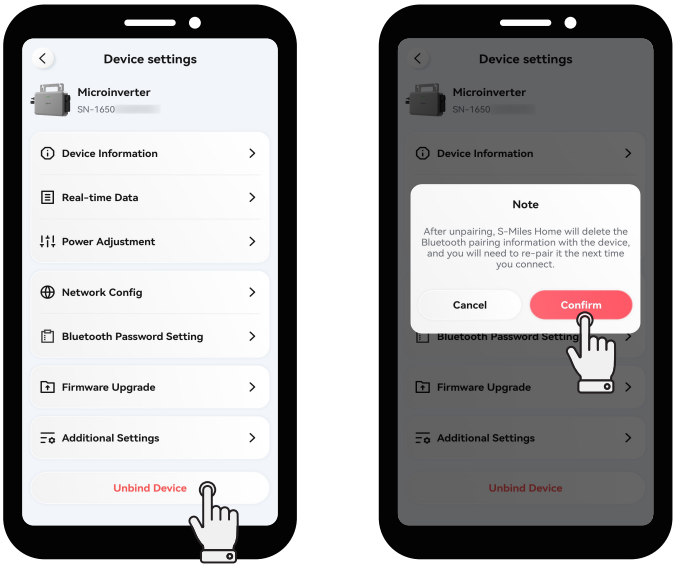
Removing the Device under Remote Connection

Tap ⚙ > **Remove the device** > **Confirm** to delete the device.



Unbinding the Device under Direct Connection

Tap ⚙ > **Unbind Device** > **Confirm** to delete the device.



6 Troubleshooting

6.1 Troubleshooting List

Code	Alarm range	Alarm status	Resolutions
121	CU	Over temperature protection	1. Ensure the microinverter installation site is properly ventilated and at a suitable ambient temperature. 2. Improve airflow and heat dissipation if necessary. 3. Please contact your dealer or Hoymiles technical support team if airflow and ambient temperature meet the requirements.
125	CU	Grid configuration parameter error	1. Ensure grid configuration parameters are correct and attempt the upgrade again. 2. Please contact your dealer or Hoymiles technical support team if the issue persists.
127	CU	Firmware error	1. Check for the correct firmware and re-attempt the upgrade. 2. Check and ensure the Hoymiles monitoring system, and microinverter are all connected and communicating with each other. Retry if needed. 3. Please contact your dealer or Hoymiles technical support team if the issue persists.
130	CU	Offline	1. Please ensure the microinverter is functioning correctly. 2. Check the communication status between the microinverter and Hoymiles monitoring system, and make the necessary improvements if the communication Appears poor. 3. Please contact your dealer or Hoymiles technical support team if the alarm recurs frequently and does not reset.
141	Grid	Grid overvoltage	1. Sudden, accidental activation of the alarm might be the result of a temporary irregularity in grid voltage. The microinverter will recover automatically once the grid voltage stabilizes. 2. Check whether the grid voltage is in the acceptable range in the event of recurring alarm activation. 3. Contact your local power operator or adjust the grid overvoltage protection limit through the S-Miles Cloud Platform with consent from the local power operator if the grid voltage is not within acceptable limits.
142	Grid	10 min value grid overvoltage	
143	Grid	Grid undervoltage	
144	Grid	Grid over-frequency	
145	Grid	Grid under-frequency	
146	Grid	Rapid grid frequency change rate	1. Sudden, accidental activation of the alarm might be the result of a temporary irregularity in grid voltage. The microinverter will recover automatically once the grid voltage stabilizes. 2. Check whether grid voltage is in the acceptable range in the event of recurring alarm activation. 3. Contact your local power operator or adjust the grid overvoltage protection limit through the S-Miles Cloud Platform with consent from the local power operator if the grid voltage is not within acceptable limits.
147	Grid	Power grid outage	Check whether a power grid outage occurred.
148	Grid	Grid disconnection	Check the condition of the AC switch or AC wiring for issues.

149	Grid	Island detected	1. Sudden, accidental activation of the alarm might be the result of a temporary irregularity in grid voltage. The microinverter will recover automatically once the grid voltage stabilizes. 2. If all the microinverters in your station frequently trigger alarms, reach out to the local power operator to investigate potential grid islands. 3. If the alarms do not stop, please contact your dealer or Hoymiles technical support team.
209	PV-1	PV-1 No input	1. Confirm that the port is connected to the PV module. 2. If the PV module is indeed connected, examine the DC cable connection between this port and the PV module.
215	PV-1	Input Overvoltage	1. Ensure the PV module's open-circuit voltage is less than or equal to the maximum input voltage. 2. If it is within the normal range, contact your dealer or Hoymiles technical support team.
216	PV-1	Input Undervoltage	1. Ensure the PV module's open-circuit voltage is not lower than the minimum input voltage. 2. If it is within the normal range, contact your dealer or Hoymiles technical support team.
324	CU	Arcing Lock-up	1. Check whether the wiring between the PV module and the microinverter is correct. 2. If the wiring is correct, issue the [Troubleshoot and Reconnect] command. 3. Please contact your dealer or Hoymiles technical support team if the issue persists.

6.2 LED Indicator Status

The LED indicator on the microinverter indicates various statuses. The following table details the possible LED statuses and what they mean.

Start-up

LED	Time Gap	Pattern	Indication
Flashing green	0.3 s, 5 times		Start-up Success
Flashing red	0.3 s, 5 times		Start-up Failure, Microinverter Failure
Alternating red and green flashing	1 s		Firmware Failure

Operation

LED	Time Gap	Pattern	Indication
Flashing green	1 s		Normal Power Production
Flashing red	1 s		AC Grid Failure
Solid red	-		Hardware Failure
Flashing red	0.5 s		Firmware Failure
Sequential red-green-off cycling	0.5 s		Standby Mode
Alternating red, green, and blue flashing	0.5 s		Firmware Upgrade

Network Status

LED	Time Gap	Pattern	Indication
Alternating blue and green flashing	0.5 s		Network Not Configured
Flashing green	1 s		Normal Network
Solid blue	-		Bluetooth Pairing
Flashing blue	0.5 s		Bluetooth paired, waiting for network configuration

NOTE

- The microinverter is powered by the DC side. If the LED indicator is not illuminated, check the DC side connection. If the connection and input voltage are normal, contact your dealer or Hoymiles technical support team for further assistance. (For details, see Contact Us.)
- Ensure the grid connection is normal.

6.3 Bluetooth PIN Code Troubleshooting

If you reset the microinverter's PIN code and forget it, you can revert to the initial PIN code by the following method.

NOTICE

- This process has a time limit of 20 minutes, and it must be completed within that timeframe.
- The initial PIN code is 123456 (by default).

Step 1: Ensure the grid connection status is normal.

Step 2: Unplug the plug and disconnect the grid voltage for 5 to 10 s.

Step 3: Plug in the plug and allow the grid voltage to continue for at least 5 to 10 s.

Step 4: Unplug the plug and disconnect the grid voltage for 5 to 10 s.

Step 5: Plug in the plug and allow the grid voltage to continue normally for at least 5 s.

6.4 Wireless Network Troubleshooting

There are two potential indicators of a Wi-Fi connection problem:

- Low signal bars on the microinverter screen.
- No data is displayed on the S-Miles Cloud platform.

To troubleshoot this problem, please follow the procedure listed below.

Step 1: Restart microinverter

A) Restart the microinverter using the S-Miles Cloud platform or the S-Miles Home Application.

B) If the Wi-Fi signal remains weak, proceed to step 2.

Step 2: Check router configuration

A) Access your router's settings.

B) Find the Wi-Fi settings.

C) Change the frequency from 5 GHz to 2.4 GHz.

D) If the issue persists, proceed to step 3.

Step 3: Check the router signal strength

A) Connect other devices to the router to check the signal strength.

Signal Strength (dBm)	Qualifier
>-30	Excellent
-30 to -65	Good
<-65	Bad

B) If the signal is strong, restart the router.

If the signal is weak, proceed to step 4.

Step 4: Analyze wireless environment

A) Use Wi-Fi scanning software to check the wireless environment of the PV plant.

B) If the signal is weak, relocate the router closer to the microinverters.

C) If the issue persists, investigate for potential interference from nearby wireless networks.

D) If the signal is weak, proceed to step 5.

Step 5: Address interference

A) Adjust the router to a different Wi-Fi channel to mitigate interference.

B) If the signal is weak, proceed to step 6.

Step 6: Contact the network operator to inquire about network problems.

Step 7: Consider adding a Wi-Fi booster to the network if the signal remains weak.

Step 8: If the problem persists, contact the installer for further assistance.

6.5 On-Site Inspection and Maintenance Instructions (Only for Qualified Technicians)

⚠ DANGER

- Always wear personal protective equipment while performing inspection and maintenance.
- Shut down the microinverter and disconnect it from all power sources before beginning maintenance.
- The microinverter still contains lethal voltages after disconnecting from the power sources. Wait at least five minutes before proceeding with maintenance.

⚠ WARNING

Maintenance operations are strictly limited to authorized personnel, who are then responsible for reporting any discrepancies.

On-Site Inspection

Most microinverter faults can be diagnosed and resolved using the following troubleshooting steps.

Check Item	Method
Ambient Temperature	Check the temperature of the microinverter for overheating (see 8 Technical Data).
Electrical Parameters	Verify the PV modules' DC voltage, the grid voltage, and the grid frequency are within the allowable range (see 8 Technical Data).
DC Connections	Check and make sure the DC connection between the PV module and the microinverter is tight and secure. **Check steps:** A) Disconnect the AC power first to de-energize the microinverter. B) Disconnect the DC connections. C) Re-connect the PV module and microinverter. D) If the DC connection is normal, the LED indicator will flash red.
AC Connections	Check and make sure the AC connection between the grid and the microinverter is tight and secure. If DC connections and AC connections are functioning properly, the LED indicator will flash green. **Check steps:** A) Disconnect the AC power first to de-energize the microinverter. B) Disconnect the DC connections. C) Re-connect the PV module and microinverter. D) If the DC connection is normal, the LED indicator will flash red. E) Reconnect the AC power. F) If DC and AC connections are normal, the LED indicator will flash green five times. G) If the problem persists, contact the Hoymiles Technical Support Team at service@hoymiles.com.

Maintenance

Regular inverter maintenance is essential for ensuring longevity and optimal performance assets. The checklist provides specific tasks for the maintenance process.

Check Item	Acceptance Criteria
Ventilation	• Verify the installation location has sufficient free space for ventilation and heat dissipation. • Keep all components free and clear of debris, especially around the heat sink. Clean the microinverter regularly using a soft brush or vacuum cleaner.
Electrical Connection	• Check the wiring connections for any loose or damaged wires. If needed, tighten any loose connections.
Microinverter Status	• Check the microinverter for any sign of corrosion or physical damage. Broken parts should be addressed immediately. • Regularly updating the firmware and software of the microinverters.
Environment	• Check and ensure the environmental conditions remain within the specified operating range (see 8 Technical Data).

7 Decommission

This section introduces how to safely remove, replace, store, and recycle microinverters at the end of their lifespan.

⚠ DANGER

- Never disconnect a DC connector when PV modules are in the sun. Cover the PV modules before disconnecting.
- Potentially dangerous voltage may still be present inside disconnected microinverters.

7.1 Removing the Microinverter

Step 1: Power **Off** the whole system and wait about five minutes.

Step 2: Use an electric meter or current clamp to ensure there is no voltage and current.

Step 3: Use the Disconnect Tool to disconnect all AC connections and wait about five minutes.

Step 4: Use the Disconnect Tool to disconnect all DC cable connections.

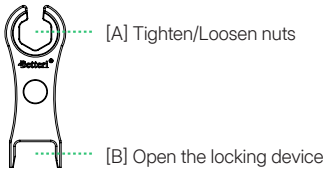
ⓘ NOTE

To use the Disconnect Tool,

A) Align the Disconnect Tool's notches with the released tabs on the connectors.

B) Squeeze the tool firmly to Apply pressure to the release tabs.

C) Gently pull the connectors apart to disconnect them.



Step 5: Remove the PV modules from their mounts and cover them.

Step 6: Remove protective earthing connections (if needed).

Step 7: Unscrew the fixing screws on the microinverter and remove the microinverter from the mounting racking.

7.2 Replacing the Microinverter

Step 1: Record the new microinverter's SN.

Step 2: Power **OFF** the whole system and wait about five minutes.

Step 3: Install the new microinverter. (For details, see 4.2 Installation Steps.)

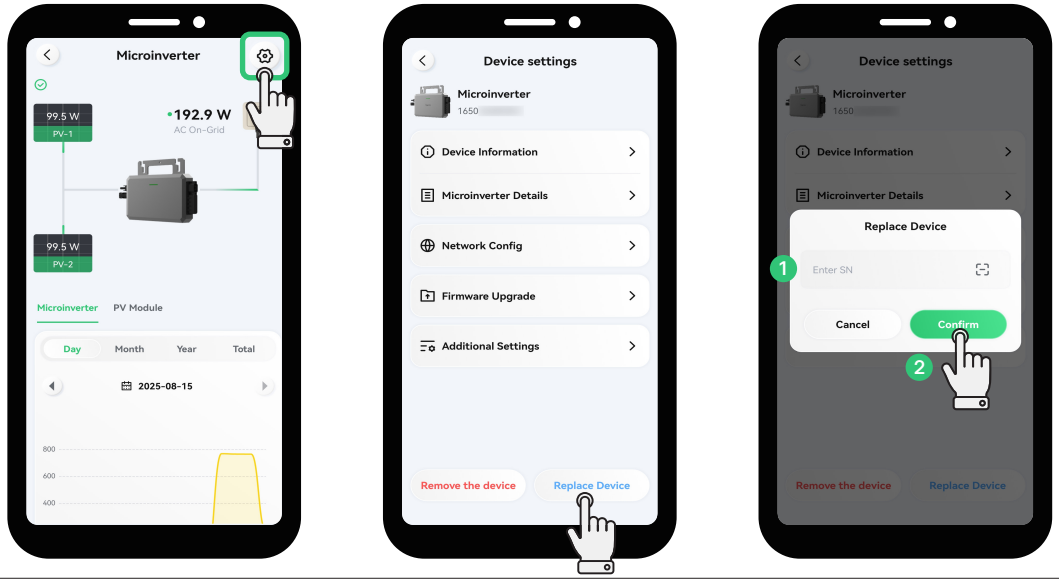
Step 4: Replace the microinverter on the monitoring platform.

A) Log in to the S-Miles Home App.

B) Go to **Devices** and select the microinverter to be replaced.

C) Tap > **Replace Device**.

D) Scan the new device's SN label or enter the SN, and tap **Confirm**.



7.3 Storing and Transporting the Microinverter

The following requirements should be met if the microinverter is not put into use directly.

- Pack the microinverter in the original packaging. If the original packaging is unavailable, use the packaging that is suitable for the weight and dimensions of the microinverter.
- Maintain a storage temperature of -40 °C to 85 °C, and a relative humidity between 0% to 95%.
- Store the equipment indoors in a well-ventilated area.
- Protect the microinverter from physical shocks or vibrations during transportation and storage.
- Prevent sudden impacts or movements during transportation.
- Follow general transportation regulations for the mode of transport and ensure compliance with all local regulations.
- Conduct a thorough inspection before restarting the equipment after prolonged non-operation.
- Do not exceed the stacking limit marked on the outer side of the packaging.

7.4 Disposing of the Microinverter

⚠ DANGER

Disposal of the microinverter must comply with the related local regulations to avoid pollution. The microinverter must not be disposed of with normal waste.

Step 1: Pack the microinverter in the original packaging. If the original packaging is unavailable, use the packaging that is suitable for the weight and dimensions of the microinverter.

Step 2: Properly seal the package using adhesive tape.

Step 3: Discard the packaging in accordance with local regulations.

8 Technical Data

⚠ WARNING

Be sure to verify the following before installing Hoymiles Microinverter System.

- Make sure that the maximum open circuit voltage of the PV module is within the microinverter's operating voltage range.
- The PV module output DC power should not exceed 1.3 times the microinverter's output AC power. Refer to Hoymiles Warranty Terms & Conditions for details.

Model	HF-800-WB
Input Data (DC)	
Commonly used module power (W)	320 to 520+
Maximum input voltage (V)	100
MPPT voltage range (V)	16 to 96
Peak MPPT voltage range (V)	54 to 80
Min./Max. start voltage (V)	22/96
Maximum input current (A)	16
Maximum input short circuit current (A)	25
Peak short-circuit current (A)	5.8
Number of MPPTs	1
Number of inputs per MPPT	1
Maximum inverter backfeed current to the array (A)	0
DC overvoltage category	II
Output Data (AC)	
Rated output power (VA)	800
Rated output current (A)	3.48
Nominal output voltage/range (V)*	230/184 to 276
Nominal frequency/range (Hz)*	50/45 to 55
Adjustable power factor (@nominal power)	>0.99 default 0.8 leading ... 0.8 lagging
Total harmonic distortion (@nominal power)	<3%
AC port backfeed under single fault (A)	0
AC overvoltage category	II
Flex-S3 Plug and Play Cable-CEE7/7	
Connector type	Flex-S3 Field Connector
Cable size (mm^2)	1
Cable length (m)	5
Plug type	Schuko
Efficiency	
Peak efficiency	97.00%
European weighted efficiency	96.00%
Nominal MPPT efficiency	99.80%
Night power consumption (mW)	<50
Mechanical Data	
Ambient temperature range (°C)	-40 to +65
Storage temperature range (°C)	-40 to +85
Dimensions (W × H × D [mm])	213 × 182.5 × 36.5 (Excluding Connectors and Brackets)
Weight (kg)	2.1
Enclosure rating	Outdoor - IP67
Cooling	Natural convection - No fans
Features	
Communication with cloud	2.4 GHz Wi-Fi
Communication with local app	BLE
Topology	Galvanically Isolated HF Transformer
Monitoring	S-Miles Cloud (Hoymiles Monitoring Platform)
Compliance	VDE-AR-N 4105: 2018, EN 50549-1: 2019, VFR 2019, IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 61000-3-2/-3

* : Nominal voltage/frequency range can vary depending on local requirements.
**: Refer to local requirements for exact number of microinverters per branch.

9 Appendix: Regulatory Compliance Statement

Communication Interfaces

This product supports three types of connections:

- Bluetooth – Connects the microinverter to the S-Miles Cloud App for local monitoring. Use Bluetooth to check real-time performance, adjust settings, and change operating modes.
- Wi-Fi – Connects the microinverter to the S-Miles Cloud through a home router. The microinverter uploads performance data every five minutes, allowing remote monitoring and maintenance.
- Microinverter Network – Enables communication between multiple microinverters in a local network. This allows them to share operating data and settings.

Note: This product is not a standalone network device. It connects to a router and relies on the router's security features to protect against network threats, such as DoS attacks.

CE Declaration of Conformity

Hoymiles Microinverter (model: HF-800-WB) is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. OPERATING FREQUENCY (the maximum output power): 2.4 to 2.48 GHz, ERP ≤ 20 dBm

EU Declaration of Conformity

Hoymiles Microinverter (model: HF-800-WB) is in compliance with the essential requirements and other relevant provisions of directives 2014/53/EU, 2009/125/EC, 2011/65/EU and (EU)2015/863.

The original EU Declaration of Conformity may be found at https://www.hoymiles.com/download-center.html.

RF Exposure Information

- This device meets the EU requirements (2014/53/EU Article 3.1a) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.
- The device complies with RF specifications when it is used 20 cm from your body.