

Overview

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Packing List

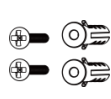
This section describes the packing list. After unboxing, please check that the following items are included in the package. If any of the below items are missing or damaged, please contact your sales representative.



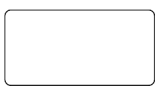
1 × HVAC Controller



1 × Wire Harness



2 × Wall Mount Kits



1 × 3M Tape



1 × Warranty Card

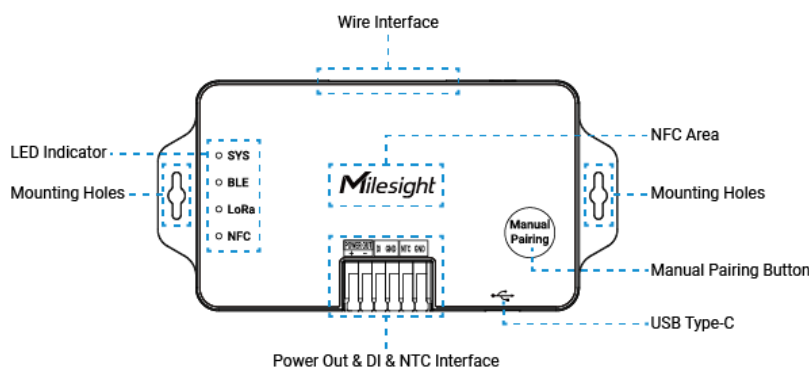


1 × Quick Guide Card

Hardware Introduction

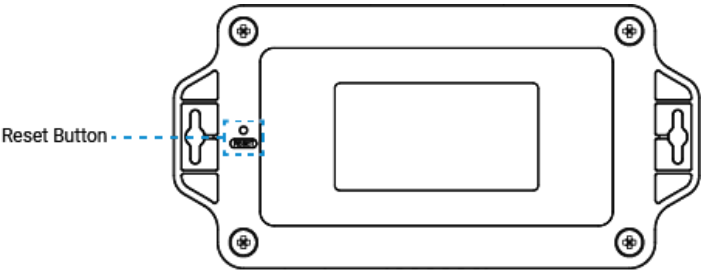
Hardware Overview

Front View



Part	Description
LED Indicator	Refer to LED descriptions .
Wire Interface	Connect to the HVAC system.
NFC Area	Enables wireless configuration via Milesight ToolBox App.
Manual Pairing Button	Refer to Button Descriptions .
Power Out & DI & NTC Interface (Under Development)	There are three interfaces for external device connection: Power Out: Supply power to WT401 thermostat. DI: Connect to magnet switches, keycard switches, etc. NTC: Connect to an external NTC sensor.
USB Type-C	Used for power supply during configuration or device console.
Mounting Holes	Used to secure the device.

Back View



Part	Description
Reset Button	Reboot or reset the device. Refer to Button Descriptions .

LED Descriptions

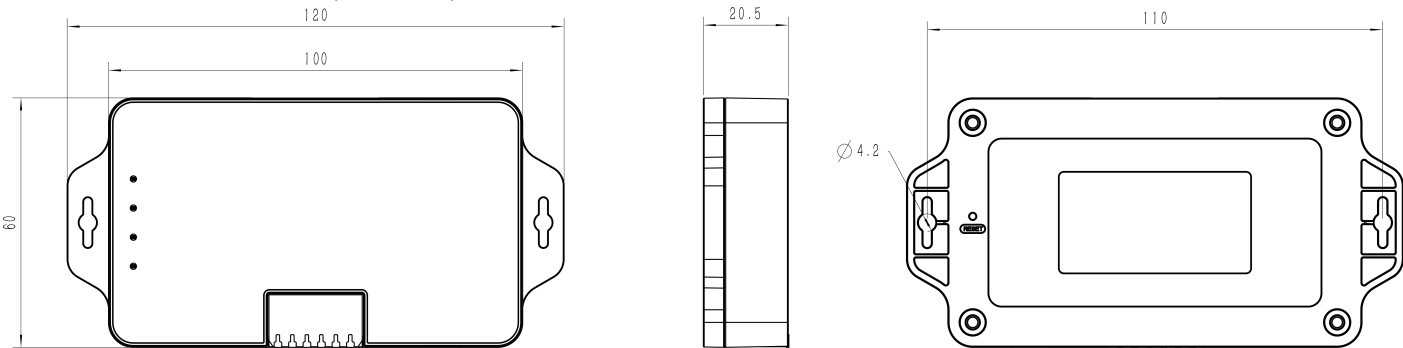
LED	Status	Description
SYS	Off	The power is switched off.
	Static On	The power is switched on.
BLE	Off	The communication mode does not include BLE.
	Slowly Blinks	The Bluetooth is not paired or pairing failed.
	Quickly Blinks	The Bluetooth pairing is successful and communication failed.
	Static On	The Bluetooth pairing is successful and communication success.
LoRa	Slowly Blinks	The network is not activated.
	Quickly Blinks Twice	The network changes to activated.
	Static On	The network is activated.

Button Descriptions

Function	Operation	LED Status
Cancel BLE Pairing	Press and hold Manual Pairing button for more than 3s.	BLE: Static On → Slowly Blinks
Reboot	Press and hold the reset button for more than 3s.	BLE, LoRa, NFC: Slowly Blinks
Reset to Factory Default	Press and hold the reset button for more than 10s.	BLE, LoRa, NFC: Quickly Blinks

Dimensions

The following figures show the device dimensions (unit: mm).



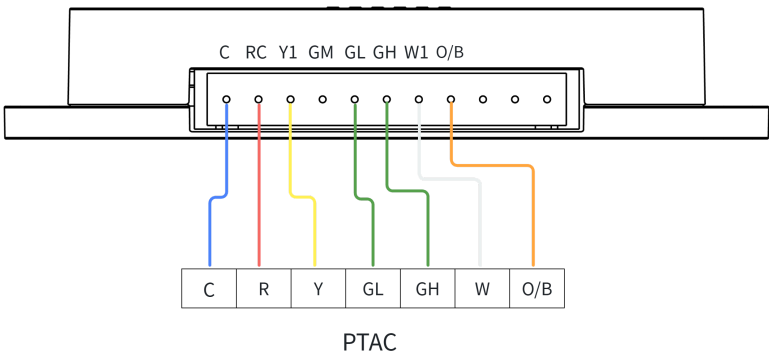
Wiring Diagram

This chapter describes the wiring diagrams of the controller.

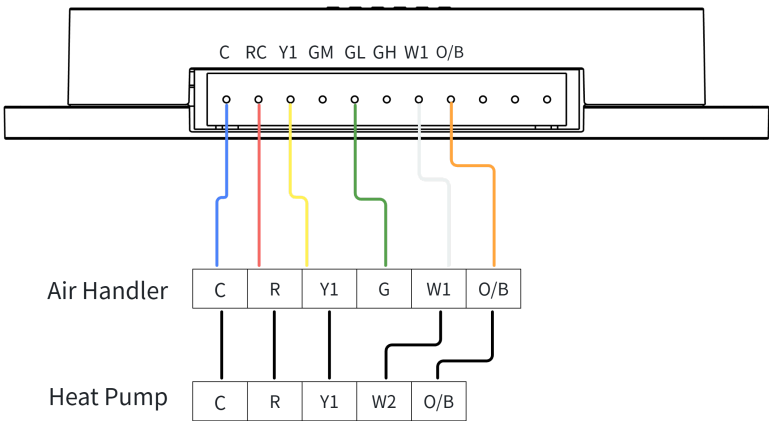
Wire Terminal Descriptions

Terminal	Wire Color	Description
C	Blue	Common wire of 24 VAC power. If no C wire, check if this wire is labelled as other names (like B).
RC	Red	Heating or cooling power wire.
Y1	Yellow	In conventional systems, Y/Y1 controls the 1-stage cooling. In heat-pump systems, Y1/Y1 controls the 1-stage compressor for cooling/heating.
GM	Green	Middle speed fan. In multiple-fan system, connect G2 or GM to this wire.
GL	Green	Low speed fan. In multiple-fan system, connect G1 or GL to this wire. If there is only G wire, connect to this wire as well.
GH	Green	High speed fan. In multiple-fan system, connect G3 or GH to this wire.
W1	White	In conventional systems, W/W1 controls the 1-stage heating. In heat-pump systems with auxiliary heat, W/W1 controls the 1-stage auxiliary heat.
O/B	Orange	In heat pumps, O/B controls the reversing valve to switch between heating and cooling. If there is only one O wire or B wire, connect this wire to O/B of the controller.

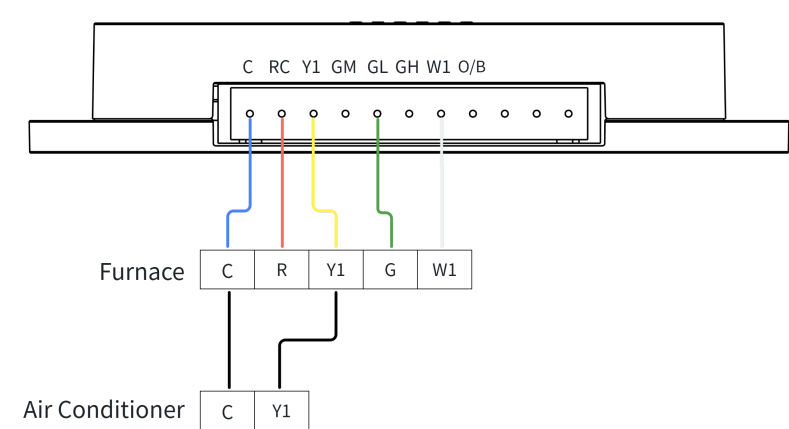
Wiring for PTAC



Wiring for Heat Pumps



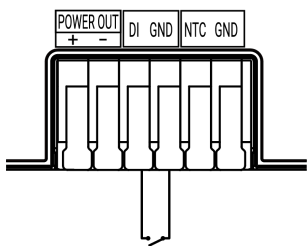
Wiring for Conventional Systems



Wiring for Digital Input

The device equips with a dry contact input to connect DI to key cards, magnetic switches, and other physical switches.

**CAUTION:** Do not connect powered (active) signals to the dry contact input. Doing so may damage the device.



Install the Device

Limitation

The controller is designed for 24VAC systems only. Do not install it on high-voltage, high-current, or millivolt systems!

Prerequisites

- Ensure the controller is compatible with the [target HVAC system](#).
- If the controller and the WT401 thermostat are communicating via Bluetooth, make sure the two devices are within 10 meters of each other.
- Make sure the controller is located within the LoRaWAN[®] gateway's communication range and keep away from metal objects.
- Check the default accessories in the box.

Procedure

- [Step 1. Connect Controller to HVAC System](#)
- [Step 2. Connect Controller to External Sensors \(Optional\)](#)
- [Step 3. Install the Controller](#)
- [Step 4. Test the Controller](#)

Step 1. Connect Wires to HVAC System

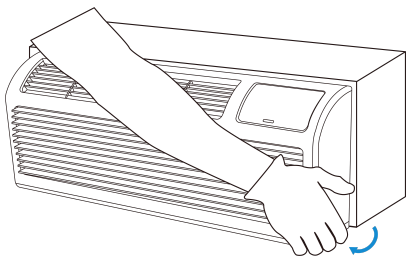
Prerequisites: Wire Harness, Screwdriver, Electrical Tapes

Steps:

1. Power off the HVAC system by using the master switch or circuit breaker.
2. To confirm power is off, adjust the temperature on the current thermostat and wait for a few minutes. If the system does not respond accordingly, the power is shut off successfully.

**Warning:** Failure to follow these steps may result in personal injury and/or death from electric shock.

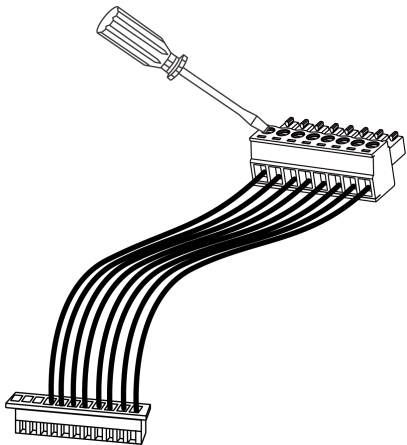
3. Remove the cover of the HVAC system.



4. Find the control terminal block from the HVAC system. If it is connected to a thermostat or controller, disconnect the wires from the old one.

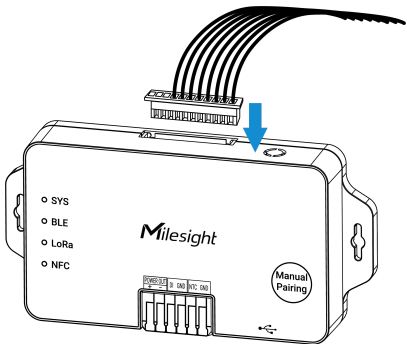
⚠ CAUTION: If you see the system is labeled with wires L1 and L2, or any high-voltage indicators like 110V, 120V, or 240V, it means the controller is not compatible with this system. DO NOT CONTINUE INSTALLTION.

5. Strip a length of insulation from the wire harness, then screw it to the HVAC system's control terminal block according to the [wiring diagram](#).



6. Wrap the excess wire with electrical tapes.

7. Install the wire harness to the controller.



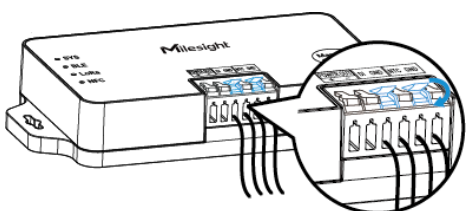
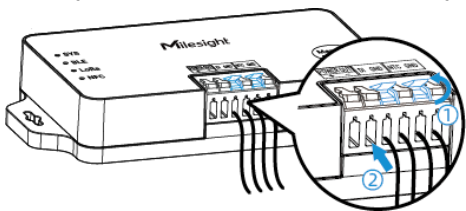
Step 2. Connect Controller to External Sensors (Optional)

Prerequisites:

- Confirm that the external sensor is compatible with the controller.
- Ensure the wire diameter of the terminal device complies with the AWG 24-16 standard.
- Strip 8-9 mm of insulation from the ends of the sensor's wires.

Steps:

1. Lift the small levers of the corresponding interface.
2. Push the stripped wires fully into the terminal openings.
3. Close the levers to activate the internal spring clamps.
4. Gently pull the wires to ensure they are securely fixed to the controller.



Step 3. Install the Controller

The controller supports multiple mounting options, please select one to install.

3M Tape Mounting

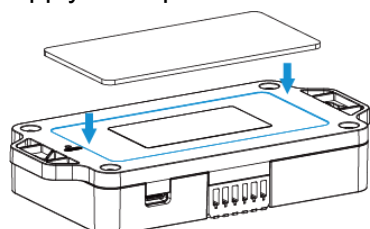
Requirements: To ensure the devices are securely installed and prevent falling due to adhesive failure, please strictly adhere to the following requirements.

- The mounting surface must be dry, smooth, solid, and free of oil, dust, and debris.
- Do not mount on rough, damp, dusty, greasy surfaces, nor those covered with soft materials such as wallpaper or fabric.
- Clean the surface with alcohol before installation; avoid touching the adhesive side.
- Recommended application temperature: 20-40°C. In low temperatures, pre-warm the tape to approximately 30°C.
- Allow 24 hours of curing time before use.
- If the surface is unsuitable or long-term use in low temperatures is required, use screw mounting instead.

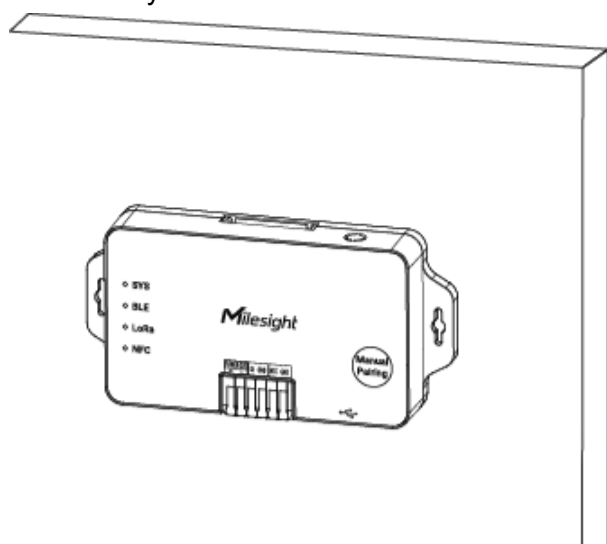
Prerequisites: 3M Tape

Steps:

1. Apply 3M tape to the back of the device, avoiding touching the adhesive side with your fingers.



2. Remove the liner and position the device to the target surface.
3. Press firmly for at least 30 seconds to ensure full adhesion.



Wall Screw Mounting

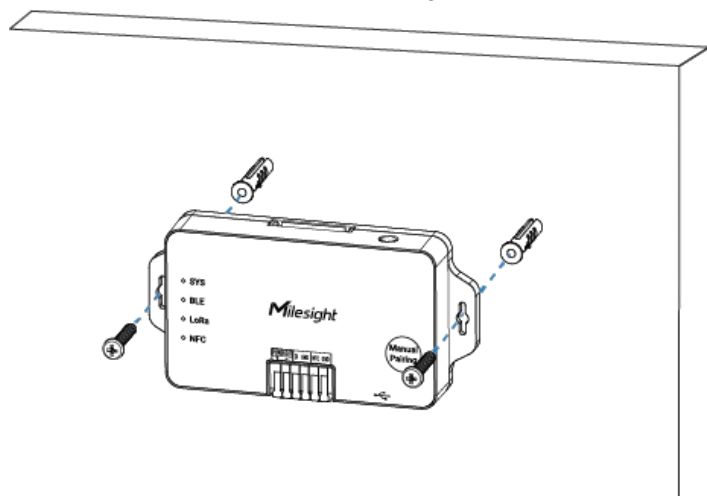
Requirements:

- The wall structure shall be sufficiently solid and stable to ensure firm screw fixation and overall mounting stability.
- Screw mounting positions must avoid internal wall electrical wiring, water pipes and other concealed utilities to prevent structural damage and potential safety hazards.

Prerequisites: Wall Screw Mount Kits, Screwdriver, Pencil, Electric Drill (15/64" or 1/4" drill bits)

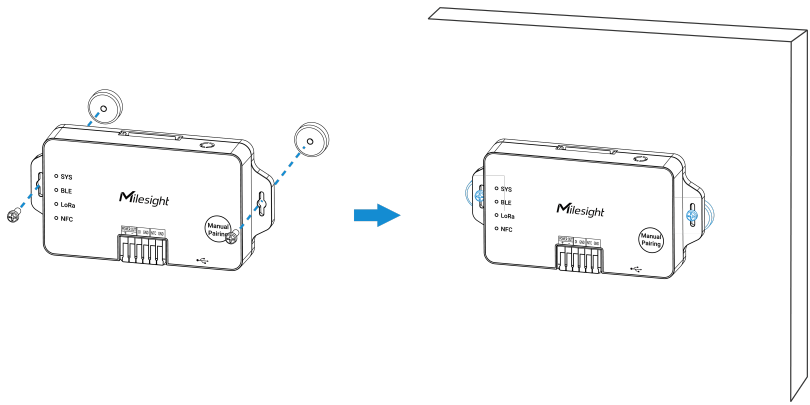
Steps:

1. Drill two holes in the wall aligned with the wall-mount holes of the device.
2. Insert the wall plugs into the drilled holes.
3. Fasten the device to the wall plugs with the supplied wall mounting screws.



Magnetic Mounting (Optional)

The device can be mounted to a magnetic surface after screwing the magnetic nuts. Contact Milesight for more details about this accessory.



Step 4. Test the Controller

1. Test the controller with the following steps.
 - a. Power on the HVAC system.
 - b. Switch HVAC system control permission to external control. The switch steps can be searched from corresponding system's guides.
 - c. Check whether the SYS indicator is static on to determine if UC711 controller is powered on.
 - d. Configure the controller to pair with WT401 thermostat.
 - e. Check whether the LoRa indicator is static on to determine if UC711 controller has joined the network.
2. Restore the cover of the HVAC system.

Access the Device

This section describes how to access the device using NFC or Bluetooth. Please select one to configure the device. NFC and Bluetooth are enabled by default on this device.

Access the Device Using NFC

1. Download Milesight ToolBox app from Google Play or Apple Store.
2. Enable the NFC function on the smart phone.
3. Launch ToolBox.
 - a. Upon initial launch, the following page will appear. Select **NFC** and click **Enter**.

Select read method

Please select the default method to establish a connection with the device. This can be changed later through system settings.

N)) NFC	☒
Bluetooth	☐

Enter →

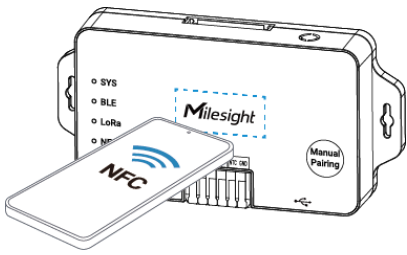
- b. Upon subsequent launches, Click **Maintenance** on the home page, and then select **NFC**.

Select default mode ⓘ

N)) NFC	☒
Bluetooth	☐

4. (Optional) To locate the NFC detection areas of the phone and the device, click **Can't find the NFC location**.
5. Put the NFC detection area of the phone close to the NFC antenna of the device.

i **Tip:** It is recommended to remove the phone case.



6. Click . If the device is recognized successfully, the homepage is displayed.

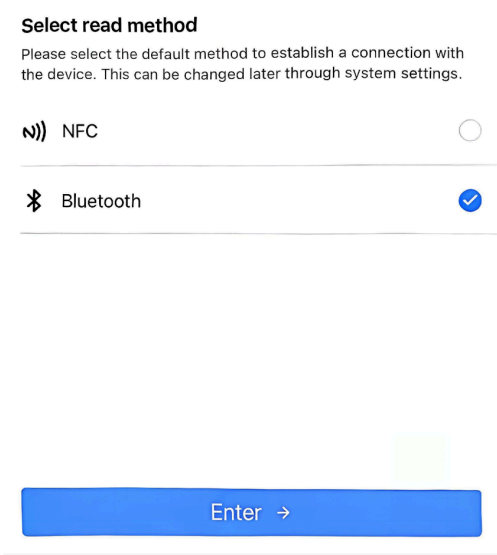
 **Troubleshooting:** If read fails, move the phone away and reposition it close to the sensor to try again.

For a description of the homepage, refer to the following table.

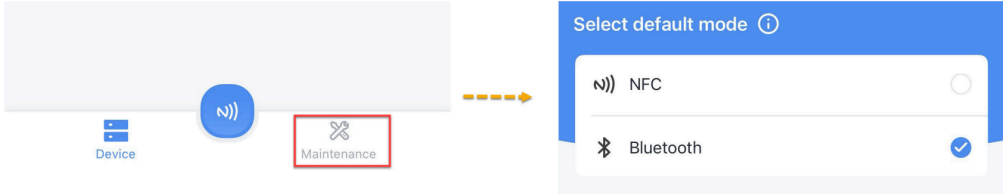
Item	Description
Basic Information	Show basic device information and sync the device time.
Setting	Set the device and network parameters.
	Import, add, export or delete a template.
	Select language, show NFC positions, check App version, etc..

Access the Device Using Bluetooth

- Download Milesight ToolBox app from Google Play or Apple Store.
- Enable the Bluetooth and location functions on the smart phone.
- Launch ToolBox.
 - Upon initial launch, the following page will appear. Select **Bluetooth** and click **Enter**.

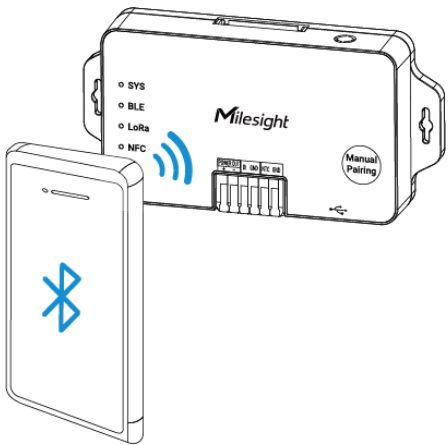


- Upon subsequent launches, Click **Maintenance** on the home page, and then select **Bluetooth**.



- Click  to scan the devices around and select the target device to connect. The default device Bluetooth name is `uc711-xxxxxx` (5th to 11th digits of device SN).

 **Note:** One device can only connect to one smartphone via Bluetooth. If you select a device already connected to another phone, it will disconnect the current connection and connect to your phone.



5. Enter the device password, then click **Confirm**. The default password is 123456.

Password

Please enter the password

☐ Remember your password

Cancel

Confirm

6. Once connected successfully, the homepage is displayed.

i **Tip:** The Bluetooth connection will be terminated if there’s no data interaction within 3 minutes.

For a description of the homepage, refer to the following table.

Item	Description
Basic Information	Show basic device information and sync the device time.
Setting	Set the device and network parameters.
	Import, add, export or delete a template.
	Select language, show NFC positions, check App version, etc..

FCC & ISED Statement

FCC Regulations:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. 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, the user is 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 receiver.
- Connect the equipment into 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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

ISED Notice:

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en

ISED RF Exposure Statement:

This device complies with ISED RSS-102 RF exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the IC RSS-102 RF exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.

Cet appareil est conforme aux limites d'exposition aux rayonnements de la CNR-102 définies pour un environnement non contrôlé. Afin d'éviter la possibilité de dépasser les limites d'exposition aux fréquences radio de la CNR-102, la proximité humaine à l'antenne ne doit pas être inférieure à 20cm pendant le fonctionnement normal.

Related Resource

For more information, please refer to [Milesight Document Center](#).