MUND●CLIMA®

BLUETOOTH MODULE

Installation & owner's manual

Thank you very much for purchasing our product.
Before using your unit, please read this manual carefully and keep it for
future reference.

- This manual gives detailed description of the precautions that should be brought to your attention during operation.
- In order to ensure correct service of the bluetooth module please read this manual carefully before using the unit.
- For convenience of future reference, keep this manual after reading it.

CONTENTS

INSTALLATION INSTRUCTIONS

OPERATING INSTRUCTIONS

1 PRODUCT FEATURES

Data Collection	Fault Record Saving	Program Upgrading	Engineering Parameter Backup

2 PACKAGE CONTENTS

Name	Qty.	Outline
Bluetooth Module	1	
Manual	1	
ST3.9×14 Screw	1	

3 SPECIFICATIONS

Name	Model	Transmission Mode	Dimensions
Bluetooth Module	MA3-BK	Bluetooth	(237x86x35)mm

4 PRODUCT STRUCTURE

LED indicator

Fig.1

LED1~LED6
Debug port
SW1
SW2

Communication port
USB flash drive port
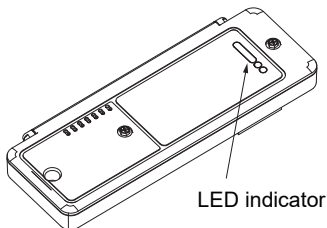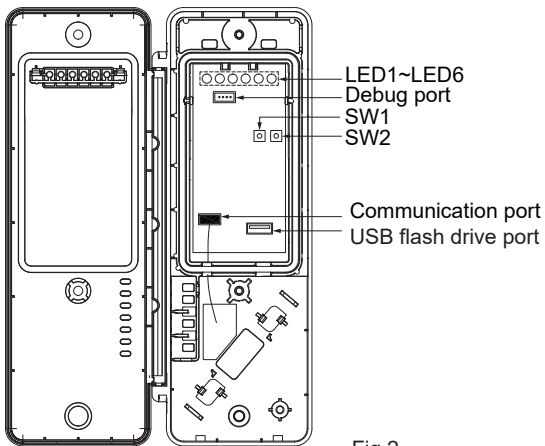
Fig.2
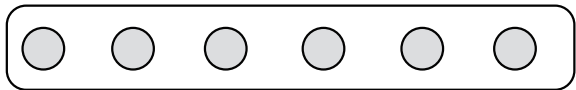
LED1	LED2	LED3	LED4	LED5	LED6
Blue	Green	Red	Red	Red	Red
Bluetooth communication	Device communication	Data sending	Data export	Reserved	USB flash drive connection

5 DESCRIPTION OF LED INDICATORS

1) Functions of LED indicators

• Bluetooth communication LED indicator: LED1 (blue)

This indicates a connection between the Bluetooth module and the mobile phone.

Description	State of LED Indicator
To be connected.	Slow blinking at 0.5Hz (once every second)
The Bluetooth module is connected to the mobile phone.	Remains on
Not powered on.	Off

● Device communication LED indicator: LED2 (green)

It indicates the communication between the Bluetooth module and the IDU/ODU.

Description	State of LED Indicator
Failure to communicate with the connected device (IDU or ODU) within 60s.	Slow blinking at 0.5Hz (once every second)
The communication with the device is normal (but the model is not identified).	Fast blinking at 2.5Hz (once every 0.2s)
The communication with the ODU is normal.	Remains on
Not powered on.	Off

● Data sending LED indicator: LED3 (red)

It indicates that the Bluetooth module is in the command & data sending state.

Description	State of LED Indicator
The Bluetooth module is receiving firmware from a USB flash drive or an app.	Slow blinking at 0.5Hz (once every second)
● The process of sending firmware to the device. ● The process of rewriting the SN to the device. ● Press and hold SW1 for 15s.	Fast blinking at 2.5Hz (once every 0.2s)
Press and hold SW1 for 5s (within 15s).	Remains on
Not powered on and not sending data.	Off

● Data export LED indicator: LED4 (red)

It indicates that the Bluetooth module is in the data export state.

Description	State of LED Indicator
● Export fault record. ● Export test run data.	Fast blinking at 2.5Hz (once every 0.2s)
Not powered on and not exporting data	Off

● Reserve: LED5 (red)

● USB flash drive connection LED indicator: LED6 (red)

Description	State of LED Indicator
A USB flash drive is connected normally.	Remains on
After USB flash drive connection: ● Failure to export fault record ● Failure to export test run data ● Failure to receive app. from the USB flash drive	Slow blinking at 0.5Hz (once every second)
Not powered on, without USB flash drive.	Off

2) SW functions

● Function summary of the SW1 button

SW1 State	Function
Press the button twice in succession 5s after the module is powered on.	Upgrade the USB flash drive (if connected).
Press and hold the button for 5s.	Press and hold the button for 5s.
Press and hold the button for 15s.	Restore factory settings (clears the Bluetooth connection information).

● Function summary of the SW2 button

SW2 State	Function
Press the button twice in succession.	Export the fault record and test run data to the USB flash drive.
Press and hold the button for 5s.	Stop upgrading.

"In succession" means that the time span between the presses is 100ms to 750ms. If the button is not pressed again within 750ms, the command will not succeed.

⚠ **WARNING**

After the installation of this product, the electric control box cover and the sealing plate of the unit must be mounted in place to prevent electrical failure and damage to the unit.

6 CONNECTION OF BLUETOOTH MODULE

1. Make sure that the main board is on. The green LED2 remains illuminated, indicating that the communication between the Bluetooth module and the device is normal.

2. Open LetsLink App and select **HVAC Assistant > Smart Tools > Connect Bluetooth.**

3. Select the corresponding Bluetooth module and click the blue **Connect** button. If the corresponding Bluetooth module cannot be found in the app, scan the QR code on the side of the Bluetooth module for connection.Bluetooth module is connected to the APP.

4. When the pop-up window of the **AP Connection Mode** appears, open the cap of the Bluetooth module, press and hold **SW1** for more than 5s, and select **Completed** and **Confirm**.

5. When the blue LED1 of the Bluetooth module remains on and the app shows that the connection is successful, the Bluetooth module is connected to the APP.

7 Export of fault record and test run report

1. Function description

● Fault record:

The Bluetooth module can save the information and waveform data of the last 10 faults, as well as the IDU and ODU operating data before these faults (32 sets of operating data, including the data at the time of the fault, 30s before the fault, 1min before the fault, and 2min to 30min before the fault).

● Test run report:

During the test run of the system, the Bluetooth module checks the operating state of the connected device and records the results and data of the latest test run.

2. USB flash drive export procedure

- Open the cap of the Bluetooth module and insert the USB flash drive into the USB port. LED6 turns on when the USB flash drive is connected to the module.

- Press SW2 twice in succession to export the fault data and test run report to the USB flash drive. In this process, LED4 blinks fast at 2.5Hz. If the export fails, LED6 blinks slowly at 0.5Hz and you can try again by pressing the button.

- The export ends when LED4 turns off. Unplug the USB flash drive, and LED6 turns off.

3. Notes

- The module also supports the export of data to LetsLink.

- Analyze the fault record through diagnosis software before reference.

8 UPGRADING THROUGH USB FLASH DRIVE

1. Function description

- The Bluetooth module is capable of upgrading its own software or the connected ODU software through the use of a FAT32 USB flash drive.
- Make sure that there is only one BIN file in the USB flash drive before beginning the upgrading.
- The Bluetooth module will automatically identify the type of the BIN file and upgrade the corresponding device. (If the firmware of the ODU connected with the USB flash drive is upgraded, the connected ODU programs upgrade automatically.)

2. Upgrading procedure

- Open the cap of the Bluetooth module and insert the USB flash drive into the USB port. LED6 turns on when the USB flash drive is connected to the module.

- Press SW1 twice in succession to receive program from the USB flash drive. If LED6 blinks slowly at 0.5Hz, there is no corresponding BIN file in the root directory of the USB flash drive or the BIN file did not pass the integrity verification, and the program reception failed.

- The Bluetooth module identifies the type of the BIN file. When upgrading its own file, the Bluetooth module copies the BIN file to upgrade. During this process, LED3 blinks slowly at 0.5Hz. When upgrading the ODU file, the Bluetooth module copies the BIN file, during which LED3 blinks slowly at 0.5Hz, and then sends it to the corresponding ODU, during which LED3 blinks fast at 2.5Hz. After the BIN file is sent to the ODU, LED3 turns off.

3. Notes

- During the upgrading, the Bluetooth module does not report operating information and does not execute control commands

- The current software of outdoor or indoor unit won't be refreshed if the upgrading fails.

INSTALLATION INSTRUCTIONS

1 PRECAUTIONS

- Read this section of the manual to ensure correct installation.
- The content provided here covers warnings, which contain important information about safety that must be followed.

⚠ WARNING

- The module must be installed by qualified technicians designated by the local dealer or service agent. Do not install it by yourself.
- Do not knock, throw, or disassemble the Bluetooth module.
- The Bluetooth module is equipped with a low-voltage circuit. The wires of the module shall be connected according to the wiring guide and protected from direct exposure to high-voltage wires. Do not lay the low-voltage wires in the same tube together with high-voltage wires.

⚠ **WARNING**

- Do not install the Bluetooth module in corrosive, flammable, or explosive environments or places with oil mist (such as a kitchen).

- Do not install the Bluetooth module when the unit is working or turned on.

2 DANGER WARNING

● While installing and opening the Bluetooth module,
install the silicon seal back in place if it comes out, to
avoid water from entering the module.

Reinstall the
seal back in
place if it
comes out

Fig.2.1
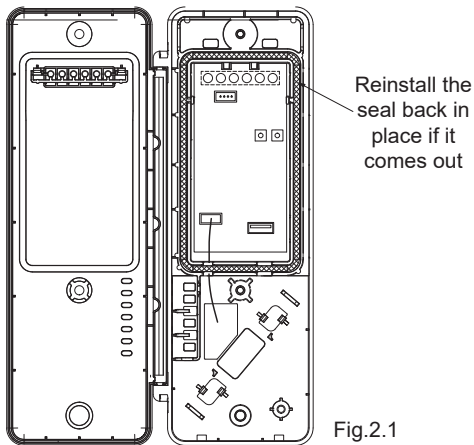
● After installation and checking, tighten the screws on the
Bluetooth module to avoid water from entering the module.
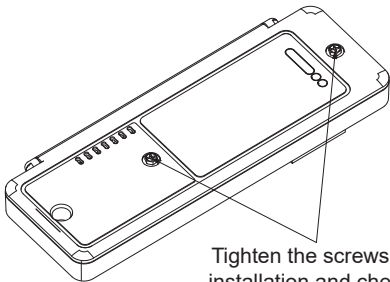
Tighten the screws after
installation and checking   Fig.2.2

3 TOP AIR OUTLET INSTALLATION GUIDE

● Installation position
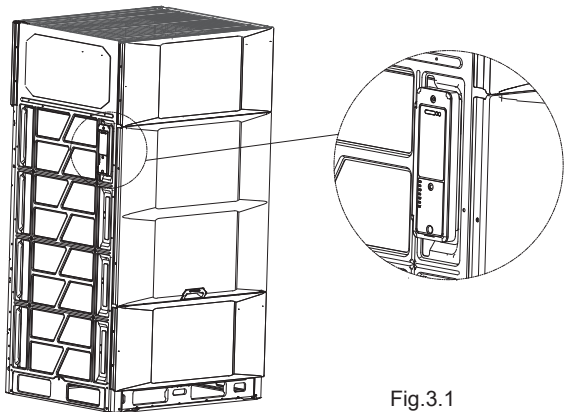
Fig.3.1

● Step 1: Remove the front panel and the electric control box cover.

Electric control box cover

Front panel
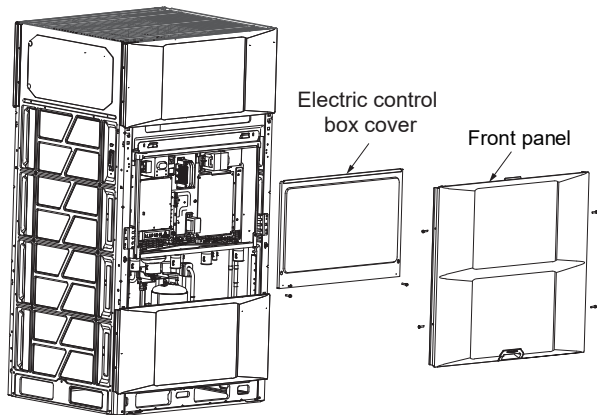
Fig.3.2

● Step 2: Remove the sensor clamp and wire.

Use a slotted screwdriver to remove the sensor clamp from the indicated location

Remove the sensor wire after removal of clamp
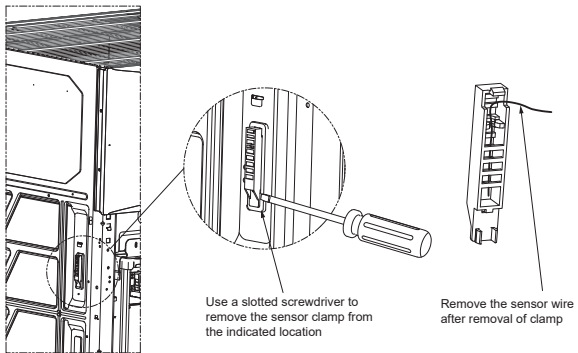
Fig.3.3

● Step 3: Unscrew the screws that secure the flip, and put the sensor wire through the hole and into the box. Fix the wire at the indicated place, close the flip, and fix it with screws.


Flip fastening screws

Communication wire

Thread the sensor wire through the hole and into the box. Fix it at the indicated location.
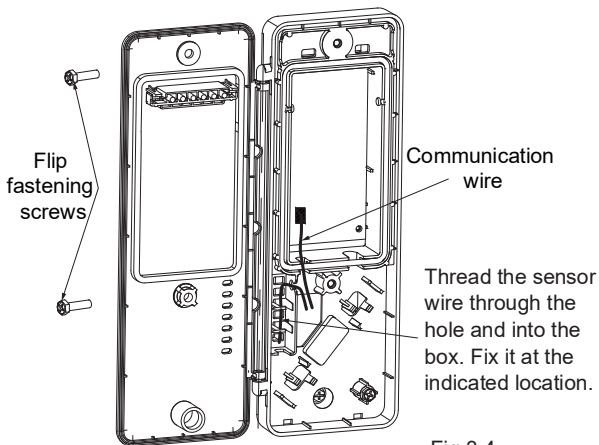
Fig.3.4

● Step 4: Thread the other end of the communication wire
   through the hole of the side panel and into the unit, then put
   the Bluetooth module into the slot of the side panel, and fix
   it with the ST3.9 screw.

The snap joint of the
Bluetooth module must
be put into the slot on
the side plate.

Bluetooth
module

Fastening
screw

Thread the communication
wire and sensor wire through
the hole of the side panel and
into the unit.

Fig.3.5
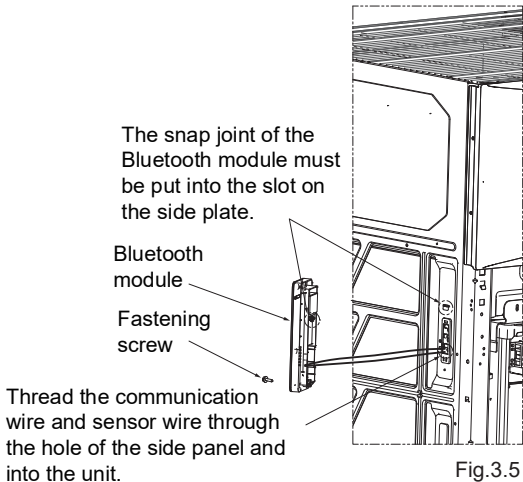
● Step 5: Lay the communication wire along the path into the electric control box, as shown in the figure. Connect the communication terminal to the CN14 port of the main control board and fix the wire with a zip tie at the indicated part. After wiring, fasten the rubber at the indicated part.

Fix the wire with a zip tie

Connect the communication wire to the CN14 port of the main control board.

Fix the wire with a zip tie

Tighten the rubber after wiring.

Fix the wire with a zip tie.

Do not tie the communication wire with the high-voltage wire.
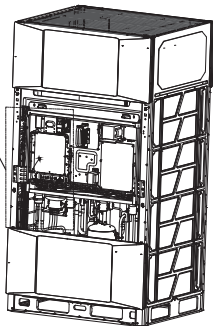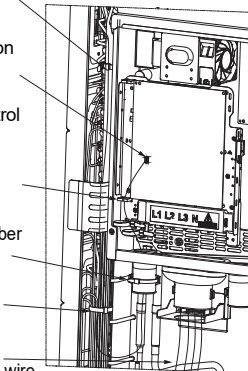
Fig.3.6

● The installation of the Bluetooth module is now completed. Reinstall the right front side panel. See Figure 3 for a diagram of how the module should appear after installation is complete.

♀ **NOTE**

● The above installation guide of the Bluetooth module is applicable to units such as the V8 top air outlet unit.

● High-voltage (power supply) and low-voltage (communication) wires shall be separated.

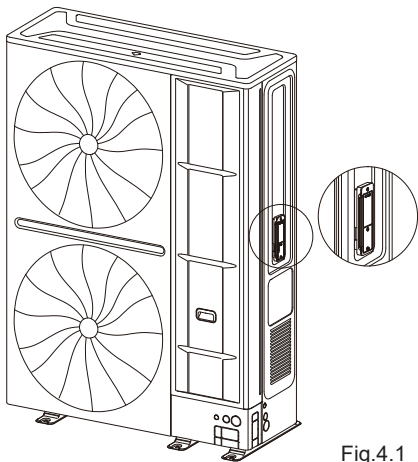# 4 SIDE AIR OUTLET INSTALLATION GUIDE

● Installation position

Effect upon installation

Fig.4.1

● Step 1: Remove the right front side panel.
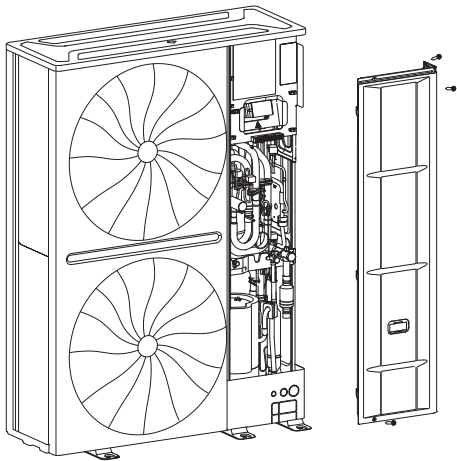
Fig.4.2

● Step 2: Thread the Bluetooth module wire through the hole and into the unit. Put the Bluetooth module into the slot and fix it with a screw.
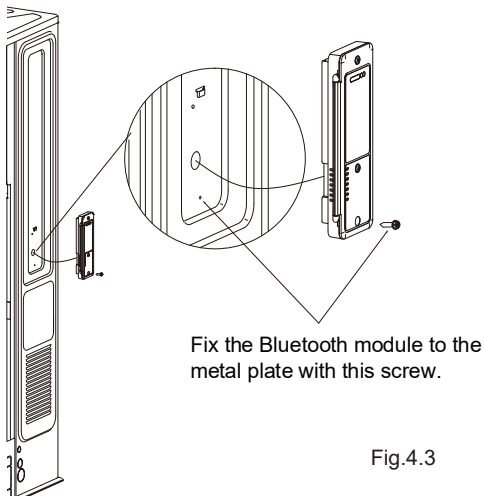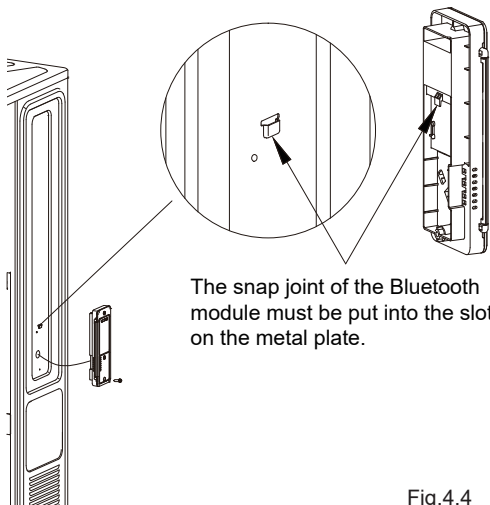

Fix the Bluetooth module to the metal plate with this screw.

Fig.4.3

The snap joint of the Bluetooth module must be put into the slot on the metal plate.

Fig.4.4

● Step 3: Tidy the wires and connect the communication
terminal to the CN14 port of the main control board.

Secure the wire
with clamps.
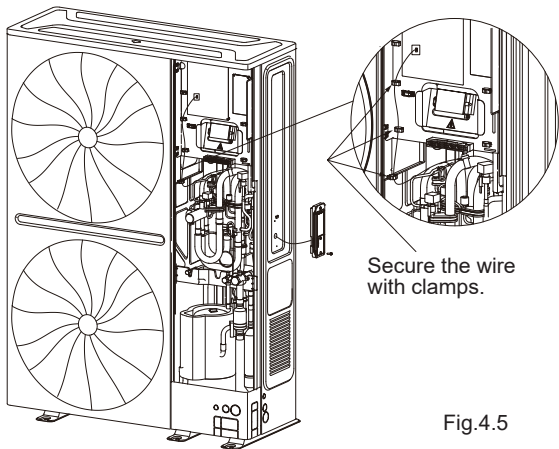
Fig.4.5
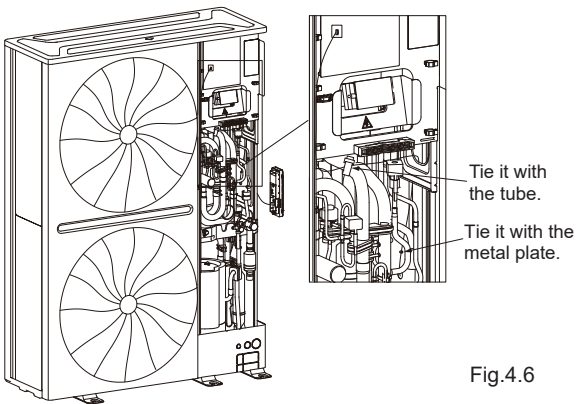
Tie it with
the tube.

Tie it with the
metal plate.

Fig.4.6

● The installation of the Bluetooth module is now completed.
Reinstall the right front side panel. See Figure 9 for a
diagram of how the module should appear after installation
is complete.

☉ **NOTE**

- The above installation guide of the Bluetooth module is applicable to units such as V8M.

- High-voltage (power supply) and low-voltage (communication) wires shall be separated.

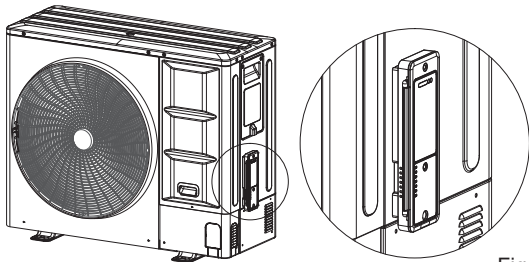## 5 MINI SIDE AIR OUTLET INSTALLATION GUIDE

● Installation position

Fig.5.1

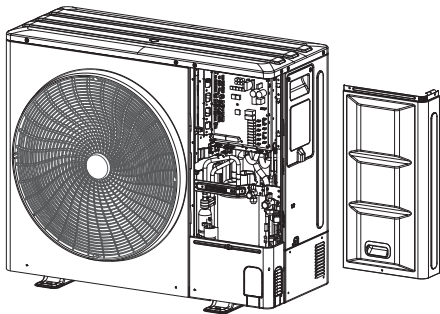● Step 1: Remove the right front side panel.

Fig.5.2

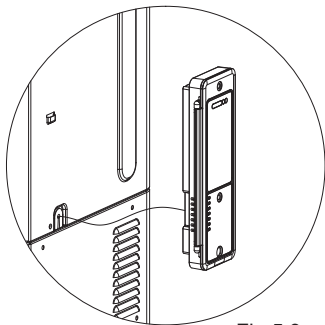● Step 2: Thread the Bluetooth module wire through the hole and into the unit.

Fig.5.3

● Step 3: Put the Bluetooth module into the metal slot and
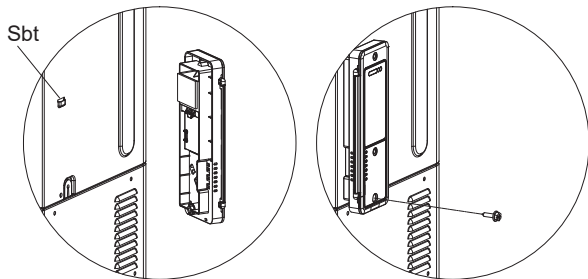 fix it with a screw.

Sbt

Fig.5.4

● Step 4: Tidy the wire and connect it with Port CN14.

CN14

Secure the wire with clamps.

Note:The wire shall not touch the high-temperature copper tube.

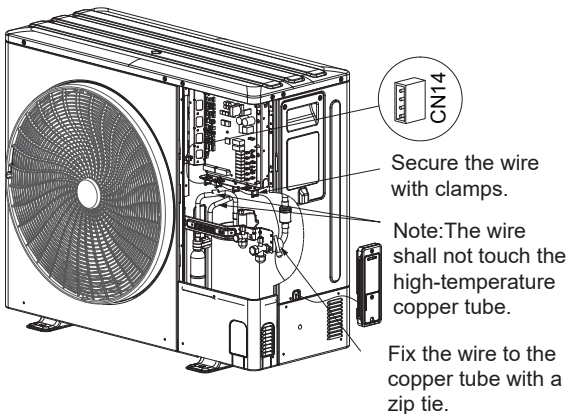Fix the wire to the copper tube with a zip tie.

Fig.5.5

● The installation of the Bluetooth module is completed. Reinstall the right front side panel. See Figure 5.1 for a diagram of how the module should appear after installation is complete.

○ **NOTE**

- The above installation guide of the Bluetooth module is applicable to units such as V8 mini.
- High-voltage (power supply) and low-voltage (communication) wires shall be separated.

6 DECLARATION

Hereby, MUNDOCLIMA declares that this model is in compliance with the essential requirements and other relevant provisions of RE Directive 2014/53/EU. A copy of the full DoC is attached.

7 BLUETOOTH INFORMATION

Bluetooth transmit frequency range:2.402～2.480 GHz , EIRP not more than 20dbm.

8 PRODUCT PARAMETER

Parameter concerns	Specification for components
Type:	1
Type Designation:	Controller
Rated Voltage:	SELV DC12V
Rated power:	2W
Kind of load:	Non
Frequency:	--
Rated impulse voltage	330V
Switch type and number of poles:	--
Construction:	--
IP-Protection Degree:	IPX5 after mounting
Degree of pollution:	2
Temperature :	-30~55°C
Connecting Device:	Depend on the end-product
Tracking Resistance:	--
Glow wire:	550°C

NOTE

MUND⊕CLIMA®