KNX VRV/VRF Outdoor Unit Gateway

Datasheet

MHVACMGW-KT.13

Please scan the QR code above to check the latest version of datasheet!

Before using this product, please read this datasheet carefully and keep it properly!

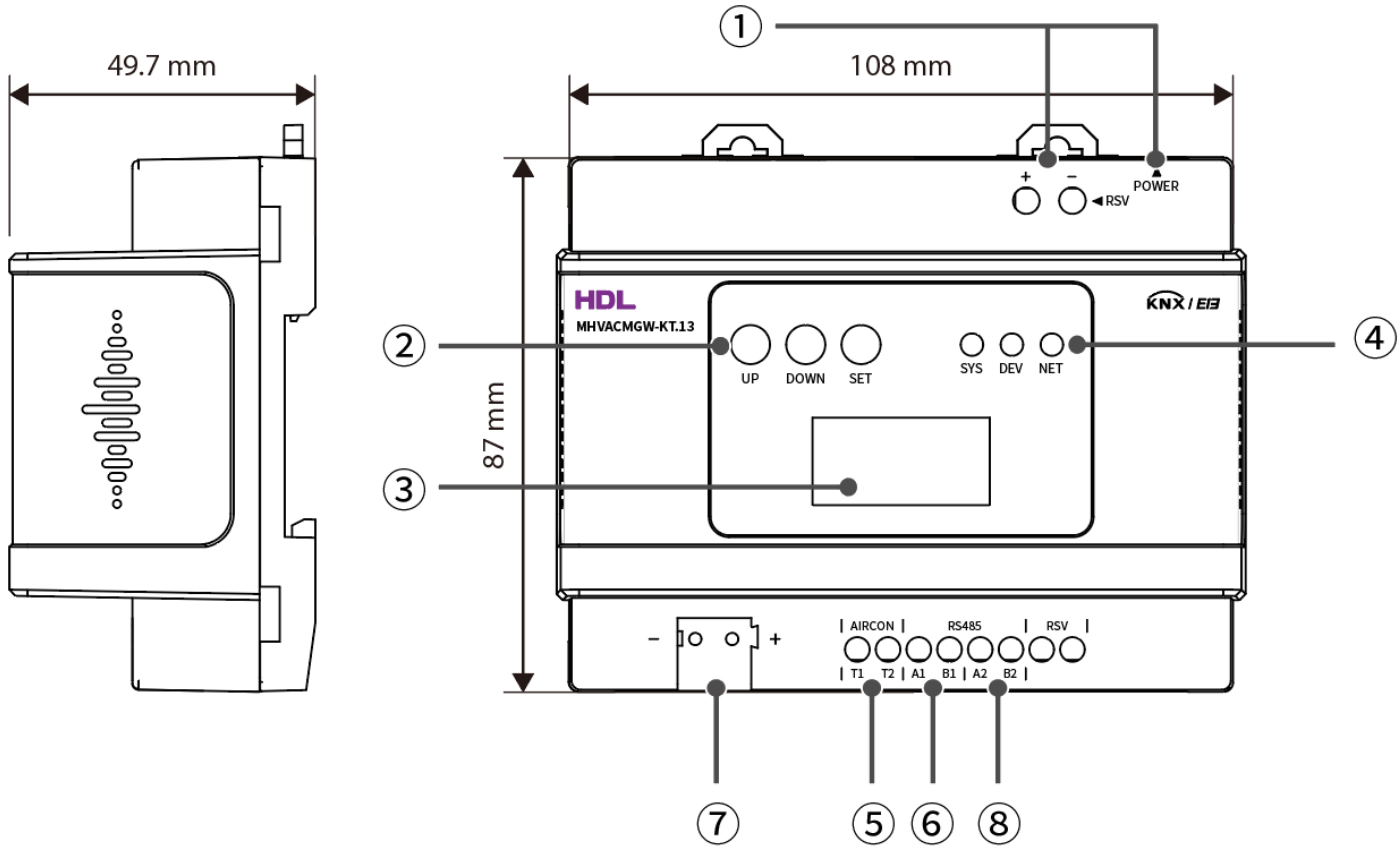
Document Version：C

◇◆ Overview

KNX VRV/VRF Outdoor Unit Gateway (Model: MHVACMGW-KT.13), connects multi-split air conditioners to a smart home central control system or BMS system for intelligent monitoring and control.

◇◆ Appearance

Product Appearance:



Port Indication:

① Power Supply Interface (RSV/POWER): Supports both jack and power terminal;

② Buttons (UP/DOWN/SET): For page turning and function settings on the screen;

③ LCD Screen: Displays communication status, controlled AC brand and quantity, device parameters, etc.;

④ LED Indicator: Working status indicator;

⑤ AIRCON (T1T2): Air conditioner connection port;

⑥ RS485 (A1B1/A2B2): Interface for fresh air and floor heating systems;

⑦ KNX (+/-): KNX interface, connectable to KNX system;

⑧ RSV: Expansion device (reserved).

Button Indication:

- UP: Short press to page up; long press for 5 seconds to switch the screen display between Chinese and English.
- DOWN: Short press to page down; long press to exit KNX programming & download mode.

- SET: Long press for 5 seconds to enter KNX programming & download mode.

◇◆ Technical Data

Item	Parameter
Input	DC 12V
Power	≤ 2.0 W
Configuration & Upgrade	Bluetooth+WeChat Mini Program / APP
Smart Device Interface	KNX and other protocols

◇◆ Specifications

Item	Parameter
Dimensions (W X H X D)	108*87*49.7mm
Net weight	198g
Installation	DIN rail mounted or desktop placement
Housing material	Plastic

◇◆ Safety Precaution

- Indoor installation only, e.g. in a smart home control box or air conditioning access panel. When installed near the indoor unit, keep away from the air outlet to avoid condensation damage
- Do not use in high-temperature, humid, flammable, explosive, toxic or hazardous areas.
- Unauthorized modification or repurposing of the product is strictly prohibited.
- The installation and testing for the product must be carried out by HDL Automation Co., Ltd. (hereinafter referred to as HDL) or its appointed service agencies. The electric construction shall comply with local laws and safety regulations.
- HDL will not be responsible for any consequence caused by the inexpert or faulty installation and wiring methods, which are not in accordance with the instructions contained in this datasheet.
- Please do not privately disassemble or replace any parts of the product. Otherwise, it may cause mechanical fault, electric shock, fire or personal injuries.
- Please contact HDL after-sales departments or our designated service agencies for your maintenance service. Product failures caused by private disassembly are not subject to the warranty.

◇◆ Wiring

This product shall be connected to the outdoor or indoor unit of the air conditioning system using a 2×0.75mm² shielded cable (note: some air conditioning units can only be connected to the outdoor unit).

Communication between this product and the host control system shall also be established using a 2×0.75mm² shielded cable.

Use only the power supply provided with the device or a certified power adapter from a reliable manufacturer that meets the product specifications.

Incorrect connection of the power cable to the signal terminals will result in permanent device damage. In such cases, contact the manufacturer directly; disassembly or repair by unauthorized personnel is strictly prohibited.

Always disconnect power to the gateway and air conditioning system before wiring. Do not perform live operations to prevent personal injury or equipment damage.

Avoid routing communication cables parallel to high-voltage power cables, as this may cause signal interference and unintended operation. If parallel routing is unavoidable, maintain a minimum distance of 30 cm between communication cables and high-voltage power cables.

◇◆ Operation

1. Commissioning Preparation

Ensure all air conditioners are powered on and commissioned by the manufacturer, with no fault alarms or abnormalities.

Inspection Method: Using the original wired controller, power on the air conditioner and set to Cooling or Heating mode.

（Cooling: set temperature below room temperature; Heating: set temperature above room temperature）Set fan speed to maximum and run for at least 12 minutes.Verify normal operation of indoor and outdoor units, and no fault codes on the original controller.

2. Port Commissioning

（1）Wire KNX VRV/VRF Outdoor Unit Gateway（ereinafter referred to as the Gateway.） to the air conditioner according to the **Product Wiring Port Selection and Communication Matching Table (see Table 1)**.

Brand	Gateway Wiring Port	AC Unit Wiring Port	Wiring Specification	Indoor Unit Connectable
Daikin VRF System	T1, T2	F1,F2 (I-O)	T1-F1,T2-F2	YES
Mitsubishi Electric VRF System	T1, T2	M1,M2 (TB3)	T1-M1,T2-M2	YES
Hitachi VRF System	T1, T2	1,2	T1-1,T2-2	YES
Hitachi Heat Pump System	T1, T2	IO Link Terminal	T1,T2 Indoor-Outdoor Unit Linkage	YES
Toshiba VRF System	T1, T2	U1,U2	T1-U1,T2-U2	YES

Panasonic VRF System	T1, T2	U1,U2	T1-U1,T2-U2	YES
Hisense VRF System	T1, T2	1,2	T1-1,T2-2	YES
Haier VRF System	T1, T2	P,Q	T1-P,T2-Q	YES
Casarte VRF System	T1, T2	P,Q	T1-1,T2-2	YES
York VRF System (Qingdao)	T1, T2	1,2	T1-1,T2-2	YES
Gree VRF System	T1, T2	G1,G2	T1-G1,T2-G2	NO
	T1, T2	D1,D2	T1-D1,T2-D2	YES
TCL VRF System	T1, T2	F1,F2	T1-F1,T2-F2	YES
Mitsubishi Heavy Industries VRF System	T1, T2	A1,B1	T1-A1,T2-B1	YES
	T1, T2	A2,B2	T1-A2,T2-B2	NO
Midea VRF System Bosch VRF System Carrier VRF System	T1, T2	X,Y	T1-X,T2-Y	NO
	T1, T2	P,Q	T1-P,T2-Q	YES
Midea (COLMO, Linghangzhe, Ideal Home and other series)	T1, T2	A,B (ODU)	T1-A,T2-B	NO
	T1, T2	S1,S2 (IDU)	T1-S1,T2-S2	YES
AUX VRF System	T1, T2	A,B	T1-A,T2-B	YES
Samsung VRF System	T1, T2	F1,F2	T1-F1,T2-F2	YES
LG VRF System	T1, T2	A,B (CEN)	T1-A,T2-B	NO
LG VRF System	T1, T2	A,B (IDU)	T1-A,T2-B	YES
McQuay VRF System	T1, T2	Apc,Bpc	T1-Apc,T2-Bpc	NO
Tianjia VRF System	T1, T2	A1,B1	T1-A1,T2-B1	YES
Chigo VRF System	T1, T2	P,Q	T1-P,T2-Q	YES
Trane VRF System	T1, T2	A,B	T1-A,T2-B	NO
York Heat Pump System	T1, T2	IO Link Terminal	T1,T2-IO Link Terminal	YES
McQuay Heat Pump System	T1, T2	Apc,Bpc	T1-Apc,T2-Bpc	NO
	T1, T2	Ain、Bin	T1-Ain,T2-Bin	YES
Carrier Heat Pump System	T1, T2	A、B	T1-A,T2-B	YES
Trane Heat Pump System	T1, T2	CN29(A、B); CN3(A、B)	T1-A,T2-B	NO
Emerson Heat Pump System	T1, T2	A、B	T1-A,T2-B	YES
ZGOUTS VRF System	T1, T2	A1、B1	T1-A1,T2-B1	YES

Tabel 1

*Note:

- If port polarity is marked **None**, the wiring between the gateway and the air conditioner can be connected arbitrarily.
- If port polarity is marked **Yes**, the wiring between the gateway and the air conditioner must follow the port sequence indicated at the bottom of each port on both devices.

（2）After powering on the gateway, all indicators flash green once. The SYS indicator starts flashing as the gateway searches for the air conditioner. When the DEV indicator flashes, the air conditioner is detected; proceed to debugging via the Bluetooth mini-program (As shown in the table below.).

Name	Device	LED Status	Description
SYS (Green)	Gateway itself	Always off	Power Off
		Flashing	Gateway Running Normally
DEV (Green)	Device side	Always off	No Device Found / Searching...
		Flashing	Device Found (Air Conditioner/Ventilation/Floor Heating)
NET (Green)	KNX indicator	Always off	KNX Inactive / No Communication with Gateway
		Flashing	KNX Communication with Gateway Normal
		On for 5 seconds	KNX Programming Mode (Press and hold SET for 5s to activate)

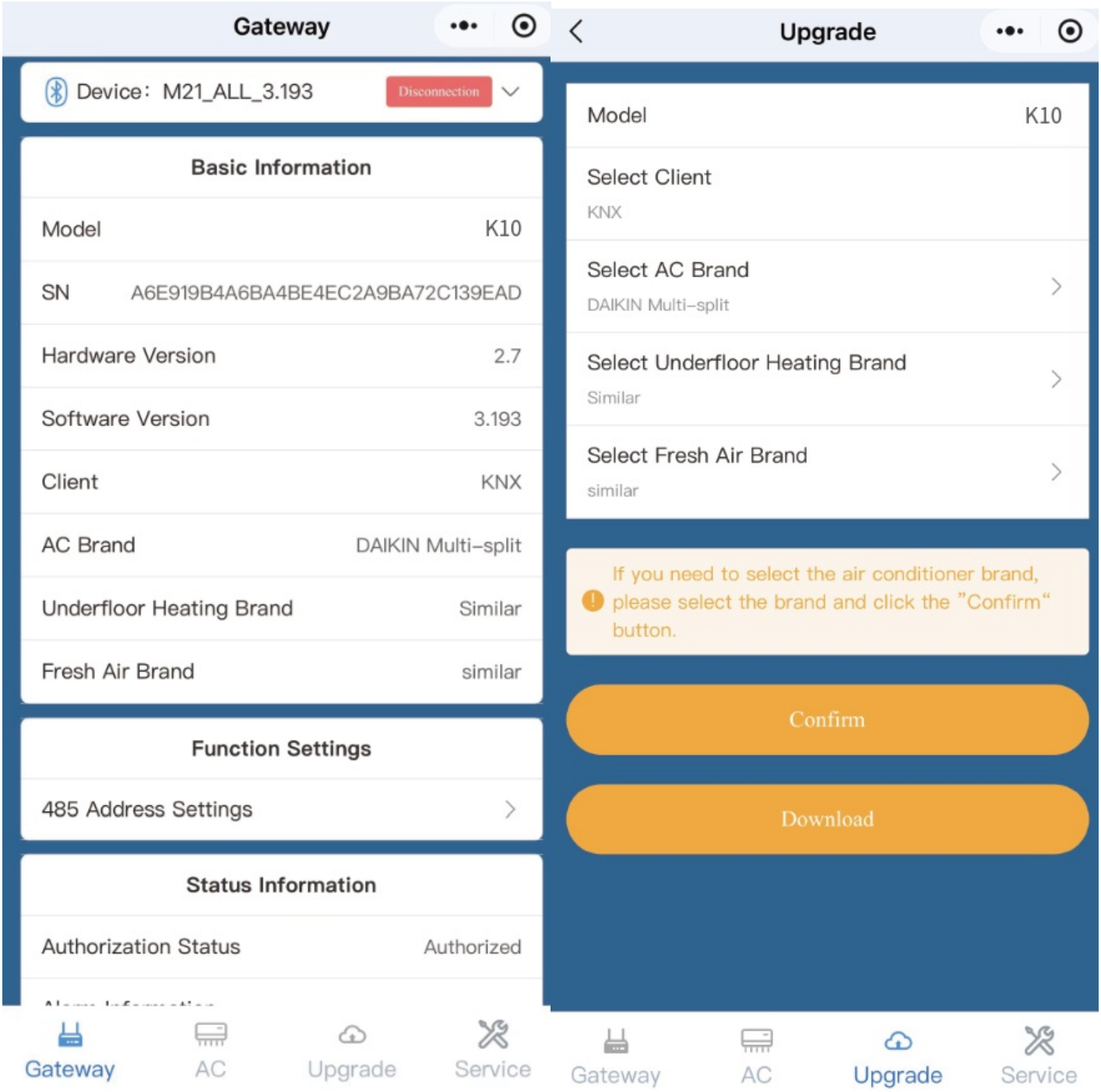
Table 2

（3）Scan the QR code below with WeChat, then select**Common Tools > Bluetooth Configuration** to access the Bluetooth debugging mini-program.Bring your phone close to the gateway, select the one with the strongest signal to connect. Upon successful connection, you will enter the gateway debugging page as shown below.

If the gateway cannot be detected, check the permission:**WeChat > Settings > Permissions & Privacy > Permissions > Nearby devices > Allow**.

（4）If the DEV indicator remains off, verify that the air conditioner brand displayed in the Bluetooth debugging mini-program matches the actual unit on-site. If not, use the mini-program to update the gateway to match the correct brand.

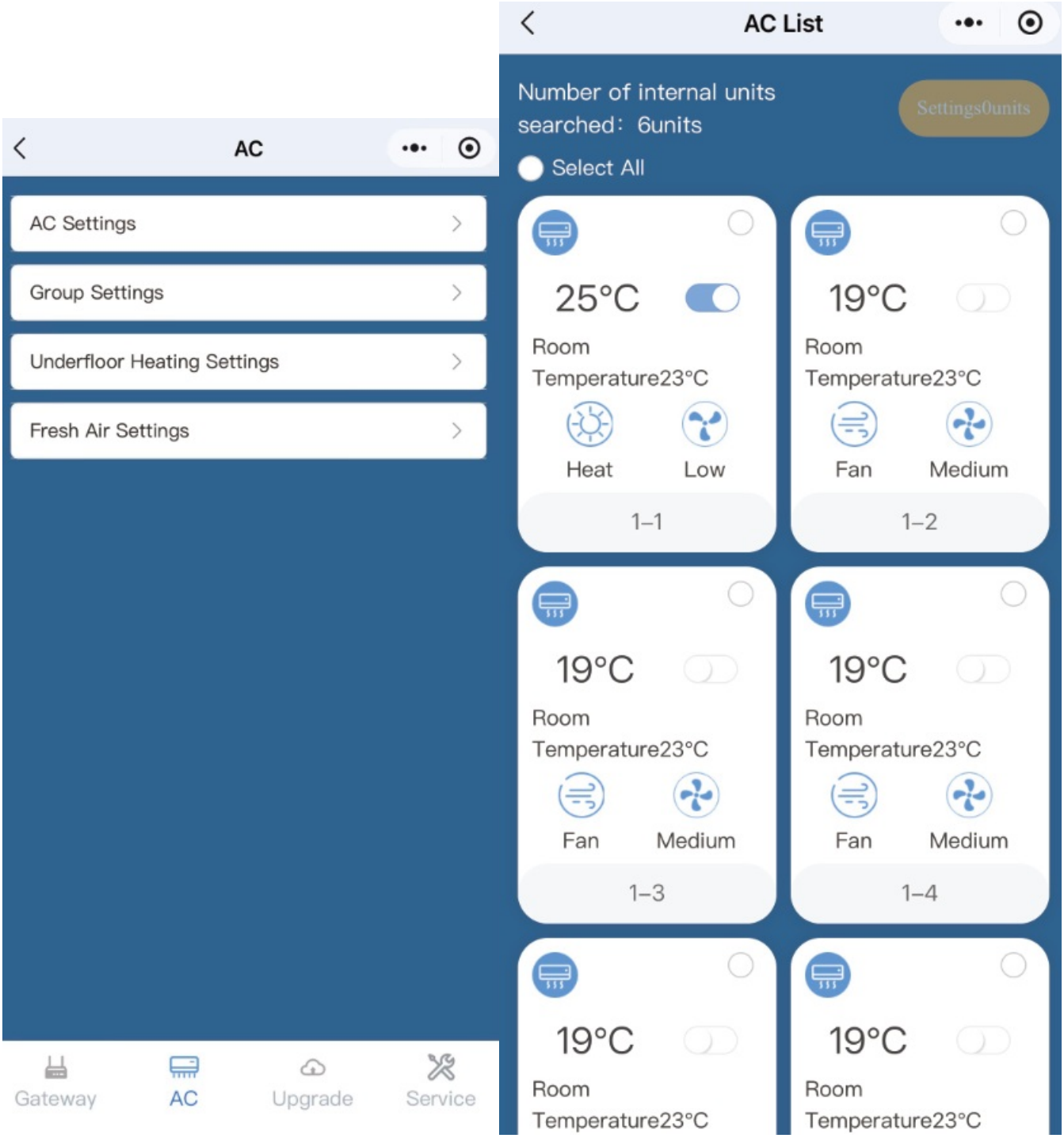
Procedure: Upgrade → Select client and AC brand → Confirm to switch or download the latest firmware.



（5）After completing the above steps, power off the gateway and restart it. Observe the gateway indicators. When the DEV indicator flashes, communication between the gateway and the air conditioner is normal. (For indicator descriptions, see Table 2.)

Perform a control test via the Bluetooth debugging mini-program: go to**AC List** → **AC Setting**. Select **Mode / Fan speed** and tap **Set**. The **Set** button must be pressed for each operation.

（6）In Group Settings, Underfloor Heating Settings, and Fresh Air Settings, you can add groups, configure floor heating, fresh air, and other functions respectively.


AC
AC Settings
Group Settings
Underfloor Heating Settings
Fresh Air Settings
Gateway
AC
Upgrade
Service
AC List
Number of internal units searched: 6units
Settings0units
Select All
25°C
Room Temperature23°C
Heat
Low
1–1
19°C
Room Temperature23°C
Fan
Medium
1–2
19°C
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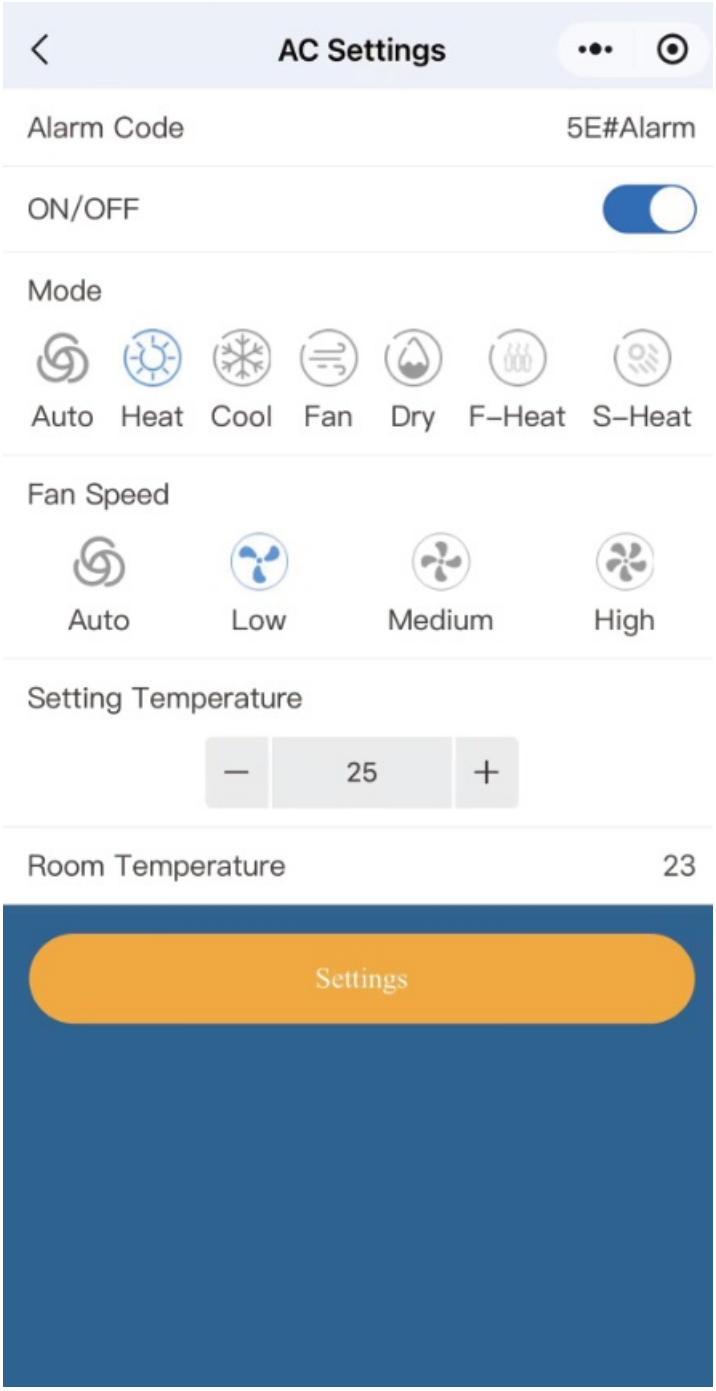

◇◆ Packing List

- KNX VRV/VRF Outdoor Unit Gateway * 1

Note： After unpacking, please check if the product and the parts are complete.

◇◆ Warranty

Warranty period (three years from the date of invoice), if the product fails in normal use, the user can go to the nearest authorized institution with a valid warranty card to obtain free maintenance.

In the following cases, HDL regards the user as giving up the relevant services promised under the warranty and the user shall

bear the corresponding responsibility and shall not be entitled to the free warranty:

- Failure of the device caused by force majeure factors.
- The user has placed the device in a transportation or use environment that does not comply with the statements in the product instructions or technical manuals.
- Unauthorized disassembly of the product by the user.
- Promises not made officially by HDL to the user that are beyond the scope of the warranty are the responsibility of the promisor.

HDL reserves the right to update or change the product without prior notice to the user, please visit the HDL website for answers to your questions and the latest product information.

The final interpretation right of the warranty regaulations belongs to HDL.

◇◆ Copyright Statement

The contents of this document will be updated as the updates of product versions or other reasons. Unless otherwise agreed upon, this document is to be used as a guidance only. All the statements, information and recommendations in this document makes no warranty expressed or implied.

Update History:

The form below contains the information of every update. The latest version contains all the updates of all former versions.

Version	Update Information	Date
V1.0	Initial release	February 28, 2026

◇◆ Technical Support

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