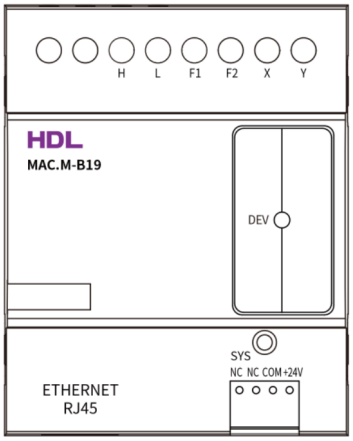
Digital AC Gateway VRV/VRF

Instruction Manual



HDL-MAC.M-B19

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

Document Version：C

◇◆ Overview

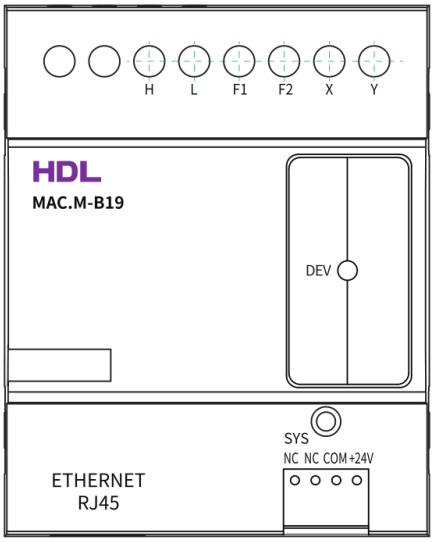
The VRV/VRF air conditioning (AC) gateway(B19), which can connect multiple air conditioners to the smart home centralized control system or BMS system. The product communicae with Ethernet network port ,and supports work with Buspro Gateway.

At present, this product can support the VRV/VRF AC systems of Daikin, Hitachi, Toshiba, Mitsubishi Electric, Hisense, Haier, Panasonic, York, Mitsubishi Heavy Industry, Midea, LG, AUX, Bosch, Gree, TICA, Samsung, Chigo, Trane, Carrier, McQuay, etc.

◇◆ Technical Data

Tab.1 Electrical parameters

Item	Specification
Dimensions	72mm×90mm×64mm
Power Supply	24V DC
Power Consumption	<2.0W
Working Temperature and Humidity	-20 - +60℃, 0 - 90%RH
Configuration upgrade	Bluetooth + wechat mini program
Installation method	DIN rail
Intelligent device interface	RJ45 LAN
AIR CON interface	H、L、F1、F2、X、Y



◇◆ Operation

- **LED Instruction**

Name	Representative Device	Status	Description

SYS	Gateway	Constant Red	Unauthorized
		Green slow flashing	Normal
		Constant green	Device is initializing
DEV	AC Devices	Constant Green	Searching AC
		Green flash	Gateway has found AC
		Constant red	AC is abnormal

◇◆ Commissioning

1、Prepare for device installation

1）Confirm that AC system is powered on: check whether all indoor and outdoor units connected to centralized control are powered on；

2）Confirm that AC system has been debugged and operated successfully by the AC manufacturer without any alarm or abnormality；

3）Confirm and record the address of indoor unit and corresponding outdoor unit of AC (For setting and query methods, please refer to the relevant documents of website and official WeChat subscription.)；

4) Connect the air conditioner communication cable, and connect Ethernet network interfaces. (It is necessary to cut off power supply of gateway and air conditioner during wiring operation)

5) Select the communication port and match the communication parameters of this product.

2、Product wiring port selection and communication matching

Use this product according to the air conditioner brand, according to the following table for on-site wiring and equipment wiring.

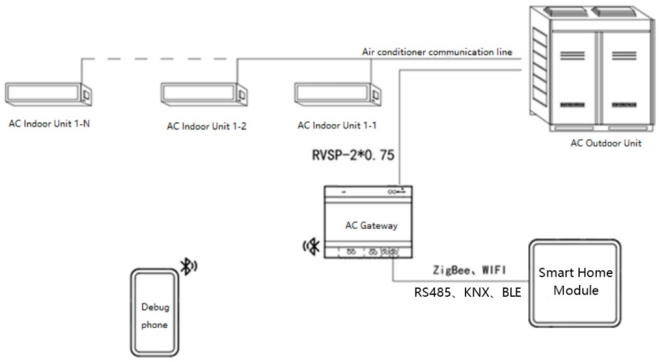
Brand	AIR CON	AC Port	Polarity✱①	Must connect to outdoor unit or not	Centralized control address or not
Daikin- Multiple outdoor unit	F1, F2	F1, F2(O-O)	N	Y	Y
Daikin- Single outdoor unit	F1, F2	F1, F2(I-O)	N	N	Y
Mitsubishi Electric-Multiple outdoor unit✱②	F1, F2	M1, M2(TB7)	N	Y	N
Mitsubishi Electric - single outside unit	F1, F2	M1, M2(TB3)	N	N	N
Mitsubishi Electric - Lingyao	F1, F2	M1, M2(Outdoor Unit)M1, M2(Divergence box)	N	N	N
Hitachi	F1, F2	1, 2	N	N	N
Toshiba	F1, F2	U1, U2	N	N	Y
Panasonic	F1, F2	U1, U2	N	N	N
Hisense	F1, F2	1, 2	N	N	N

Haier	F1, F2	P, Q	N	N	N
York Qingdao	F1, F2	1, 2	N	N	N
York Guangzhou	X, Y	A2, B2	N	Y	N
GREE	H, L	G1, G2	Y(H-G1, L-G2)	Y	N
	H, L	D1, D2	Y(H-D1, L-D2)	N	N
TCL	H, L	F1, F2	Y(H-F1, L-F2)	N	N
Mitsubishi Heavy Industries	X, Y	A1, B1	N	N	N
	X, Y	A2, B2	N	N	N
Midea, Bosch, Carrier	X, Y	X, Y	N	Y	N
	X, Y	P, Q	N	N	N
Midea -Coolfan	X, Y	A, B(Outdoor Unit)	N	Y	N
AUX	X, Y	A, B	N	N	N
Samsung	X, Y	F1, F2	N	N	N
LG	X, Y	A, B(CEN)	N	N	N
McQuary	X, Y	Apc, Bpc	N	Y	N
TICA	X, Y	A3, B3	N	N	N
CHIGO	X, Y	P, Q	N	N	N
Trane	X, Y	A, B	N	Y	N
York Water Machine	X, Y	A, B	N	Y	N
	X, Y	A2, B2	N	Y	N
McQuary Water Machine	X, Y	Apc, Bpc	N	Y	N
Carrier Water Machine	X, Y	A, B	N	Y	N
Trane Water Machine	X, Y	CN29(A, B)	N	Y	N

✱Note1: If the port polarity is marked with "N", the wiring between the gateway wiring port and the air conditioning wiring port can be arbitrary; If the port polarity displays "Y", the wiring between the gateway wiring port and the air conditioning wiring port must correspond to the port sequence under the air conditioning port according to the marking sequence under the gateway port in the table. For example: Midea, the polarity is marked "Y". Connect the X port of AC to the X port of gateway, and connect the Y port of AC to the Y port of gateway.

✱Note2: When the MITSUBISHI multi-outdoor unit system is installed, the centralized control line connects to the TB7 "M1, M2" and change the jumper cap of CN41 to CN40 on the PCB control switch of outdoor unit.

3、Wiring and Attentions



System wiring diagram

Note: This product needs to be installed indoors, it can be installed in the smart home control box or ceiling access port, etc. If installed outdoors, it needs to be waterproof.

The communication line between indoor and outdoor unit of AC is the responsibility of AC construction party, which does not need to be considered by the weak current integration party.

The gateway product is connected to outdoor or indoor unit of AC system through 2-core shielded twisted pair, and then communicates with all indoor units of system for controlling. The shielded twisted pair from outdoor unit to our gateway requires the wire diameter is more than 0.75mm2 and length isn't more than 1000m, which can be reserved by construction party or added later. The communication line between gateway and weak current integrated system adopts twisted pair or Ethernet cable, and the specification requirements and construction details shall be determined according to the location between gateway and t integrated system.

Attentions for wiring operation:

●The input terminals and wiring terminals are different for different control modes

●If the wiring is wrong, the product may be damaged

●It is necessary to cut off power supply of gateway and air conditioner during wiring operation, otherwise may cause damage

●Please pay attention to avoid parallel wiring between signal lines and power line, otherwise misoperation may occur due to mutual interference of signals.

●If parallel wiring cannot be avoided, please keep the distance between the communication line related to gateway product and the communication line of AC system is at least 15cm, and other wiring distances at least 30cm. Or connect the cable into the iron protective tube and ground one end of the protective tube. The chassis must be grounded in type D.

●If the power line is connected to the signal terminal by misoperation, the fuse will be burned. If this happens, please contact the manufacturer. It is strictly prohibited to disassemble and repair without permission.

4、Bluetooth configuration Instructions

（1）Bluetooth Configuration

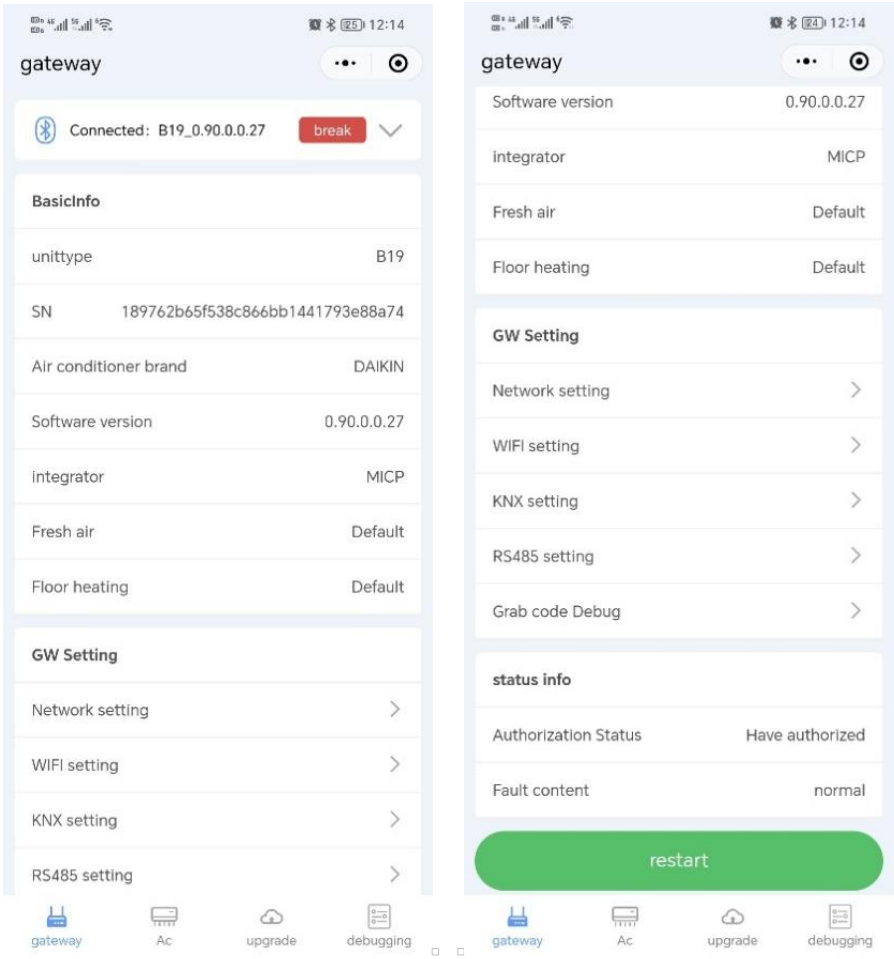
Turn on the Bluetooth of your mobile phone, use WeChat to scan below figure and enter the mini program，or scan the QR code to download the Android APP . Select the gateway device to be connected.

WeChat Mini Program

Android APP

(2) Gateway Page

This page contains basic information, status information, gateway Settings, you can view the basic information and status information of the gateway, and the gateway air conditioning Settings, gateway restart and other operations.

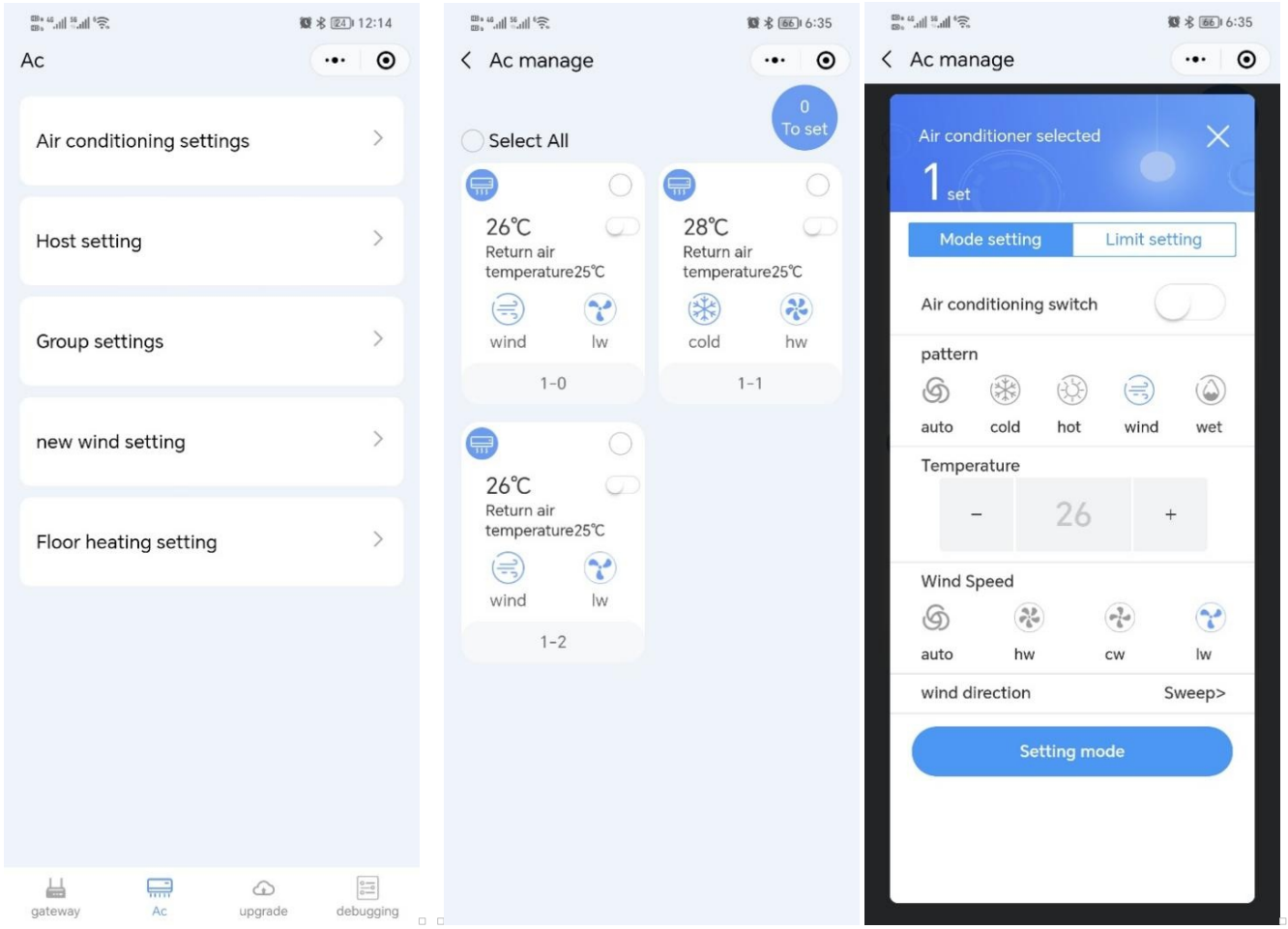


Basic information: including equipment model, SN code, controlled air conditioner brand, product software version, integrator information, controlled fresh air, controlled floor heating.

Status information: including gateway authorization status, product fault content.

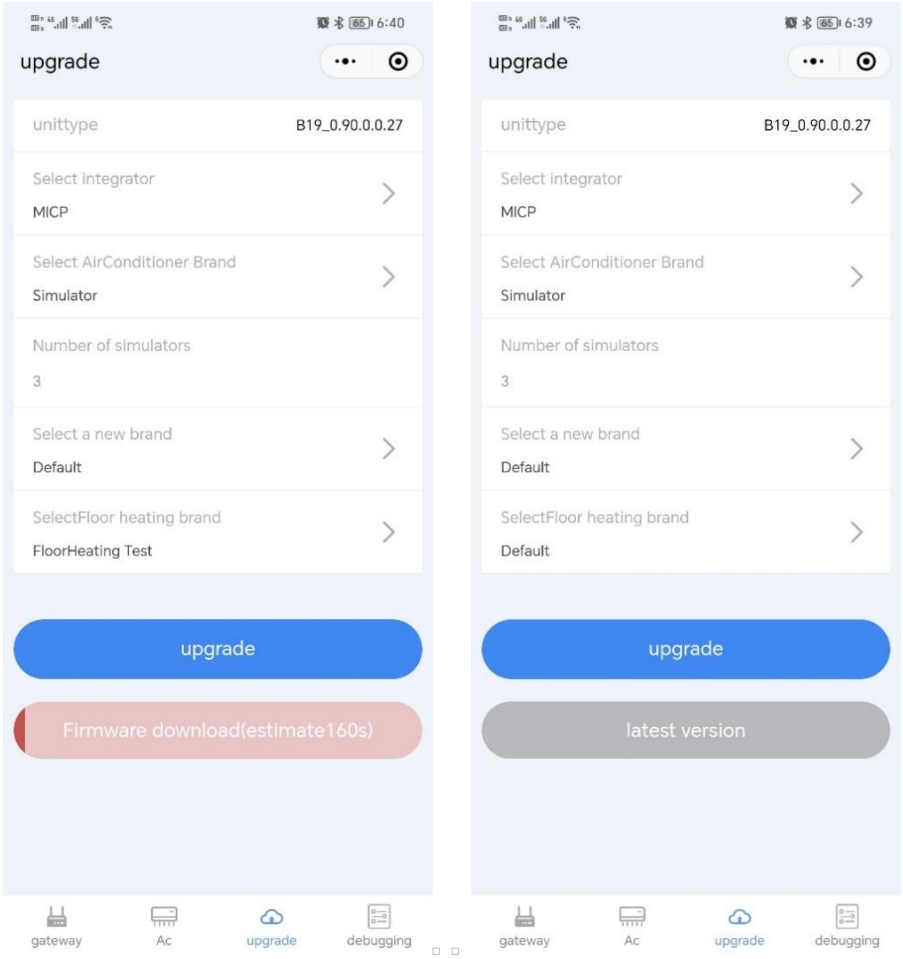
(3) Air conditioning page

This page includes air conditioner settings, host settings, group settings, fresh air settings, and floor heating settings. You can perform group settings, switches, temperature adjustment, and fan speed adjustment for HVAC equipment. Example air conditioner settings as follows:



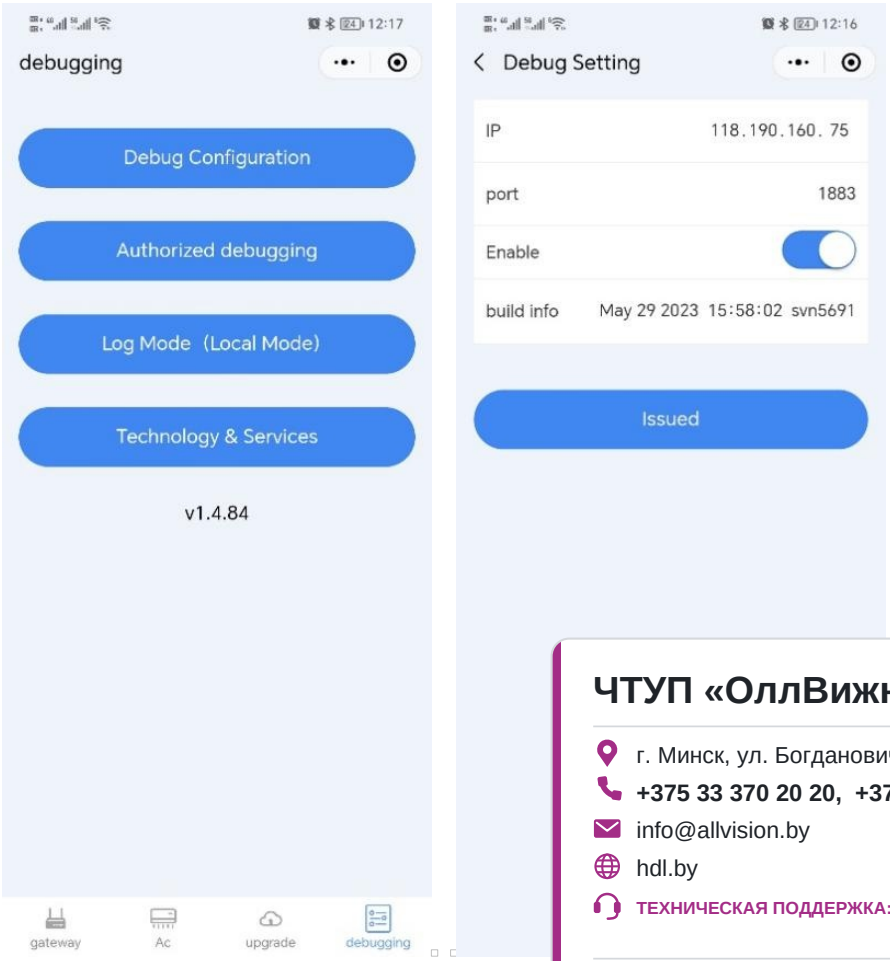
(4) Upgrade Page

Users can select the brand of air conditioner, fresh air and other equipment to be connected through the upgrade page. Because air-conditioning manufacturers will update the air-conditioning communication protocol from time to time, the number of environmental system equipment such as fresh air will continue to increase, and the functions of the gateway product will continue to be enhanced. Therefore, when necessary, users need to download the latest gateway firmware first.



(5) Debug Page

Debug page is available for developers.



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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	August 13, 2024



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