

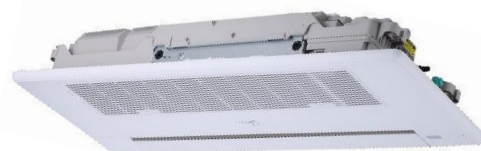
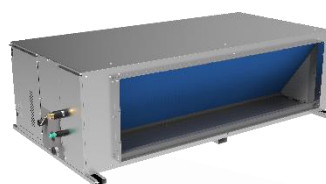
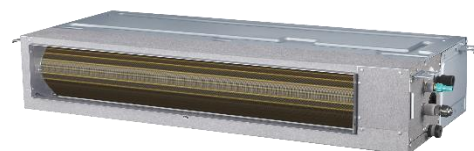


R410A/R32

Commercial Air Conditioners

# Service Manual

## V8 VRF Indoor Units



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## 1 Indoor and outdoor unit compatibility

Before performing maintenance, please confirm that the indoor and outdoor units in the system are compatible with each other. For specific compatibility relationships, please refer to the table below.

| <div>Outdoor Unit \ Indoor Unit</div> |              |            |           | Indoor Unit       |                   |         |                |
|---------------------------------------|--------------|------------|-----------|-------------------|-------------------|---------|----------------|
|                                       |              |            |           | V6 platform       |                   |         | V8 platform    |
|                                       |              |            |           | 2nd generation AC | 2nd generation DC | HRV     | V8 indoor unit |
|                                       |              |            |           | MDV-D***          | MI2-***           | HRV-*** | MIH***         |
| Outdoor Unit                          | V4+ platform | V5X        | MV5-X***  | √                 | √                 | √       | ×              |
|                                       |              | V4+W       | MDVS-***  | √                 | √                 | √       | √              |
|                                       |              | Mini VRF   | \         | √                 | √                 | √       | ×              |
|                                       | V6 platform  | V6         | MV6-***   | √                 | √                 | √       | √              |
|                                       |              | V6i        | MV6-i***  | √                 | √                 | √       | √              |
|                                       |              | VX         | MVX-***   | √                 | √                 | √       | √              |
|                                       |              | VXi        | MVX-i***  | √                 | √                 | √       | √              |
|                                       |              | V6R        | MV6-R***  | √                 | √                 | √       | √              |
|                                       |              | VC Pro     | MVC-***   | √                 | √                 | √       | √              |
|                                       |              | VCi        | MDVC-V*** | √                 | √                 | √       | √              |
|                                       |              | Mini C     | \         | √                 | √                 | √       | √              |
|                                       |              | V8         | MV8-***   | √                 | √                 | √       | √              |
|                                       | V8 platform  | V8i        | MV8i-***  | √                 | √                 | √       | √              |
|                                       |              | V8S        | MV8S-***  | √                 | √                 | √       | √              |
|                                       |              | R32 Mini   | MV8M-***  | ×                 | ×                 | √       | √              |
|                                       |              | R410A Mini | MV8M-***  | √                 | √                 | √       | √              |

Notes:

√ represents compatibility, × represents incompatibility

The AHU kit connects the indoor unit to the outdoor unit

| Indoor unit combination                                  |                                      |                          | Outdoor Unit |                                     |     |                            |          | Connection rate <sup>[4]</sup> |          |
|----------------------------------------------------------|--------------------------------------|--------------------------|--------------|-------------------------------------|-----|----------------------------|----------|--------------------------------|----------|
| Combination                                              | Capacity control method              |                          | V8 Platform  | V6/V6i / V6pro / VX/VXi/ VXpro / VC | V6R | Mini C 2 / Mini C / Atom B | V5X/V4+W |                                |          |
| AHU kit -F series (V8)                                   | Input set temperature <sup>[2]</sup> | Control 1                | √            | √                                   | ×   | ×                          | ×        | Indoor unit / Outdoor unit     | 50%~100% |
|                                                          |                                      | Control 2                | √            | √                                   | √   | ×                          | ×        | Indoor unit/Outdoor unit       | 50%~100% |
|                                                          | Input the capacity value             | Control 3 <sup>[3]</sup> | √            | √                                   | ×   | ×                          | ×        | Indoor unit / Outdoor unit     | 50%~100% |
| AHU kit -F series (V8)+ Indoor unit <sup>[1]</sup>       | Input set temperature <sup>[2]</sup> | Control 1                | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |
|                                                          |                                      | Control 2                | √            | √                                   | √   | ×                          | ×        | Indoor unit / Outdoor unit     | 50%~100% |
|                                                          | Input the capacity value             | Control 3 <sup>[3]</sup> | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |
| AHU kit -F series (V8)+ Fresh Air Processing Unit (FAPU) | Input set temperature <sup>[2]</sup> | Control 1                | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |
|                                                          |                                      | Control 2                | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |
|                                                          | Input the capacity value             | Control 3 <sup>[3]</sup> | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |
| AHU kit -F series (V8)+ AHU kit -D series (V6)           | Input set temperature <sup>[2]</sup> | Control 1                | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |
|                                                          |                                      | Control 2                | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |
|                                                          | Input the capacity value             | Control 3 <sup>[3]</sup> | ×            | ×                                   | ×   | ×                          | ×        | /                              |          |

Control 1——Control: AHU supply air temperature

Control 2——Control: AHU return air temperature

Control 3——Control: AHU return air temperature or AHU supply air temperature or room temperature

The detailed explanation of the three control methods can be found in Chapter 10- Capacity Control of Installation and Operation Manual.

[1] Indoor unit does not include Fresh Air Processing Unit and Hydro Module.

[2] Input the setting temperature (Ts) using the Midea controller or input the set temperature value (Ts) using a third party controller 0-10 V.

[3] The temperature difference ( $\Delta T$ =The actual measured temperature - target temperature,) is programmed by a third-party controller to be converted to a 0-10V signal and the capacity or Te/Tc is adjusted according to the voltage value.

[4] Connection rate: The ratio between the total nominal cooling capacity of indoor units in the system and the total nominal cooling capacity of outdoor units is defined as the connection rate, and the nominal cooling capacity is measured in HP.

### 2 R32 System Service

Indoor units in this manual can be used with both R410A and R32 refrigerant systems. When repairing systems that use R32 refrigerant, the following warnings and operating requirements should be noted.

#### 2.1 Warning about the R32 refrigerant



The following information indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

The following applies to R32 refrigerant systems.

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized.

For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.

Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion.

All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space.

Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

- the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- the ventilation machinery and outlets are operating adequately and are not obstructed;
- if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
- marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

**Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.**

**If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.**

**Initial safety checks shall include:**

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

**During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.**

**Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.**

**Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres.**

**Replacement parts shall be in accordance with the manufacturer's specifications.**

**Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.**

**Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.**

**Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.**

**Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of ageing or continual vibration from sources such as compressors or fans.**

**When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, it is important that best practice is followed.**

**Since flammability is a consideration. The following procedure shall be adhered to:**

- remove refrigerant;
- purge the circuit with inert gas;

## V8 VRF Indoor Units



- evacuate;
- purge again with inert gas;
- open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be “flushed” with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task.

Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.

This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available. Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them. Prior to recharging the system it shall be pressure tested with OFN.

### DD.12 Decommissioning:

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

- Become familiar with the equipment and its operation.
- Isolate system electrically.
- Before attempting the procedure ensure that:
  - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
  - all personal protective equipment is available and being used correctly;
  - the recovery process is supervised at all times by a competent person;
  - recovery equipment and cylinders conform to the appropriate standards.
- Pump down refrigerant system, if possible.
- If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- Make sure that cylinder is situated on the scales before recovery takes place.
- Start the recovery machine and operate in accordance with manufacturer's instructions.
- Do not overfill cylinders. (No more than 80 % volume liquid charge).
- Do not exceed the maximum working pressure of the cylinder, even temporarily.
- When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of

refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

**Warning:** disconnect the appliance from its power source during service and when replacing parts.

These units are partial unit air conditioners, complying with partial unit requirements of this International Standard, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of this International Standard.

## 2.2 Qualification requirements for maintenance personnel



**The following information indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.**

**These instructions are exclusively intended for qualified contractors and authorised installers**

Work on the refrigerant circuit with flammable refrigerant in safety group A2L may only be carried out by authorised heating contractors. These heating contractors must be trained in accordance with EN 378 Part 4 or IEC 60335-2-40, Section HH. The certificate of competence from an industry accredited body.

Brazing/soldering work on the refrigerant circuit may only be carried out by contractors certified in accordance with ISO 13585 and AD 2000, Datasheet HP 100R. And only by contractors qualified and certified for the processes to be carried out. The work must fall within the range of applications purchased and be carried out in accordance with the prescribed procedures. Soldering/brazing work on accumulator connections requires certification of personnel and processes by a notified body according to the Pressure Equipment Directive (2014/68/EU).

Work on electrical equipment may only be carried out by a qualified electrician.

Before initial commissioning, all safety relevant points must be checked by the particular certified heating contractors. The system must be commissioned by the system installer or a qualified person authorised by the installer.



## V8 VRF Indoor Units

### 3 Main PCB Ports

#### 3.1 Compact Four-way Cassette

Figure 3.1: Compact Four-way Cassette main PCB port

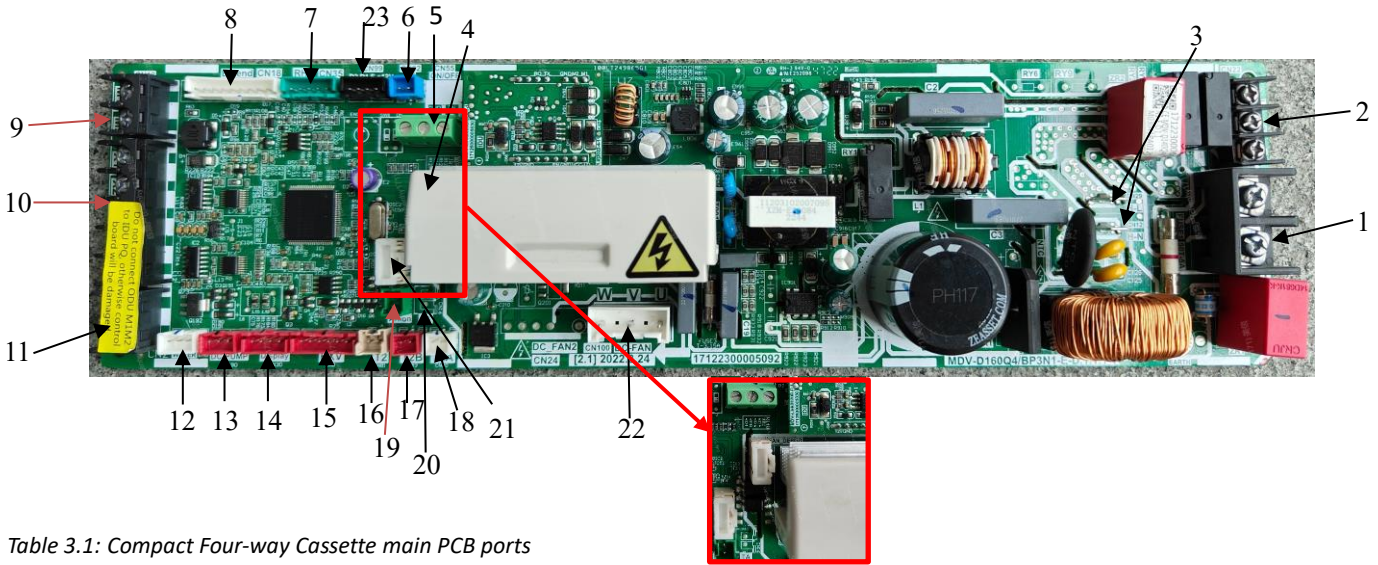


Table 3.1: Compact Four-way Cassette main PCB ports

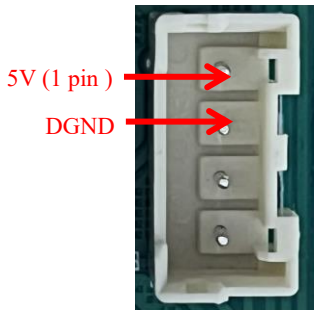
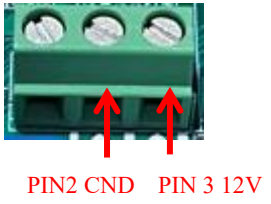
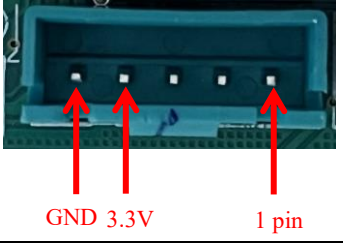
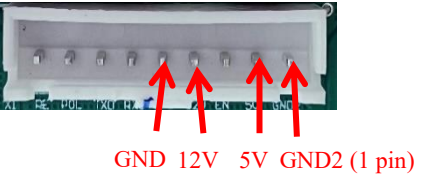
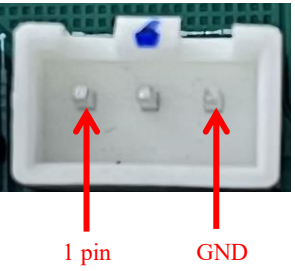
| Label in Figure 3.1 | Code                   | Content                                                                                       | Port voltage                              | Note     |
|---------------------|------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------|----------|
| 1                   | CN1(L,N)               | AC power input                                                                                | 220V AC                                   | Standard |
| 2                   | CN22 (ALARM,N,AC2)     | AC power output used for customization function: alarm/strong electric sterilization module   | 220V AC                                   | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                      | 220V AC                                   | Reserved |
| 4                   | CN4                    | Program burning port(fan motor)                                                               | 5V DC <sup>[5]</sup>                      | Standard |
| 5                   | CN55                   | Remote on/off switch connection                                                               | Note 5                                    | Standard |
| 6                   | CN82                   | T1 Ambient temperature sensor connection                                                      | 3.3V DC                                   | Standard |
| 7                   | CN35                   | Humidity sensor connection                                                                    | 3.3V DC                                   | Standard |
| 8                   | CN18                   | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                  | Standard |
| 9                   | CN10(M1M2)             | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                    | Standard |
| 10                  | CN6(X1X2,PQ)           | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E: 2.5-2.7V DC | Standard |
| 11                  | CN2(D1D2)              | D1 D2 communication port(with Central controller or group controller)                         | 2.5 - 2.7V DC                             | Standard |
| 12                  | CN5                    | Water level switch port                                                                       | 3.3V DC                                   | Standard |
| 13                  | CN190                  | DC Drainage pump port                                                                         | 12V DC                                    | Standard |
| 14                  | CN30                   | Display panel connection                                                                      | 12V DC                                    | Standard |
| 15                  | CN8                    | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN81                   | T2 Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 17                  | CN83                   | T2B Temperature sensor connection                                                             | 3.3V DC                                   | Standard |
| 18                  | CN80                   | T2A Temperature sensor connection                                                             | 3.3V DC                                   | Standard |
| 19                  | CN-A                   | Sterilization module port                                                                     | 12V DC                                    | Standard |
| 20                  | CN16                   | Reserved                                                                                      | 3.3V DC                                   | Reserved |
| 21                  | CN25                   | Program burning port(indoor unit)                                                             | 3.3V DC                                   | Standard |
| 22                  | CN100                  | Power supply for fan motor                                                                    | Actual voltage                            | Standard |

|    |      |                                   |       |          |
|----|------|-----------------------------------|-------|----------|
| 23 | CN99 | After-sale Kit communication port | 12VDC | Standard |
|----|------|-----------------------------------|-------|----------|

Notes:

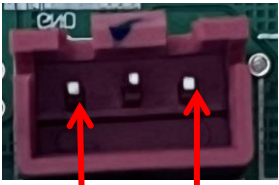
1. **Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
2. When repairing, PQ connects after-sales tooling
3. PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
4. D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
5. Refer to *Table 3.2* for voltage test instructions of some ports.

*Table 3.2: voltage test instructions*

| Code | Content                         | Description                                                                                                                                                                       | Picture                                                                               |
|------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| CN4  | Program burning port(fan motor) | /                                                                                                                                                                                 |    |
| CN55 | Remote on/off switch connection | Shorting pins 2 and 3, forced shutdown of the internal machine (default), can be set by controller (N38)                                                                          |  |
| CN35 | Humidity sensor connection      | Using the DC voltage gear of the multimeter to test pin 4 and 5, the value should be 3.3V                                                                                         |  |
| CN18 | Switch module connection        | Using the DC voltage gear of the multimeter to test pin 1 and 2, the value should be 5V; Using the DC voltage gear of the multimeter to test pin 4 and 5, the value should be 12V |   |
| CN5  | Water level switch port         | The water level is normal, the water level switch is in the channel state; when the water level is full, the water level switch is in the disconnected state                      |  |

## V8 VRF Indoor Units

Table 3.2: voltage test instructions (continue)

| Code  | Content                           | Description                                                                                                        | Description                                                                                                                   |
|-------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| CN190 | Drainage pump port                | When the water pump is running, pin 2 and 3 output 12V DC                                                          |  <p>1 pin      GND</p>                     |
| CN30  | Display panel connection          | Using the DC voltage gear of the multimeter to test pin 1 and 4, the value should be 12V;                          |  <p>1 pin      GND-L</p>                   |
| CN8   | EEV drive port                    | Using the DC voltage gear of the multimeter to test pin 5 and GND (use other ports' GND), the value should be 12V; |  <p>1 pin</p> <p>Using other ports' GND</p> |
| CN25  | Program burning port(indoor unit) | /                                                                                                                  |  <p>3.3V (1 pin)</p> <p>GND</p>          |
| CN99  | After-sale Kit communication port | Using the DC voltage gear of the multimeter to test pin 1 and 2, the value should be 12V;                          |  <p>GND      12V (1 pin)</p>             |

### 3.2 Four-way Cassette

Figure 3.2: Four-way Cassette main PCB ports

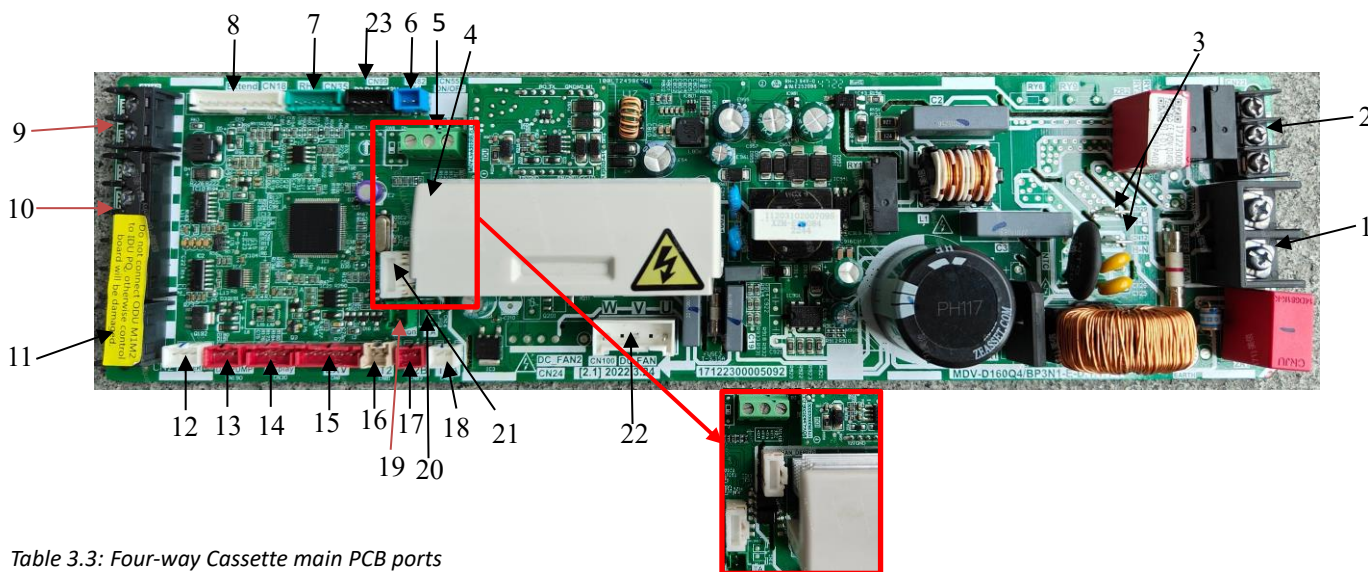


Table 3.3: Four-way Cassette main PCB ports

| Label in Figure 3.2 | Code                   | Content                                                                                        | Port voltage                              | Note     |
|---------------------|------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------|----------|
| 1                   | CN1(L,N)               | AC power input                                                                                 | 220V AC                                   | Standard |
| 2                   | CN22<br>(ALARM,N,AC2)  | AC power output used for customization function:<br>alarm/strong electric sterilization module | 220V AC                                   | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                       | 220V AC                                   | Reserved |
| 4                   | CN4                    | Program burning port(fan motor)                                                                | 5V DC <sup>[5]</sup>                      | Standard |
| 5                   | CN55                   | Remote on/off switch connection                                                                | Note 5                                    | Standard |
| 6                   | CN82                   | T1 Ambient temperature sensor connection                                                       | 3.3V DC                                   | Standard |
| 7                   | CN35                   | Humidity sensor connection                                                                     | 3.3V DC                                   | Standard |
| 8                   | CN18                   | Switch module                                                                                  | 5V/12V DC <sup>[5]</sup>                  | Standard |
| 9                   | CN10(M1M2)             | M1 M2 communication port(with ODU by HyperLink)                                                | 24V DC                                    | Standard |
| 10                  | CN6(X1X2,PQ)           | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485)  | X1 X2:18V DC ;<br>P,E or Q,E: 2.5-2.7V DC | Standard |
| 11                  | CN2(D1D2)              | D1 D2 communication port(with Central controller<br>or group controller)                       | 2.5 - 2.7V DC                             | Standard |
| 12                  | CN5                    | Water level switch port                                                                        | 3.3V DC                                   | Standard |
| 13                  | CN190                  | DC Drainage pump port                                                                          | 12V DC                                    | Standard |
| 14                  | CN30                   | Display panel connection                                                                       | 12V DC                                    | Standard |
| 15                  | CN8                    | EEV drive port                                                                                 | 12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN81                   | T2 Temperature sensor connection                                                               | 3.3V DC                                   | Standard |
| 17                  | CN83                   | T2B Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 18                  | CN80                   | T2A Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 19                  | CN-A                   | Sterilization module port                                                                      | 12V DC                                    | Standard |
| 20                  | CN16                   | Reserved                                                                                       | 3.3V DC                                   | Reserved |
| 21                  | CN25                   | Program burning port(indoor unit)                                                              | 3.3V DC                                   | Standard |
| 22                  | CN100                  | Power supply for fan motor                                                                     | Actual voltage                            | Standard |
| 23                  | CN99                   | After-sale Kit communication port                                                              | 12VDC                                     | Standard |

### Notes:

1. **Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
2. When repairing, PQ connects after-sales tooling
3. PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
4. D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
5. Refer to *Table 3.2* for voltage test instructions of some ports.



### 3.3 Arc Duct

Figure 3.3: Arc Duct main PCB ports

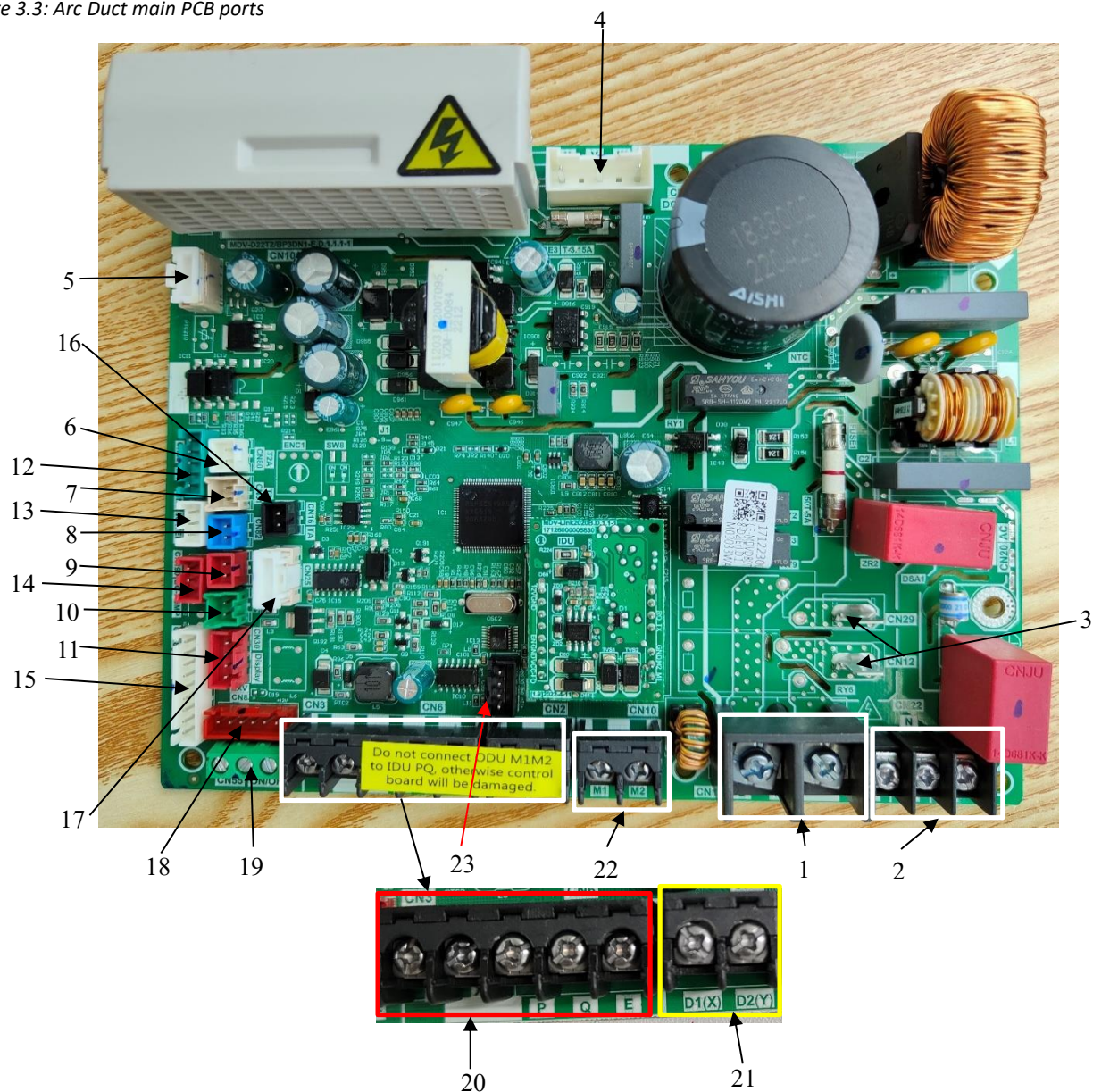


Table 3.4: Arc Duct main PCB ports

| Label in Figure 3.3 | Code                   | Content                                                                                     | Port voltage         | Note     |
|---------------------|------------------------|---------------------------------------------------------------------------------------------|----------------------|----------|
| 1                   | CN1(L.N)               | AC power input                                                                              | 220V AC              | Standard |
| 2                   | CN22<br>(ALARM,N,AC2)  | AC power output Used for customization function: alarm/Strong electric sterilization module | 220V AC              | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                    | 220V AC              | Reserved |
| 4                   | CN100                  | Power supply for fan motor                                                                  | Actual voltage       | Standard |
| 5                   | CN4                    | Program burning port(fan motor)                                                             | 5V DC <sup>[5]</sup> | Standard |
| 6                   | CN80                   | T2A Temperature sensor connection                                                           | 3.3V DC              | Standard |

Table continued on next page ...

Table 3.4: Arc Duct main PCB ports (continued)

| Label in Figure 3.3 | Code          | Content                                                                                       | Port voltage                                 | Note     |
|---------------------|---------------|-----------------------------------------------------------------------------------------------|----------------------------------------------|----------|
| 7                   | CN81          | T2 Temperature sensor connection                                                              | 3.3V DC                                      | Standard |
| 8                   | CN82          | T1 Ambient Temperature sensor connection                                                      | 3.3V DC                                      | Standard |
| 9                   | CN83          | T2B Temperature sensor connection                                                             | 3.3V DC                                      | Standard |
| 10                  | CN-A          | Sterilization module port                                                                     | 12V DC                                       | Standard |
| 11                  | CN30          | Display Panel connection                                                                      | 12V DC <sup>[5]</sup>                        | Standard |
| 12                  | CN35          | Humidity sensor connection                                                                    | 3.3V DC <sup>[5]</sup>                       | Standard |
| 13                  | CN5           | Water level switch port                                                                       | 3.3V DC <sup>[5]</sup>                       | Standard |
| 14                  | CN190         | Drainage pump port                                                                            | 12V DC <sup>[5]</sup>                        | Standard |
| 15                  | CN18          | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN16          | Reserved                                                                                      | 12V DC                                       | Reserved |
| 17                  | CN25          | Program burning port(indoor unit)                                                             | 3.3V DC <sup>[5]</sup>                       | Standard |
| 18                  | CN8           | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                        | Standard |
| 19                  | CN55          | Remote on/off switch connection                                                               | Note 5                                       | Standard |
| 20                  | CN6(X1X2,PQE) | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E:<br>2.5-2.7V DC | Standard |
| 21                  | CN2(D1D2)     | D1 D2 communication port(with Central controller or group controller)                         | D1,E or D2,E<br>2.5 - 2.7V DC                | Standard |
| 22                  | CN10(M1M2)    | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                       | Standard |
| 23                  | CN99          | After-sale Kit communication port                                                             | 12V DC <sup>[5]</sup>                        | Standard |

Notes:

- Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
- When repairing, PQ connects after-sales tooling
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
- Refer to Table 3.2 for voltage test instructions of some ports.

### 3.4 Medium Static Pressure Duct

Figure 3.4: Medium Static Pressure Duct main PCB ports

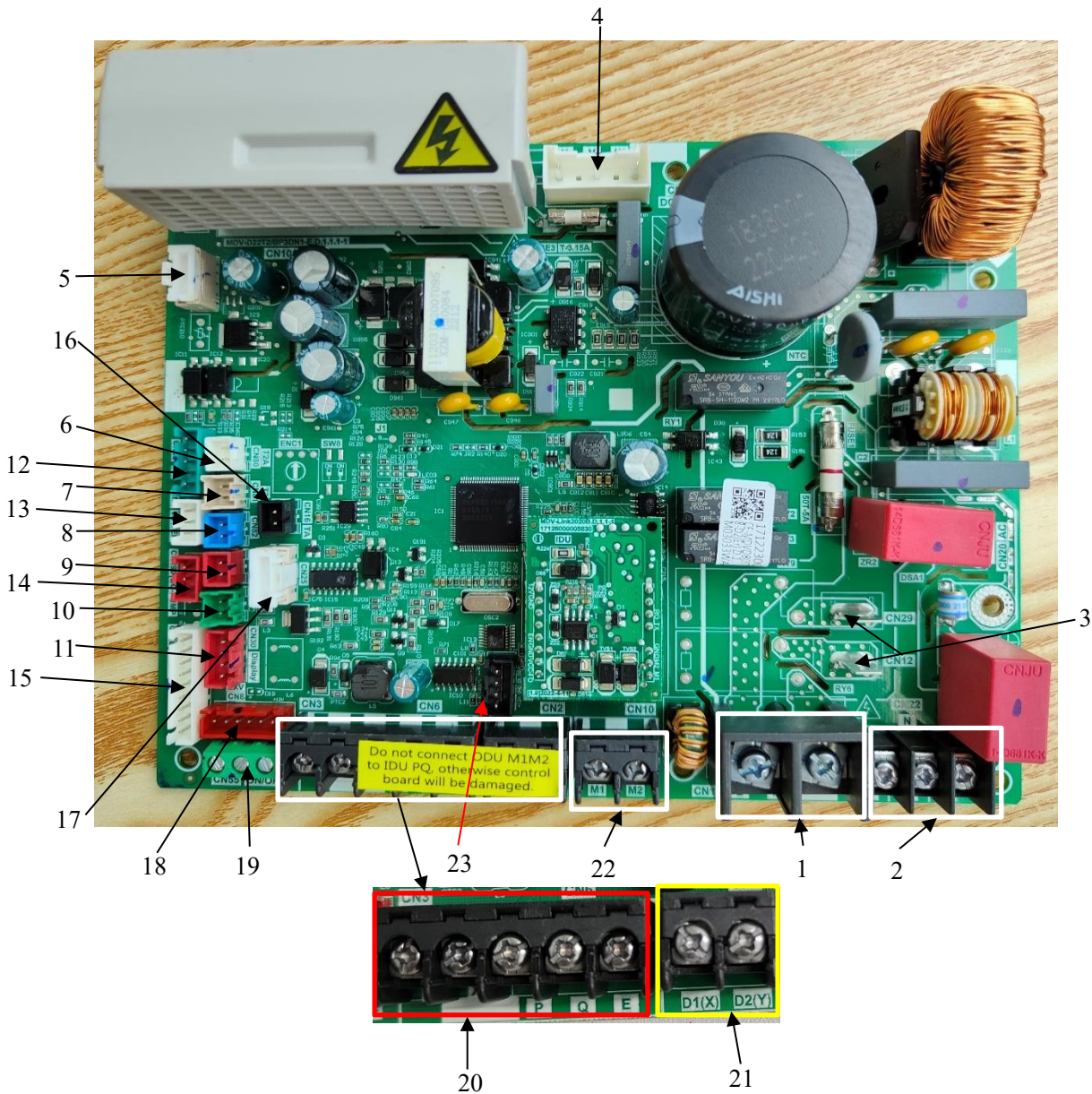


Table 3.5: Medium Static Pressure Duct main PCB ports

| Label in Figure 3.4 | Code                   | Content                                                                                     | Port voltage         | Note     |
|---------------------|------------------------|---------------------------------------------------------------------------------------------|----------------------|----------|
| 1                   | CN1(L.N)               | AC power input                                                                              | 220V AC              | Standard |
| 2                   | CN22<br>(ALARM,N,AC2)  | AC power output Used for customization function: alarm/Strong electric sterilization module | 220V AC              | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                    | 220V AC              | Reserved |
| 4                   | CN100                  | Power supply for fan motor                                                                  | Actual voltage       | Standard |
| 5                   | CN4                    | Program burning port(fan motor)                                                             | 5V DC <sup>[5]</sup> | Standard |



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|   |      |                                   |         |          |
|---|------|-----------------------------------|---------|----------|
| 6 | CN80 | T2A Temperature sensor connection | 3.3V DC | Standard |
|---|------|-----------------------------------|---------|----------|

Table continued on next page ...

Table 3.5: Medium Static Pressure Duct main PCB ports (continued)

| Label in Figure 3.4 | Code           | Content                                                                                       | Port voltage                                 | Note     |
|---------------------|----------------|-----------------------------------------------------------------------------------------------|----------------------------------------------|----------|
| 7                   | CN81           | T2 Temperature sensor connection                                                              | 3.3V DC                                      | Standard |
| 8                   | CN82           | T1 Ambient Temperature sensor connection                                                      | 3.3V DC                                      | Standard |
| 9                   | CN83           | T2B Temperature sensor connection                                                             | 3.3V DC                                      | Standard |
| 10                  | CN-A           | Sterilization module port                                                                     | 12V DC                                       | Standard |
| 11                  | CN30           | Display Panel connection                                                                      | 12V DC <sup>[5]</sup>                        | Standard |
| 12                  | CN35           | Humidity sensor connection                                                                    | 3.3V DC <sup>[5]</sup>                       | Standard |
| 13                  | CN5            | Water level switch port                                                                       | 3.3V DC <sup>[5]</sup>                       | Standard |
| 14                  | CN190          | Drainage pump port                                                                            | 12V DC <sup>[5]</sup>                        | Standard |
| 15                  | CN18           | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN16           | Reserved                                                                                      | 12V DC                                       | Reserved |
| 17                  | CN25           | Program burning port(indoor unit)                                                             | 3.3V DC <sup>[5]</sup>                       | Standard |
| 18                  | CN8            | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                        | Standard |
| 19                  | CN55           | Remote on/off switch connection                                                               | Note 5                                       | Standard |
| 20                  | CN6(X1X2, PQE) | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E:<br>2.5-2.7V DC | Standard |
| 21                  | CN2(D1D2)      | D1 D2 communication port(with Central controller or group controller)                         | D1,E or D2,E<br>2.5 - 2.7V DC                | Standard |
| 22                  | CN10(M1M2)     | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                       | Standard |
| 23                  | CN99           | After-sale Kit communication port                                                             | 12V DC <sup>[5]</sup>                        | Standard |

Notes:

- Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
- When repairing, PQ connects after-sales tooling
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
- Refer to Table 3.2 for voltage test instructions of some ports.

### 3.5 Wall Mounted

Figure 3.5: Wall Mounted main PCB ports

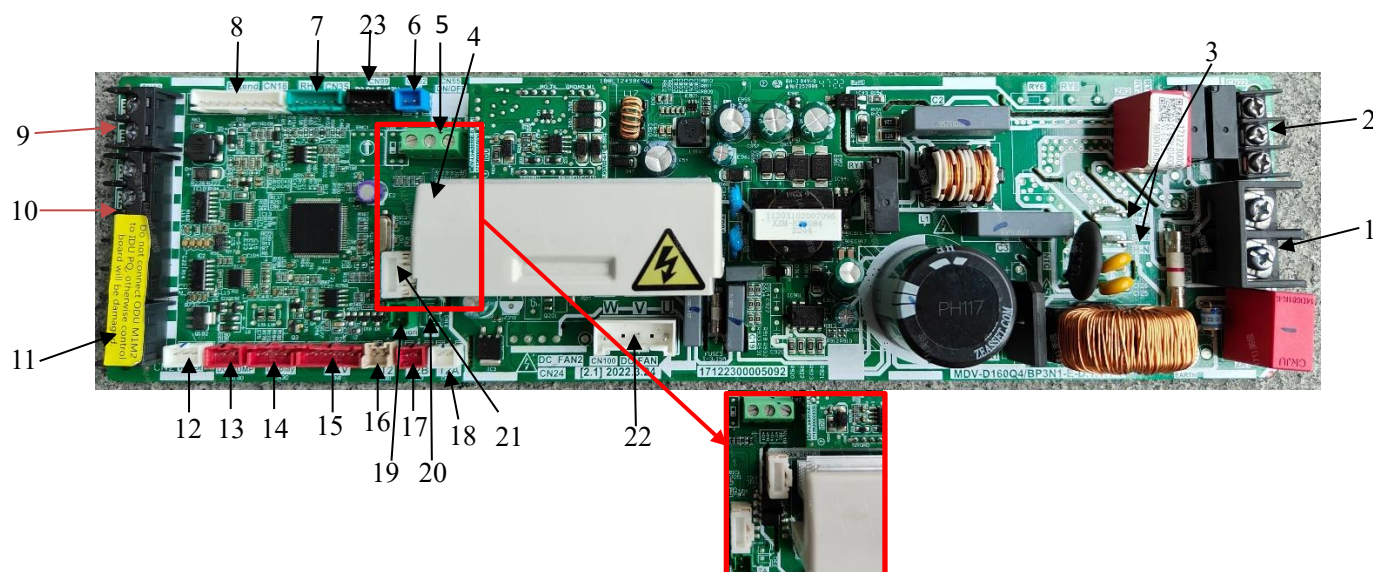


Table 3.6: Wall Mounted main PCB ports

| Label in Figure 3.5 | Code                   | Content                                                                                       | Port voltage                              | Note     |
|---------------------|------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------|----------|
| 1                   | CN1(L,N)               | AC power input                                                                                | 220V AC                                   | Standard |
| 2                   | CN22 (ALARM,N,AC2)     | AC power output used for customization function: alarm/strong electric sterilization module   | 220V AC                                   | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                      | 220V AC                                   | Reserved |
| 4                   | CN4                    | Program burning port(fan motor)                                                               | 5V DC <sup>[5]</sup>                      | Standard |
| 5                   | CN55                   | Remote on/off switch connection                                                               | Note 5                                    | Standard |
| 6                   | CN82                   | T1 Ambient temperature sensor connection                                                      | 3.3V DC                                   | Standard |
| 7                   | CN35                   | Humidity sensor connection                                                                    | 3.3V DC                                   | Standard |
| 8                   | CN18                   | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                  | Standard |
| 9                   | CN10(M1M2)             | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                    | Standard |
| 10                  | CN6(X1X2,PQ)           | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E: 2.5-2.7V DC | Standard |
| 11                  | CN2(D1D2)              | D1 D2 communication port(with Central controller or group controller)                         | 2.5 - 2.7V DC                             | Standard |
| 12                  | CN5                    | Water level switch port                                                                       | 3.3V DC                                   | Standard |
| 13                  | CN190                  | DC Drainage pump port                                                                         | 12V DC                                    | Standard |
| 14                  | CN30                   | Display panel connection                                                                      | 12V DC                                    | Standard |
| 15                  | CN8                    | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN81                   | T2 Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 17                  | CN83                   | T2B Temperature sensor connection                                                             | 3.3V DC                                   | Standard |
| 18                  | CN80                   | T2A Temperature sensor connection                                                             | 3.3V DC                                   | Standard |
| 19                  | CN-A                   | Sterilization module port                                                                     | 12V DC                                    | Standard |
| 20                  | CN16                   | Reserved                                                                                      | 3.3V DC                                   | Reserved |

## V8 VRF Indoor Units



|    |       |                                   |                |          |
|----|-------|-----------------------------------|----------------|----------|
| 21 | CN25  | Program burning port(indoor unit) | 3.3V DC        | Standard |
| 22 | CN100 | Power supply for fan motor        | Actual voltage | Standard |
| 23 | CN99  | After-sale Kit communication port | 12VDC          | Standard |

Notes:

1. **Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
2. When repairing, PQ connects after-sales tooling
3. PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
4. D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
5. Refer to *Table 3.2* for voltage test instructions of some ports.

### 3.6 One-way Cassette

Figure 3.6: One-way cassette main PCB ports

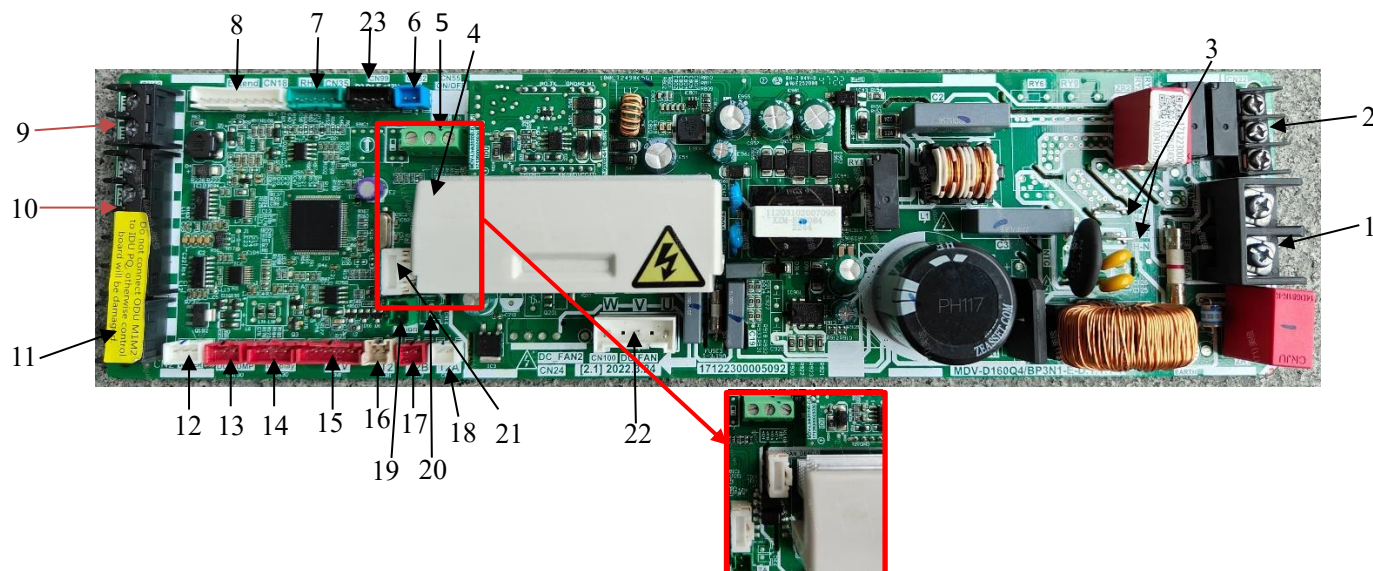


Table 3.7: One-way cassette main PCB ports

| Label in Figure 3.6 | Code                   | Content                                                                                       | Port voltage                              | Note     |
|---------------------|------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------|----------|
| 1                   | CN1(L,N)               | AC power input                                                                                | 220V AC                                   | Standard |
| 2                   | CN22 (ALARM,N,AC2)     | AC power output used for customization function: alarm/strong electric sterilization module   | 220V AC                                   | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                      | 220V AC                                   | Reserved |
| 4                   | CN4                    | Program burning port(fan motor)                                                               | 5V DC <sup>[5]</sup>                      | Standard |
| 5                   | CN55                   | Remote on/off switch connection                                                               | Note 5                                    | Standard |
| 6                   | CN82                   | T1 Ambient temperature sensor connection                                                      | 3.3V DC                                   | Standard |
| 7                   | CN35                   | Humidity sensor connection                                                                    | 3.3V DC                                   | Standard |
| 8                   | CN18                   | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                  | Standard |
| 9                   | CN10(M1M2)             | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                    | Standard |
| 10                  | CN6(X1X2,PQ)           | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E: 2.5-2.7V DC | Standard |
| 11                  | CN2(D1D2)              | D1 D2 communication port(with Central controller or group controller)                         | 2.5 - 2.7V DC                             | Standard |
| 12                  | CN5                    | Water level switch port                                                                       | 3.3V DC                                   | Standard |
| 13                  | CN190                  | DC Drainage pump port                                                                         | 12V DC                                    | Standard |
| 14                  | CN30                   | Display panel connection                                                                      | 12V DC                                    | Standard |
| 15                  | CN8                    | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN81                   | T2 Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 17                  | CN83                   | T2B Temperature sensor connection                                                             | 3.3V DC                                   | Standard |

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|    |       |                                   |                |          |
|----|-------|-----------------------------------|----------------|----------|
| 18 | CN80  | T2A Temperature sensor connection | 3.3V DC        | Standard |
| 19 | CN-A  | Sterilization module port         | 12V DC         | Standard |
| 20 | CN16  | Reserved                          | 3.3V DC        | Reserved |
| 21 | CN25  | Program burning port(indoor unit) | 3.3V DC        | Standard |
| 22 | CN100 | Power supply for fan motor        | Actual voltage | Standard |
| 23 | CN99  | After-sale Kit communication port | 12VDC          | Standard |

Notes:

1. **Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
2. When repairing, PQ connects after-sales tooling
3. PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
4. D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
5. Refer to *Table 3.2* for voltage test instructions of some ports.



### 3.7 Two-way Cassette

Figure 3.7: Two-way cassette main PCB ports

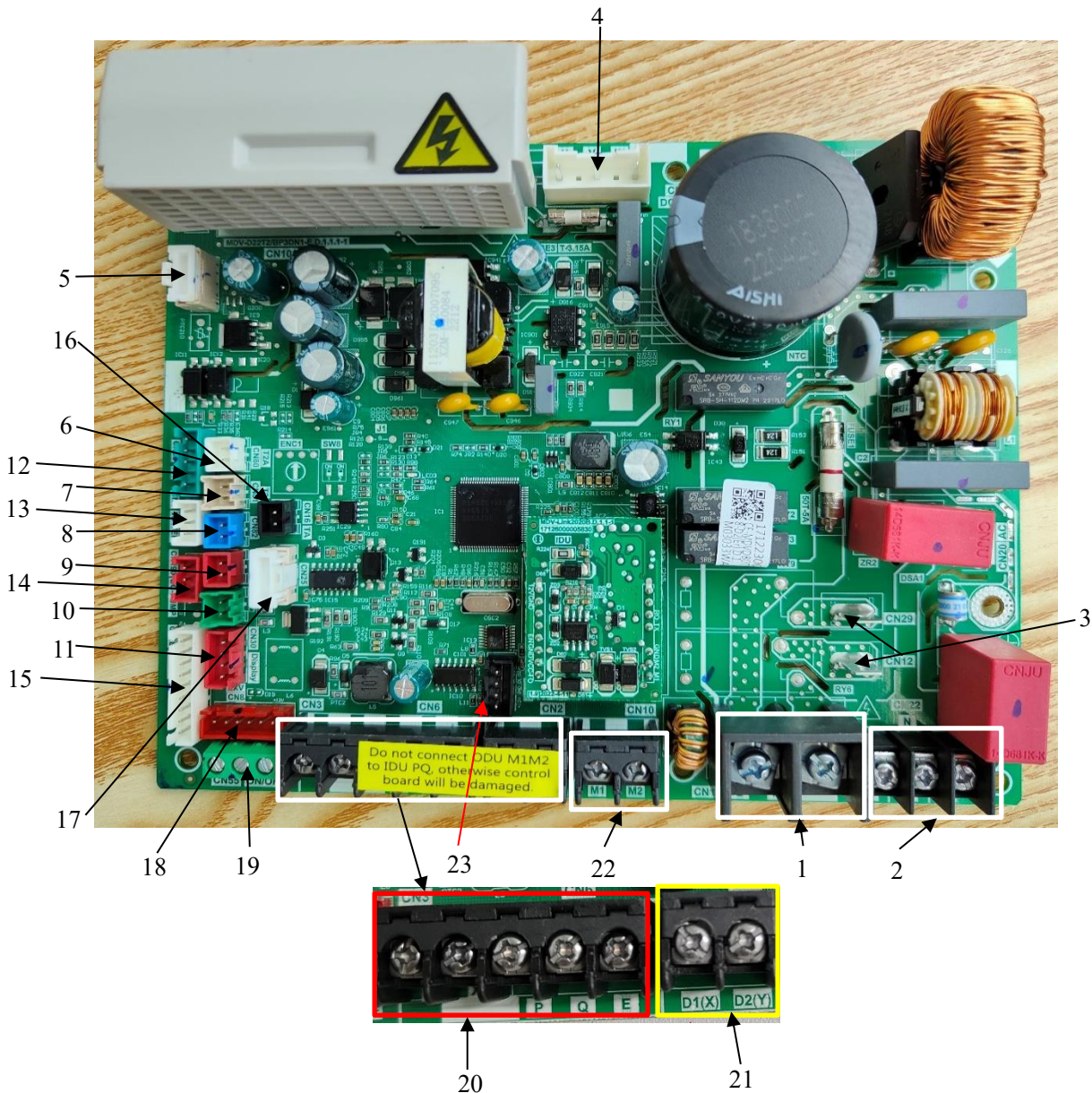


Table 3.8: Two-way cassette main PCB ports

| Label in Figure 3.7 | Code                   | Content                                                                                     | Port voltage         | Note     |
|---------------------|------------------------|---------------------------------------------------------------------------------------------|----------------------|----------|
| 1                   | CN1(L.N)               | AC power input                                                                              | 220V AC              | Standard |
| 2                   | CN22<br>(ALARM,N,AC2)  | AC power output Used for customization function: alarm/Strong electric sterilization module | 220V AC              | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                    | 220V AC              | Reserved |
| 4                   | CN100                  | Power supply for fan motor                                                                  | Actual voltage       | Standard |
| 5                   | CN4                    | Program burning port(fan motor)                                                             | 5V DC <sup>[5]</sup> | Standard |
| 6                   | CN80                   | T2A Temperature sensor connection                                                           | 3.3V DC              | Standard |

Table 3.8: Two-way cassette main PCB ports (continued)

| Label in Figure 3.7 | Code           | Content                                                                                       | Port voltage                                 | Note     |
|---------------------|----------------|-----------------------------------------------------------------------------------------------|----------------------------------------------|----------|
| 7                   | CN81           | T2 Temperature sensor connection                                                              | 3.3V DC                                      | Standard |
| 8                   | CN82           | T1 Ambient Temperature sensor connection                                                      | 3.3V DC                                      | Standard |
| 9                   | CN83           | T2B Temperature sensor connection                                                             | 3.3V DC                                      | Standard |
| 10                  | CN-A           | Sterilization module port                                                                     | 12V DC                                       | Reserved |
| 11                  | CN30           | Display Panel connection                                                                      | 12V DC <sup>[5]</sup>                        | Standard |
| 12                  | CN35           | Humidity sensor connection                                                                    | 3.3V DC <sup>[5]</sup>                       | Reserved |
| 13                  | CN5            | Water level switch port                                                                       | 3.3V DC <sup>[5]</sup>                       | Standard |
| 14                  | CN190          | Drainage pump port                                                                            | 12V DC <sup>[5]</sup>                        | Standard |
| 15                  | CN18           | Switch module,                                                                                | 5V/12V DC <sup>[5]</sup>                     | Reserved |
| 16                  | CN16           | Reserved                                                                                      | 12V DC                                       | Reserved |
| 17                  | CN25           | Program burning port(indoor unit)                                                             | 3.3V DC <sup>[5]</sup>                       | Standard |
| 18                  | CN8            | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                        | Standard |
| 19                  | CN55           | Remote on/off switch connection                                                               | Note 5                                       | Standard |
| 20                  | CN6(X1X2,P QE) | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E:<br>2.5-2.7V DC | Standard |
| 21                  | CN2(D1D2)      | D1 D2 communication port(with Central controller or group controller)                         | D1,E or D2,E<br>2.5 - 2.7V DC                | Standard |
| 22                  | CN10(M1M2)     | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                       | Standard |
| 23                  | CN99           | After-sale Kit communication port                                                             | 12V DC <sup>[5]</sup>                        | Standard |

Notes:

- Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
- When repairing, PQ connects after-sales tooling
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
- Refer to Table 3.2 for voltage test instructions of some ports.

### 3.8 Floor Standing (F3/F4/F5)

Figure 3.8: Floor Standing main PCB ports

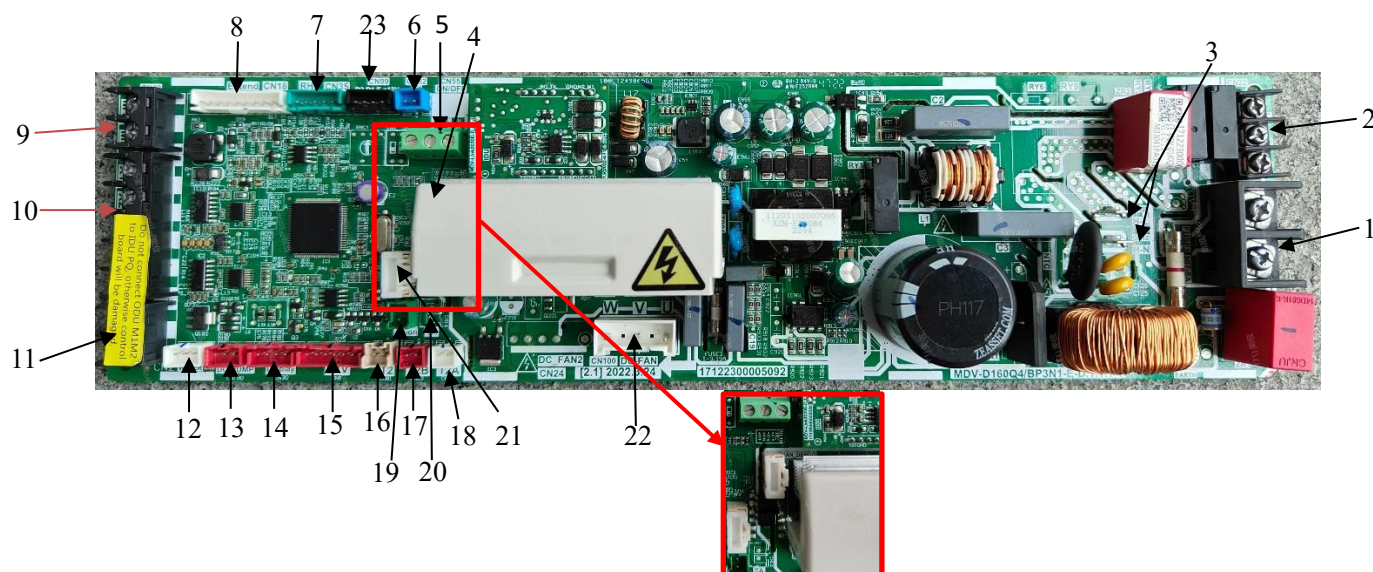


Table 3.9: Floor Standing main PCB ports

| Label in Figure 3.8 | Code                   | Content                                                                                        | Port voltage                              | Note     |
|---------------------|------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------|----------|
| 1                   | CN1(L,N)               | AC power input                                                                                 | 220V AC                                   | Standard |
| 2                   | CN22<br>(ALARM,N,AC2)  | AC power output used for customization function:<br>alarm/strong electric sterilization module | 220V AC                                   | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                       | 220V AC                                   | Reserved |
| 4                   | CN4                    | Program burning port(fan motor)                                                                | 5V DC <sup>[5]</sup>                      | Standard |
| 5                   | CN55                   | Remote on/off switch connection                                                                | Note 5                                    | Standard |
| 6                   | CN82                   | T1 Ambient temperature sensor connection                                                       | 3.3V DC                                   | Standard |
| 7                   | CN35                   | Humidity sensor connection                                                                     | 3.3V DC                                   | Standard |
| 8                   | CN18                   | Switch module                                                                                  | 5V/12V DC <sup>[5]</sup>                  | Standard |
| 9                   | CN10(M1M2)             | M1 M2 communication port(with ODU by HyperLink)                                                | 24V DC                                    | Standard |
| 10                  | CN6(X1X2,PQ)           | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485)  | X1 X2:18V DC ;<br>P,E or Q,E: 2.5-2.7V DC | Standard |
| 11                  | CN2(D1D2)              | D1 D2 communication port(with Central controller<br>or group controller)                       | 2.5 - 2.7V DC                             | Standard |
| 12                  | CN5                    | Water level switch port                                                                        | 3.3V DC                                   | Standard |
| 13                  | CN190                  | DC Drainage pump port                                                                          | 12V DC                                    | Standard |
| 14                  | CN30                   | Display panel connection                                                                       | 12V DC                                    | Standard |
| 15                  | CN8                    | EEV drive port                                                                                 | 12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN81                   | T2 Temperature sensor connection                                                               | 3.3V DC                                   | Standard |
| 17                  | CN83                   | T2B Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 18                  | CN80                   | T2A Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 19                  | CN-A                   | Sterilization module port                                                                      | 12V DC                                    | Standard |
| 20                  | CN16                   | Reserved                                                                                       | 3.3V DC                                   | Reserved |
| 21                  | CN25                   | Program burning port(indoor unit)                                                              | 3.3V DC                                   | Standard |

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|    |       |                                   |                |          |
|----|-------|-----------------------------------|----------------|----------|
| 22 | CN100 | Power supply for fan motor        | Actual voltage | Standard |
| 23 | CN99  | After-sale Kit communication port | 12VDC          | Standard |

Notes:

- Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.

**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port

**Reserved:** This port can not be used.
- When repairing, PQ connects after-sales tooling
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
- Refer to *Table 3.2* for voltage test instructions of some ports.



### 3.9 High Static Pressure Duct (5.6-16kW)

Figure 3.9: High Static Pressure Duct main PCB ports (5.6-16kW)

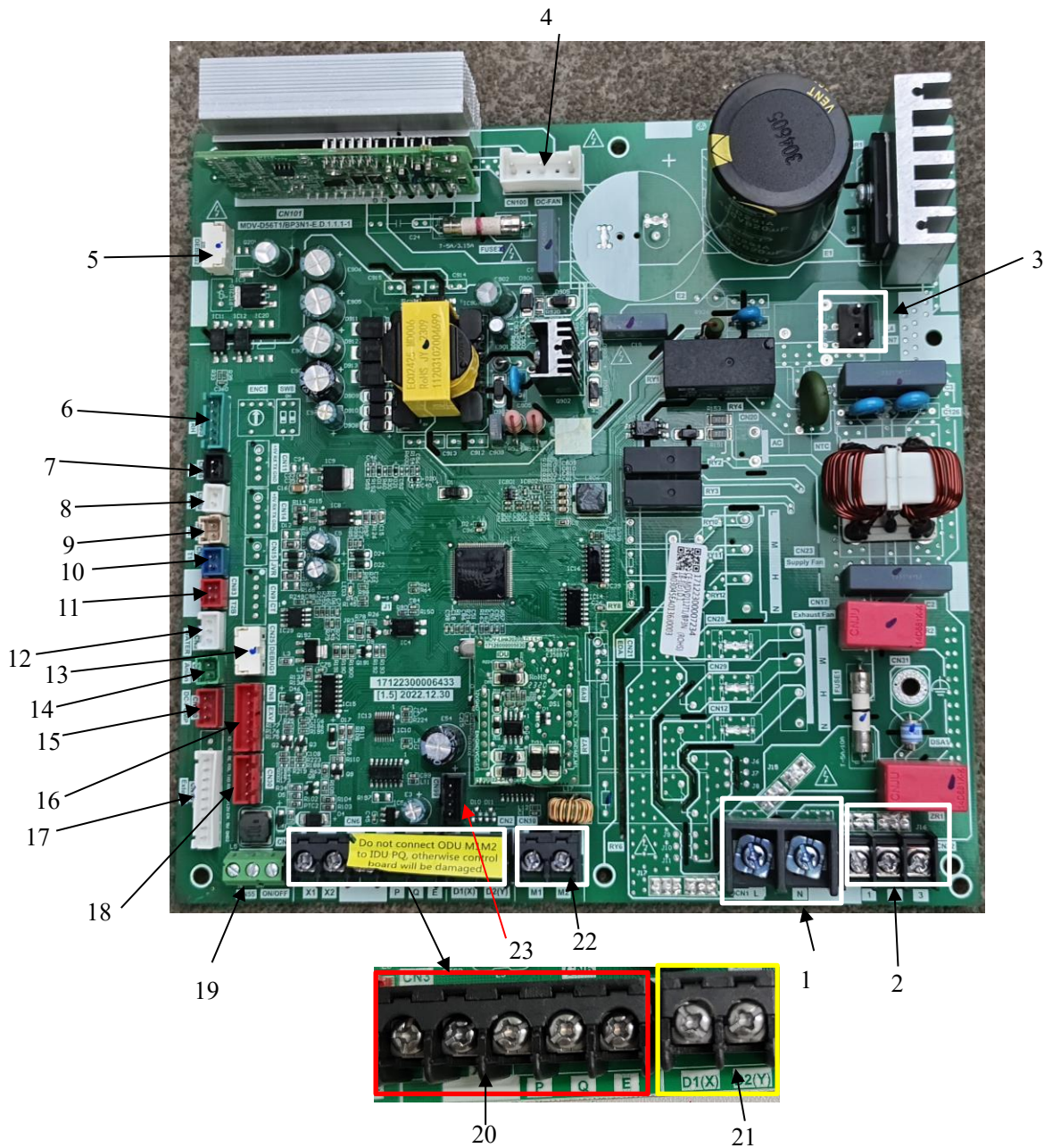


Table 3.10: High Static Pressure Duct main PCB ports (5.6-16kW)

| Label in Figure 3.9 | Code                  | Content                                                                                     | Port voltage           | Note     |
|---------------------|-----------------------|---------------------------------------------------------------------------------------------|------------------------|----------|
| 1                   | CN1(L.N)              | AC power input                                                                              | 220V AC                | Standard |
| 2                   | CN22<br>(ALARM,N,AC2) | AC power output Used for customization function: alarm/Strong electric sterilization module | 220V AC                | Standard |
| 3                   | CN7                   | Reactor connection                                                                          | 12V DC <sup>[5]</sup>  | Standard |
| 4                   | CN100                 | Power supply for fan motor                                                                  | Actual voltage         | Standard |
| 5                   | CN4                   | Program burning port(fan motor)                                                             | 5V DC <sup>[5]</sup>   | Standard |
| 6                   | CN35                  | Humidity sensor connection                                                                  | 3.3V DC <sup>[5]</sup> | Standard |
| 7                   | CN16                  | Reserved                                                                                    | 3.3V DC                | Reserved |
| 8                   | CN80                  | T2A Temperature sensor connection                                                           | 3.3V DC                | Standard |

Table 3.10: High Static Pressure Duct main PCB ports (continued)

| Label in Figure 3.9 | Code           | Content                                                                                       | Port voltage                                 | Note     |
|---------------------|----------------|-----------------------------------------------------------------------------------------------|----------------------------------------------|----------|
| 9                   | CN81           | T2 Temperature sensor connection                                                              | 3.3V DC                                      | Standard |
| 10                  | CN82           | T1 Ambient Temperature sensor connection                                                      | 3.3V DC                                      | Standard |
| 11                  | CN83           | T2B Temperature sensor connection                                                             | 3.3V DC                                      | Standard |
| 12                  | CN5            | Water level switch port                                                                       | 3.3V DC <sup>[5]</sup>                       | Standard |
| 13                  | CN25           | Program burning port(indoor unit)                                                             | 3.3V DC <sup>[5]</sup>                       | Standard |
| 14                  | CN-A           | Sterilization module port                                                                     | 12V DC                                       | Reserved |
| 15                  | CN190          | Drainage pump port                                                                            | 12V DC <sup>[5]</sup>                        | Standard |
| 16                  | CN8            | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                        | Standard |
| 17                  | CN18           | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                     | Standard |
| 18                  | CN30           | Display Panel connection                                                                      | 12V DC <sup>[5]</sup>                        | Standard |
| 19                  | CN55           | Remote control ON/OFF port                                                                    | Note 5                                       | Standard |
| 20                  | CN6(X1X 2,PQE) | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E:<br>2.5-2.7V DC | Standard |
| 21                  | CN2(D1D 2)     | D1 D2 communication port(with Central controller or group controller)                         | D1,E or D2,E<br>2.5 - 2.7V DC                | Standard |
| 22                  | CN10(M1 M2)    | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                       | Standard |
| 23                  | CN99           | After-sale Kit communication port                                                             | 12V DC <sup>[5]</sup>                        | Standard |

Notes:

- Standard:** The model has this function, the customers can connect corresponding device through this port, such as water pump and hotel key card etc.  
**Customized:** This function needs to be customized before leaving the factory.  
**Reserved:** This port can not be used.
- When repairing, PQ connects after-sales tooling
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
- Refer to Table 3.2 for voltage test instructions of some ports.



### 3.10 High Static Pressure Duct (20-56kW)

Figure 3.10: High Static Pressure Duct main PCB ports (20-56kW)

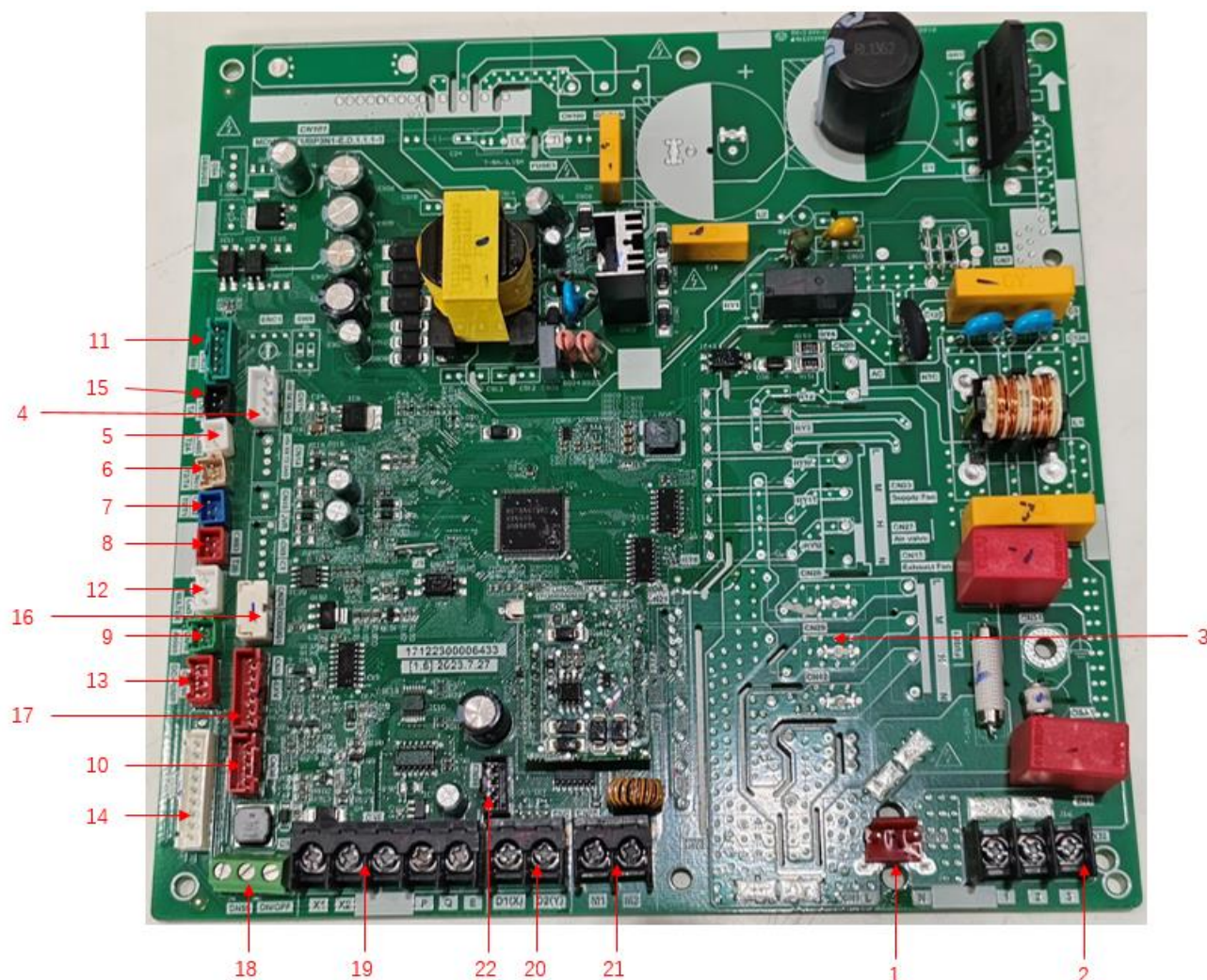


Table 3.11: High Static Pressure Duct main PCB ports (20-56kW)

| Label in Figure 3.10 | Code                   | Content                                                                                        | Port voltage | Note     |
|----------------------|------------------------|------------------------------------------------------------------------------------------------|--------------|----------|
| 1                    | CN1(L.N)               | AC power input                                                                                 | 220V AC      | Standard |
| 2                    | CN22<br>(ALARM,N,AC2)  | AC power output Used for customization function:<br>alarm/Strong electric sterilization module | 220V AC      | Standard |
| 3                    | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                       | 220V AC      | Reserved |
| 4                    | CN11                   | Fan module connection                                                                          | 5V DC        | Standard |
| 5                    | CN80                   | T2A Temperature sensor connection                                                              | 3.3V DC      | Standard |
| 6                    | CN81                   | T2 Temperature sensor connection                                                               | 3.3V DC      | Standard |
| 7                    | CN82                   | T1 Ambient Temperature sensor connection                                                       | 3.3V DC      | Standard |
| 8                    | CN83                   | T2B Temperature sensor connection                                                              | 3.3V DC      | Standard |
| 9                    | CN-A                   | Sterilization module port                                                                      | 12V DC       | Reserved |

Table continued on next page ...

Table 3.11: High Static Pressure Duct main PCB ports (continued)

| Label in Figure 3.10 | Code          | Content                                                                                       | Port voltage                                 | Note     |
|----------------------|---------------|-----------------------------------------------------------------------------------------------|----------------------------------------------|----------|
| 10                   | CN30          | Display Panel connection                                                                      | 12V DC <sup>[5]</sup>                        | Standard |
| 11                   | CN35          | Humidity sensor connection                                                                    | 3.3V DC <sup>[5]</sup>                       | Standard |
| 12                   | CN5           | Water level switch port                                                                       | 3.3V DC <sup>[5]</sup>                       | Standard |
| 13                   | CN190         | Drainage pump port                                                                            | 12V DC <sup>[5]</sup>                        | Standard |
| 14                   | CN18          | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                     | Standard |
| 15                   | CN16          | Reserved                                                                                      | 3.3V DC                                      | Reserved |
| 16                   | CN25          | Program burning port(indoor unit)                                                             | 3.3V DC <sup>[5]</sup>                       | Standard |
| 17                   | CN8           | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                        | Standard |
| 18                   | CN55          | Remote control ON/OFF port                                                                    | Note 5                                       | Standard |
| 19                   | CN6(X1X2,PQE) | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E:<br>2.5-2.7V DC | Standard |
| 20                   | CN2(D1D2)     | D1 D2 communication port(with Central controller or group controller)                         | D1,E or D2,E<br>2.5 - 2.7V DC                | Standard |
| 21                   | CN10(M1M2)    | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                       | Standard |
| 22                   | CN99          | After-sale Kit communication port                                                             | 12V DC <sup>[5]</sup>                        | Standard |

Notes:

1. **Standard:** The model has this function, the customers can connect corresponding device through this port, such as water pump and hotel key card etc.  
**Customized:** This function needs to be customized before leaving the factory.  
**Reserved:** This port can not be used.
2. When repairing, PQ connects after-sales tooling
3. PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
4. D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
5. Refer to Table 3.2 for voltage test instructions of some ports.



Figure 3.11: Fan module ports (20-56kW)

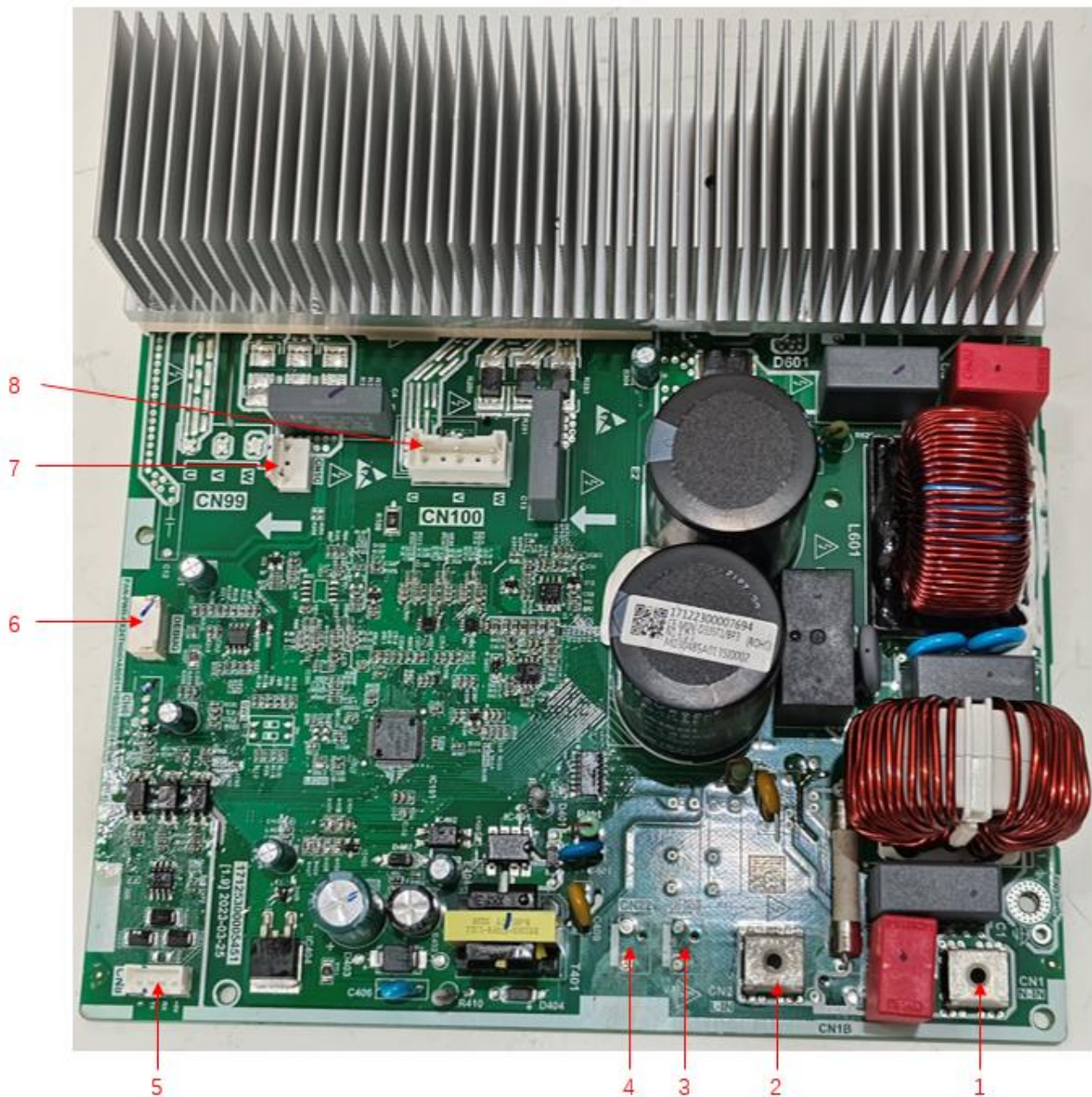


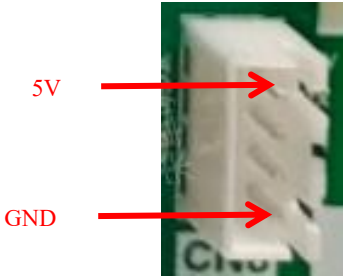
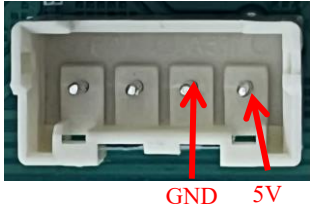
Table 3.12: High Static Pressure Duct main PCB ports (continued)

| Label in Figure 3.10 | Code   | Content                          | Port voltage   | Note     |
|----------------------|--------|----------------------------------|----------------|----------|
| 1                    | CN1(N) | Power input                      | 220V AC        | Standard |
| 2                    | CN2(L) | Power input                      | 220V AC        | Standard |
| 3                    | CN21   | Reserved                         | 220V AC        | Reserved |
| 4                    | CN22   | Reserved                         | 220V AC        | Reserved |
| 5                    | CN8    | Main control board connection    | 5V DC          | Standard |
| 6                    | CN25   | Program burning port(fan module) |                | Standard |
| 7                    | CN1C   | Reserved                         | 310VDC/380VDC  | Reserved |
| 8                    | CN100  | Power supply for fan motor       | Actual voltage | Standard |

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Table 3.13: voltage test instructions

| Label | Code | Content                          | Picture                                                                             |
|-------|------|----------------------------------|-------------------------------------------------------------------------------------|
| 5     | CN8  | Main control board connection    |  |
| 6     | CN25 | Program burning port(fan module) |  |

### 3.11 Ceiling&Floor

Figure 3.12: Ceiling&Floor main PCB ports

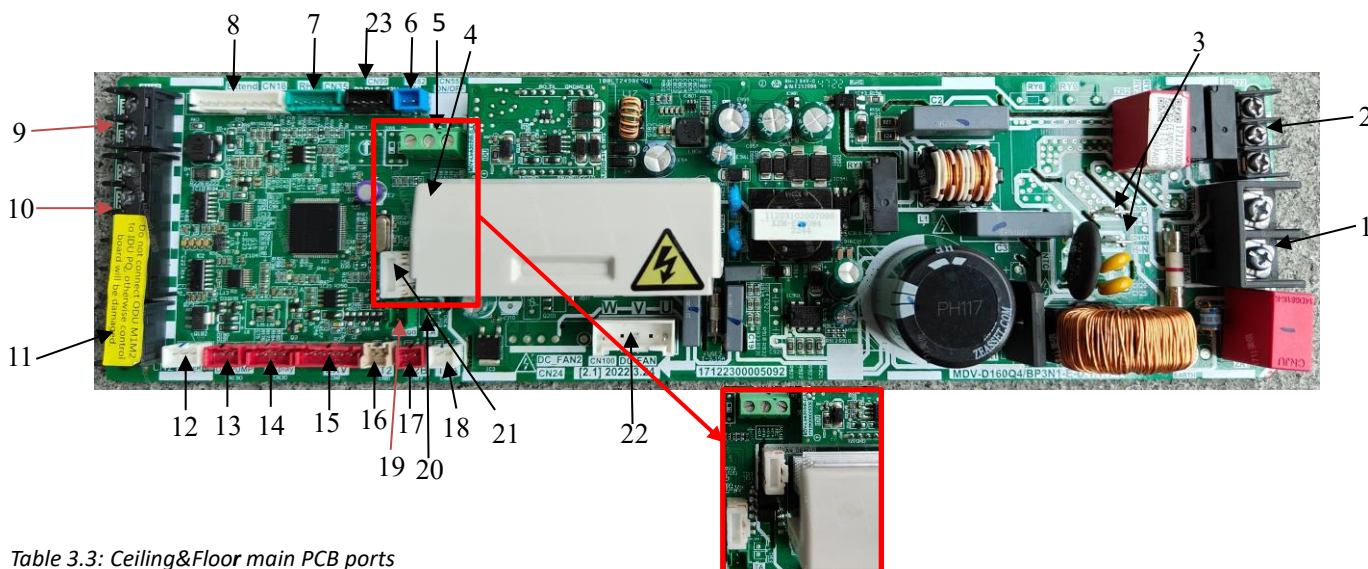


Table 3.3: Ceiling&Floor main PCB ports

| Label in Figure 3.2 | Code                   | Content                                                                                        | Port voltage                              | Note     |
|---------------------|------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------|----------|
| 1                   | CN1(L,N)               | AC power input                                                                                 | 220V AC                                   | Standard |
| 2                   | CN22<br>(ALARM,N,AC2)  | AC power output used for customization function:<br>alarm/strong electric sterilization module | 220V AC                                   | Standard |
| 3                   | CN12(H-L)<br>CN29(H-N) | Reserved                                                                                       | 220V AC                                   | Reserved |
| 4                   | CN4                    | Program burning port(fan motor)                                                                | 5V DC <sup>[5]</sup>                      | Standard |
| 5                   | CN55                   | Remote on/off switch connection                                                                | Note 5                                    | Standard |
| 6                   | CN82                   | T1 Ambient temperature sensor connection                                                       | 3.3V DC                                   | Standard |
| 7                   | CN35                   | Humidity sensor connection                                                                     | 3.3V DC                                   | Standard |
| 8                   | CN18                   | Switch module                                                                                  | 5V/12V DC <sup>[5]</sup>                  | Standard |
| 9                   | CN10(M1M2)             | M1 M2 communication port(with ODU by HyperLink)                                                | 24V DC                                    | Standard |
| 10                  | CN6(X1X2,PQ)           | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485)  | X1 X2:18V DC ;<br>P,E or Q,E: 2.5-2.7V DC | Standard |
| 11                  | CN2(D1D2)              | D1 D2 communication port(with Central controller or<br>group controller)                       | 2.5 - 2.7V DC                             | Standard |
| 12                  | CN5                    | Water level switch port                                                                        | 3.3V DC                                   | Standard |
| 13                  | CN190                  | DC Drainage pump port                                                                          | 12V DC                                    | Standard |
| 14                  | CN30                   | Display panel connection                                                                       | 12V DC                                    | Standard |
| 15                  | CN8                    | EEV drive port                                                                                 | 12V DC <sup>[5]</sup>                     | Standard |
| 16                  | CN81                   | T2 Temperature sensor connection                                                               | 3.3V DC                                   | Standard |
| 17                  | CN83                   | T2B Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 18                  | CN80                   | T2A Temperature sensor connection                                                              | 3.3V DC                                   | Standard |
| 19                  | CN-A                   | Sterilization module port                                                                      | 12V DC                                    | Standard |
| 20                  | CN16                   | Reserved                                                                                       | 3.3V DC                                   | Reserved |
| 21                  | CN25                   | Program burning port(indoor unit)                                                              | 3.3V DC                                   | Standard |
| 22                  | CN100                  | Power supply for fan motor                                                                     | Actual voltage                            | Standard |
| 23                  | CN99                   | After-sale Kit communication port                                                              | 12VDC                                     | Standard |



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Notes:

1. **Standard:** The port is standard, the customers can connect corresponding device through this port, such as water pump and Humidity sensor etc.  
**Customized:** The port is not available on the mainboard. If necessary, you need to customize the port  
**Reserved:** This port can not be used.
2. When repairing, PQ connects after-sales tooling
3. PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
4. D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
5. Refer to *Table 3.2* for voltage test instructions of some ports.

### 3.12 Fresh Air Processing

Figure 3.13: Fresh Air Processing main PCB ports

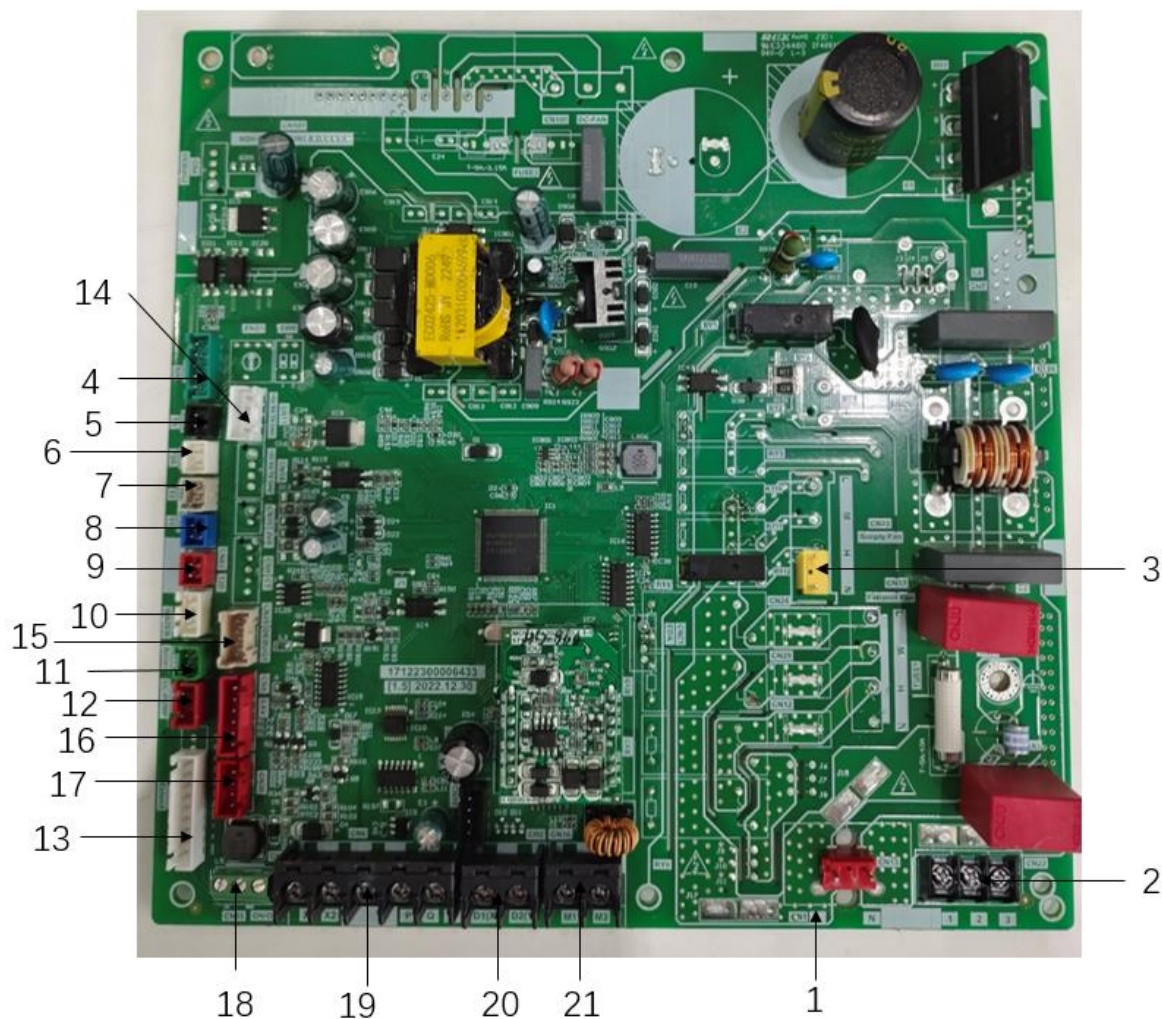


Table 3.3: Fresh Air Processing main PCB ports

| Label in Figure 3.2 | Code     | Content                                                                                     | Port voltage             | Note     |
|---------------------|----------|---------------------------------------------------------------------------------------------|--------------------------|----------|
| 1                   | CN1(L,N) | AC power input                                                                              | 220V AC                  | Standard |
| 2                   | CN22     | AC power output used for customization function: alarm/strong electric sterilization module | 220V AC                  | Standard |
| 3                   | CN27     | Air valve linkage is used to drive the intermediate relay coil.                             | 220V AC                  | Standard |
| 4                   | CN35     | Humidity sensor connection                                                                  | 3.3V DC                  | Standard |
| 5                   | CN16     | TA Temperature sensor connection                                                            | 3.3V DC                  | Standard |
| 6                   | CN80     | T2A Temperature sensor connection                                                           | 3.3V DC                  | Standard |
| 7                   | CN81     | T2 Temperature sensor connection                                                            | 3.3V DC                  | Standard |
| 8                   | CN82     | T0 Temperature sensor connection                                                            | 3.3V DC                  | Standard |
| 9                   | CN83     | T2B Temperature sensor connection                                                           | 3.3V DC                  | Standard |
| 10                  | CN5      | Water level switch port                                                                     | 3.3V DC <sup>[5]</sup>   | Standard |
| 11                  | CN-A     | Sterilization module port                                                                   | 12V DC                   | Standard |
| 12                  | CN190    | Drainage pump port                                                                          | 12V DC <sup>[5]</sup>    | Standard |
| 13                  | CN18     | Switch module                                                                               | 5V/12V DC <sup>[5]</sup> | Standard |
| 14                  | CN11     | Fan module connection                                                                       | 5V DC                    | Standard |

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| Label in Figure 3.2 | Code           | Content                                                                                         | Port voltage                                  | Note     |
|---------------------|----------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------|----------|
| 15                  | CN25           | Program burning port (indoor unit)                                                              | 3.3V DC <sup>[5]</sup>                        | Standard |
| 16                  | CN8            | EEV drive port                                                                                  | 12V DC <sup>[5]</sup>                         | Standard |
| 17                  | CN30           | Display panel connection                                                                        | 12V DC                                        | Standard |
| 18                  | CN55           | Remote on/off switch connection                                                                 | Note 5                                        | Standard |
| 19                  | CN6(X1X2, PQE) | X1 X2 communication port (with wire controller);<br>P Q communication port (with ODU by RS-485) | X1 X2:18V DC;<br>P, E or Q, E:<br>2.5-2.7V DC | Standard |
| 20                  | CN2 (D1D2)     | D1 D2 communication port (with Central controller or group controller)                          | 2.5 - 2.7V DC                                 | Standard |
| 21                  | CN10 (M1M2)    | M1 M2 communication port (with ODU by HyperLink)                                                | 24V DC                                        | Standard |

Notes:

- Standard:** The model has this function, the customers can connect corresponding device through this port, such as water pump and hotel key card etc.  
**Customized:** This function needs to be customized before leaving the factory.  
**Reserved:** This port can not be used.
- When repairing, PQ connects after-sales tooling
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
- Refer to *Table 3.2* for voltage test instructions of some ports.

## 3.13 Small Airflow Rate Fresh Air Processing

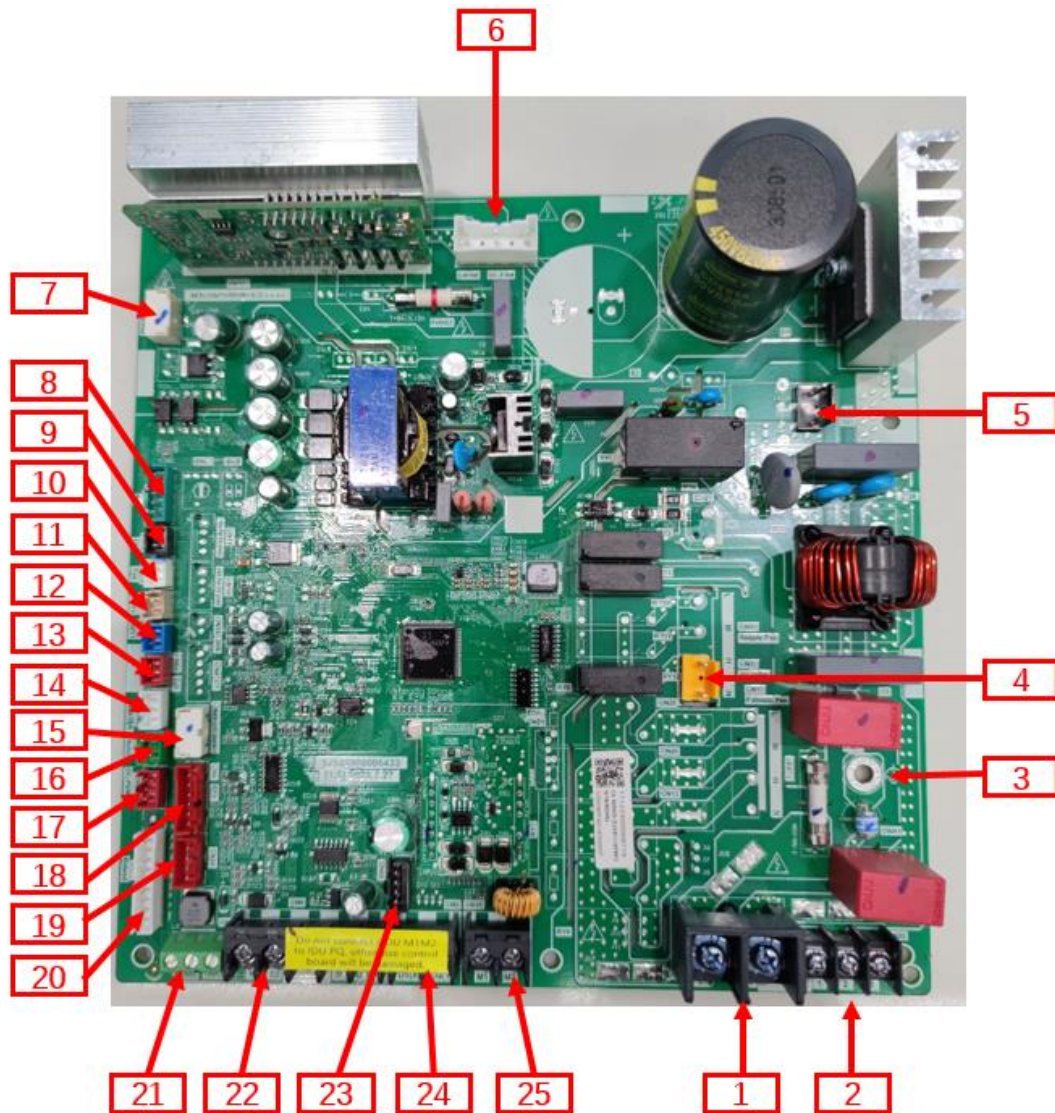


Table 3.3: Fresh Air Processing main PCB ports

| Label in Figure 3.2 | Code     | Content                                                                                     | Port voltage         | Note     |
|---------------------|----------|---------------------------------------------------------------------------------------------|----------------------|----------|
| 1                   | CN1(L,N) | AC power input                                                                              | 220V AC              | Standard |
| 2                   | CN22     | AC power output used for customization function: alarm/strong electric sterilization module | 220V AC              | Standard |
| 3                   | CN31     | Function address                                                                            | /                    | Standard |
| 4                   | CN27     | Air valve linkage is used to drive the intermediate relay coil.                             | 3.3V DC              | Standard |
| 5                   | CN7      | Reactor connection                                                                          | 3.3V DC              | Standard |
| 6                   | CN100    | Power supply for fan motor                                                                  | Actual voltage       | Standard |
| 7                   | CN4      | T2 Temperature sensor connection                                                            | 5V DC <sup>[5]</sup> | Standard |
| 8                   | CN35     | Humidity sensor connection                                                                  | 3.3V DC              | Standard |
| 9                   | CN16     | TA Temperature sensor connection                                                            | 3.3V DC              | Standard |
| 10                  | CN80     | T2A Temperature sensor connection                                                           | 3.3V DC              | Standard |
| 11                  | CN81     | T2 Temperature sensor connection                                                            | 3.3V DC              | Standard |
| 12                  | CN82     | T1 Ambient temperature sensor connection                                                    | 3.3V DC              | Standard |
| 13                  | CN83     | T2B Temperature sensor connection                                                           | 3.3V DC              | Standard |
| 14                  | CN5      | Fan module connection                                                                       | 5V DC                | Standard |



## V8 VRF Indoor Units



| Label in Figure 3.2 | Code         | Content                                                                                       | Port voltage                              | Note     |
|---------------------|--------------|-----------------------------------------------------------------------------------------------|-------------------------------------------|----------|
| 15                  | CN25         | Program burning port (indoor unit)                                                            | 3.3V DC <sup>[5]</sup>                    | Standard |
| 16                  | CN-A         | Sterilization module port                                                                     | 12V DC                                    | Standard |
| 17                  | CN190        | Drainage pump port                                                                            | 12V DC <sup>[5]</sup>                     | Standard |
| 18                  | CN8          | EEV drive port                                                                                | 12V DC <sup>[5]</sup>                     | Standard |
| 19                  | CN30         | Display panel connection                                                                      | 12V DC                                    | Standard |
| 20                  | CN18         | Switch module                                                                                 | 5V/12V DC <sup>[5]</sup>                  | Standard |
| 21                  | CN55         | Remote on/off switch connection                                                               | Note 5                                    | Standard |
| 22                  | CN6(X1X2,PQ) | X1 X2 communication port(with wire controller);<br>P Q communication port(with ODU by RS-485) | X1 X2:18V DC ;<br>P,E or Q,E: 2.5-2.7V DC | Standard |
| 23                  | CN99         | After-sale Kit communication port                                                             | 12VDC                                     | Standard |
| 24                  | CN2(D1D2)    | D1 D2 communication port(with Central controller or group controller)                         | 2.5 - 2.7V DC                             | Standard |
| 25                  | CN10(M1M2)   | M1 M2 communication port(with ODU by HyperLink)                                               | 24V DC                                    | Standard |

Notes:

- Standard:** The model has this function, the customers can connect corresponding device through this port, such as water pump and hotel key card etc.  
**Customized:** This function needs to be customized before leaving the factory.  
**Reserved:** This port can not be used.
- When repairing, PQ connects after-sales tooling
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.
- Refer to Table 3.2 for voltage test instructions of some ports.

Table 3.2: voltage test instructions

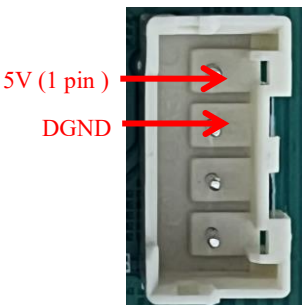
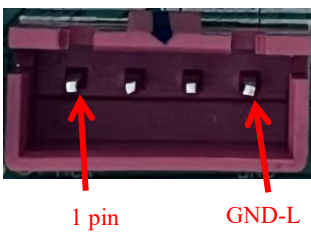
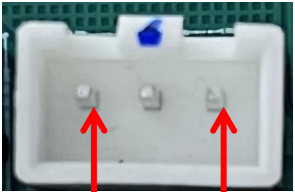
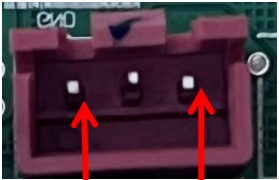
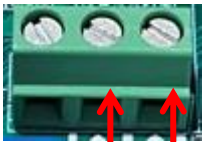
| Code | Content                         | Description                                                                               | Picture                                                                               |
|------|---------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| CN4  | Program burning port(fan motor) | /                                                                                         |   |
| CN30 | Display panel connection        | Using the DC voltage gear of the multimeter to test pin 1 and 4, the value should be 12V; |  |



Table 3.2: voltage test instructions (continue)

| Code  | Content                           | Description                                                                                                                                                                          | Description                                                                                                     |
|-------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| CN35  | Humidity sensor connection        | Using the DC voltage gear of the multimeter to test pin 4 and 5, the value should be 3.3V                                                                                            | <br>GND 3.3V 1 pin           |
| CN5   | Water level switch port           | The water level is normal, the water level switch is in the channel state; when the water level is full, the water level switch is in the disconnected state                         | <br>1 pin GND                |
| CN190 | Drainage pump port                | When the water pump is running, pin 2 and 3 output 12V DC                                                                                                                            | <br>1 pin GND                |
| CN18  | Switch module connection          | Using the DC voltage gear of the multimeter to test pin 1 and 2, the value should be 5V;<br>Using the DC voltage gear of the multimeter to test pin 4 and 5, the value should be 12V | <br>GND 12V 5V GND2 (1 pin) |
| CN25  | Program burning port(indoor unit) | /                                                                                                                                                                                    | <br>3.3V (1 pin) GND       |
| CN55  | Remote on/off switch connection   | Shorting pins 2 and 3, forced shutdown of the internal machine (default), can be set by controller (N38)                                                                             | <br>PIN2 CND PIN 3 12V     |
| CN99  | After-sale Kit communication port | Using the DC voltage gear of the multimeter to test pin 1 and 2, the value should be 12V;                                                                                            | <br>GND 12V (1 pin)        |

## V8 VRF Indoor Units



### 4 Indoor unit settings

#### 4.1 Parameter settings

Taking KJR-86S/BK as an example, the parameters can be set in the power-on or power-off state.

① Hold "⏏" and "≡" for 3 seconds to enter the parameter setting interface, and the main interface will display "CC"

②

##### a) Wired controller Parameter Settings (Cxx)

When display "CC", press "⏏" will enter the wired controller Parameter Settings "Cxx". Press "^" and "v" to switch the parameter code and press "⏏" to enter Parameter value setting interface. Then press "^" and "v" to change Parameter value and press "⏏" to save changes. (For example "CC" to "C03" to "01")

##### b) Indoor unit Parameter Settings (Nxx)

When display "CC", press "v", then the indoor unit number will be displayed ("n00-n63" is displayed, and the last two digits are the indoor unit addresses). Press the "⏏" to enter the indoor unit parameter setting interface, and "n00" will be displayed. Use "^" and "v" to adjust to "Nxx" and press the "⏏" to confirm. Finally, press "^" and "v" to change Parameter value and press "⏏" to save changes. (For example "CC" to "n03" to "N25" to "01").

③ Press the "⌚" button to return to the previous page until exiting the parameter setting or exiting the parameter setting after 60s without any operation.

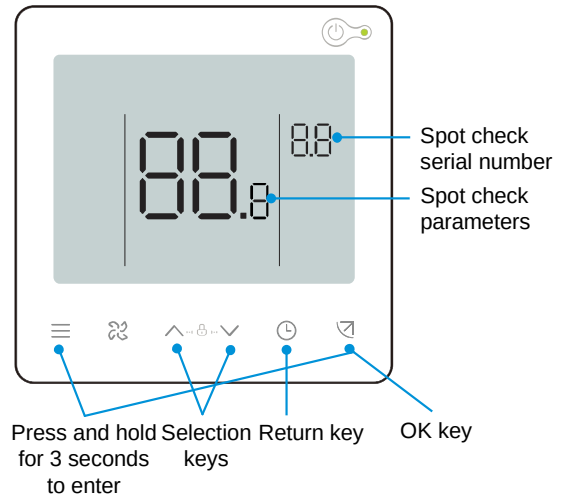


Table 4.1: Wired controller Parameter Settings

| Parameter Code | Parameter Name                                                   | Parameter Range                                                                   | Default Value | Remarks                                                                                                                                                                                                                                                                                                           |
|----------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C00            | Main and secondary wired controller setting                      | 0 indicates the main wired controller<br>1 indicates a secondary wired controller | 0             | If two wired controllers control one IDU, addresses for two wired controllers must be different. You are not allowed to set IDU parameters via the secondary wired controller (address 1), but can set the wired controller.                                                                                      |
| C01            | Cooling only/cooling and heating setting                         | 00: Cooling and Heating<br>01: Cooling Only                                       | 00            | Heating mode is not available in cooling only setting                                                                                                                                                                                                                                                             |
| C02            | Auto restart function setting for the wired controller           | 00: No<br>01: Yes                                                                 | 00            | If the value is set to 00, the wired controller screen displays cooling, medium fan speed, and set temperature 24°C after each power-on. If the value is set to 01, the wired controller screen displays the mode, temperature, and fan speed that were previously set before a power failure upon each power-on. |
| C03            | Time to remind users to clean the filter on the wired controller | 00/01/02/03/04                                                                    | 01            | 00: No reminder to clean filter<br>01: 1200h,<br>02: 2500h<br>03: 5000h<br>04: 10000h                                                                                                                                                                                                                             |
| C04            | Settings for infrared receiver of wired controller               | 00: Disable<br>01: Enable                                                         | 01            | When "Disable the infrared receiver of the wired controller" is on, the wired controller cannot receive remote control signal.                                                                                                                                                                                    |

Table 4.1: Wired controller Parameter Settings(continues)

| Parameter Code | Parameter Name                                     | Parameter Range                                          | Default Value                     | Remarks                                                                                                              |
|----------------|----------------------------------------------------|----------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------|
| C05            | Whether indoor ambient temperature is displayed    | 00: No<br>01: Yes                                        | 00                                | Common IDU, V8 AHU-kit, and V8 FAPU :<br>T1_modify is displayed. V6 FAPU and V6 AHU-kit:<br>Subject to the unit type |
| C06            | LED indicator of wired controller                  | 00: Off<br>01: On                                        | 01                                | When it is on, LED indicator shows the on/off state of the indoor unit. When it is off, LED indicator is off.        |
| C07            | Wired controller Follow Me temperature calibration | Celsius: -5.0 to 5.0<br>Fahrenheit: -9.0 to 9.0          | Celsius: -1.0<br>Fahrenheit: -2.0 | Note: Accuracy is 0.5°C or 1°F                                                                                       |
| C08            | Minimum cooling temperature                        | Common V8 IDU 16°C to 30°C                               | 16°C                              |                                                                                                                      |
|                |                                                    | Common V6 IDU (including V6 AC FAPU) 17°C to 30°C        | 17°C                              |                                                                                                                      |
|                |                                                    | V8 FAPU (Supply air temperature control) 13°C to 30°C    | 13°C                              |                                                                                                                      |
|                |                                                    | V8 FAPU (Room temperature control) 16°C to 30°C          | 16°C                              |                                                                                                                      |
|                |                                                    | V6 DC FAPU 13°C to 30°C                                  | 13°C                              |                                                                                                                      |
|                |                                                    | V8 AHU kit (Supply air temperature control) 10°C to 30°C | 10°C                              |                                                                                                                      |
|                |                                                    | V8 AHU kit (Return air temperature control) 16°C to 30°C | 16°C                              |                                                                                                                      |
|                |                                                    | V6 AHU kit (Supply air temperature control) 10°C to 30°C | 10°C                              |                                                                                                                      |
|                |                                                    | V6 AHU kit (Return air temperature control) 17°C to 30°C | 17°C                              |                                                                                                                      |

## V8 VRF Indoor Units



Table 4.1: Wired controller Parameter Settings(continues)

| Parameter Code | Parameter Name              | Parameter Range                                          | Default Value | Remarks                                                                       |
|----------------|-----------------------------|----------------------------------------------------------|---------------|-------------------------------------------------------------------------------|
| C09            | Maximum cooling temperature | Common V8 IDU<br>16°C to 30°C                            | 30°C          | The setting is valid only when the wired controller is connected to a V8 IDU. |
|                |                             | Common V6 IDU (including V6 AC FAPU)<br>N/A              | N/A           |                                                                               |
|                |                             | V8 FAPU (Supply air temperature control) 13°C to 30°C    | 30°C          |                                                                               |
|                |                             | V8 FAPU (Room temperature control) 16°C to 30°C          | 30°C          |                                                                               |
|                |                             | V6 DC FAPU<br>N/A                                        | N/A           |                                                                               |
|                |                             | V8 AHU kit (Supply air temperature control) 10°C to 30°C | 30°C          |                                                                               |
|                |                             | V8 AHU kit (Return air temperature control) 16°C to 30°C | 30°C          |                                                                               |
|                |                             | V6 AHU kit (Supply air temperature control)<br>N/A       | N/A           |                                                                               |
|                |                             | V6 AHU kit (Return air temperature control)<br>N/A       | N/A           |                                                                               |
| C10            | Minimum heating temperature | Common V8 IDU<br>16°C to 30°C                            | 16°C          | The setting is valid only when the wired controller is connected to a V8 IDU. |
|                |                             | Common V6 IDU (including V6 AC FAPU)<br>N/A              | N/A           |                                                                               |
|                |                             | V8 FAPU (Supply air temperature control) 13°C to 30°C    | 13°C          |                                                                               |
|                |                             | V8 FAPU (Room Temperature control) 16°C to 30°C          | 16°C          |                                                                               |
|                |                             | V6 DC FAPU<br>N/A                                        | N/A           |                                                                               |
|                |                             | V8 AHU kit (Supply air temperature control) 10°C to 30°C | 10°C          |                                                                               |
|                |                             | V8 AHU kit (Return air temperature control) 16°C to 30°C | 16°C          |                                                                               |
|                |                             | V6 AHU kit (Supply air temperature control)<br>N/A       | N/A           |                                                                               |
|                |                             | V6 AHU kit (Return air temperature control)<br>N/A       | N/A           |                                                                               |

Table 4.1: Wired controller Parameter Settings(continues)

| Parameter Code | Parameter Name                              | Parameter Range                                          | Default Value | Remarks                                                                                                                                                                                                                                                            |
|----------------|---------------------------------------------|----------------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C11            | Maximum heating temperature                 | Common V8 IDU 16°C to 30°C                               | 30°C          |                                                                                                                                                                                                                                                                    |
|                |                                             | Common V6 IDU (including V6 AC FAPU)<br>N/A              | N/A           |                                                                                                                                                                                                                                                                    |
|                |                                             | V8 FAPU (Supply air temperature control) 13°C to 30°C    | 30°C          |                                                                                                                                                                                                                                                                    |
|                |                                             | V8 FAPU (Room temperature control) 16°C to 30°C          | 30°C          |                                                                                                                                                                                                                                                                    |
|                |                                             | V6 DC FAPU<br>N/A                                        | N/A           |                                                                                                                                                                                                                                                                    |
|                |                                             | V8 AHU kit (Supply air temperature control) 10°C to 30°C | 30°C          |                                                                                                                                                                                                                                                                    |
|                |                                             | V8 AHU kit (Return air temperature control) 16°C to 30°C | 30°C          |                                                                                                                                                                                                                                                                    |
|                |                                             | V6 AHU kit (Supply air temperature control)<br>N/A       | N/A           |                                                                                                                                                                                                                                                                    |
|                |                                             | V6 AHU kit (Return air temperature control)<br>N/A       | N/A           |                                                                                                                                                                                                                                                                    |
|                |                                             | Common V8 IDU 16°C to 30°C                               | 30°C          |                                                                                                                                                                                                                                                                    |
| C12            | Set to display 0.5°C                        | 00/01                                                    | 01            | 00: Without 0.5°C display<br>01: With 0.5°C display                                                                                                                                                                                                                |
| C13            | Wired controller button light setting       | 00/01                                                    | 01            | 00: Off<br>01: On                                                                                                                                                                                                                                                  |
| C14            | One click to deliver IDU Parameter settings |                                                          | 01            | The latest configuration parameters stored in the wired controller will be changed after power on for two hours or after configuration parameters of wired controller are changed.<br>Note: 1: Applicable to one-to-one scenario<br>2: Only for 2nd generation IDU |
| C15            | Buzzer of the wired controller rings        | 00/01                                                    | 01            | 00: No<br>01: Yes                                                                                                                                                                                                                                                  |
| C16            | Backlight on time                           | 00/01/02                                                 | 00            | 00: 15s<br>01: 30s<br>02: 60s                                                                                                                                                                                                                                      |



## V8 VRF Indoor Units



Table 4.1: Wired controller Parameter Settings(continues)

| Parameter Code | Parameter Name                                                    | Parameter Range     | Default Value | Remarks                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|-------------------------------------------------------------------|---------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C17            | Whether energy efficiency attenuation is displayed when power off | 00/01               | 00            | 00: Disable<br>01: Enable<br>The setting is valid only when the wired controller is connected to a V8 IDU.                                                                                                                                                                                                                                                                                                         |
| C18            | Whether IDU filter blockage is displayed when power off           | 00/01               | 00            | 00: Disable<br>01: Enable<br>The setting is valid only when the wired controller is connected to a V8 IDU.                                                                                                                                                                                                                                                                                                         |
| C19            | T1 temperature selection                                          | F0/F1/F2/F3/...#IDU | F1            | Only for the V8 FAPU, the value of C19 parameter cannot be set and T1 value is fixed to F1. For other models, the value of this parameter can be set.<br>F0: IDU T1 temperature sensor<br>F1: Follow Me T1 temperature sensor embedded in the wired controller<br>(Note: The secondary wired controller does not respond to Follow Me)<br>F2: Second temperature sensor (reserved)<br>F3: Ground sensor (reserved) |
| C20            | Swing motor direction setting                                     | 00/01               | 00            | The setting is valid only when the wired controller is connected to a common V8 IDU.                                                                                                                                                                                                                                                                                                                               |

Table 4.2: Indoor unit Parameter Settings

| Parameter Code | Parameter Name                                                                       | Parameter Range                                                              | Default Value | Remarks                                                                                                                                                           |
|----------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N00            | Static pressure of IDU                                                               | IDU static pressure level:<br>00/01/02/03/<br>04/05/06/07/08/<br>09/~ /19/FF | FF            | The IDU sets the selected corresponding static pressure (FF-there may be different default values for different series of indoor units)                           |
| N01            | Power failure memory function setting for the IDU                                    | 00/01                                                                        | 01            | 00: No<br>01: Yes                                                                                                                                                 |
| N02            | IDU up/down swing setting                                                            | 00/01/02/03/04                                                               | 01            | 00: None<br>01: Available<br>02/03: Reserved<br>04: Q4/Qmin four air vents<br>Note: The IDU can automatically identify up/down swing, so this function is invalid |
| N03            | IDU left/right swing setting                                                         | 00/01                                                                        | 01            | 00: None<br>01: Available<br>Note: The IDU can automatically identify up/down swing, so this function is invalid                                                  |
| N04            | Infrared receiver of IDU display box                                                 | 00/01                                                                        | 00            | 00: Yes<br>01: No                                                                                                                                                 |
| N05            | Buzzer of the IDU rings                                                              | 00/01/02                                                                     | 02            | 00: No<br>01: Yes<br>02: Only the display box rings.                                                                                                              |
| N06            | Light (display panel) setting                                                        | 00/01                                                                        | 01            | 00: Off<br>01: On                                                                                                                                                 |
| N07            | Temperature unit                                                                     | 00/01                                                                        | 00            | 00: Celsius<br>01: Fahrenheit                                                                                                                                     |
| N08            | Mode changeover time interval in the auto mode (min)                                 | 00/01/02/03                                                                  | 00            | 00: 15min<br>01: 30min<br>02: 60min<br>03: 90min                                                                                                                  |
| N09            | Heating and cooling temperature difference setting in auto mode                      | 00/01/02/03/04/<br>05/06/07/08                                               | 00            | 00: 0°C; 01: 1°C; 02: 2°C;<br>03: 3°C; 04: 4°C; 05: 5°C;<br>06: 6°C; 07: 7°C; 08: 8°C                                                                             |
| N11            | Set outdoor temperature for auxiliary heat source/alternative heat source to turn on | Celsius: -25°C to 20°C<br>Fahrenheit: -13°F to 68°F                          | 0°C           | Note: Accuracy is 1°C or 1°F                                                                                                                                      |
| N12            | Indoor temperature when auxiliary heater is on                                       | 10°C to 30°C                                                                 | 24°C          | (Accuracy is 1°C)                                                                                                                                                 |

## V8 VRF Indoor Units



Table 4.2: Indoor unit Parameter Settings(continues)

| Parameter Code | Parameter Name                                                                         | Parameter Range                | Default Value | Remarks                                                                                                                                                                     |
|----------------|----------------------------------------------------------------------------------------|--------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N13            | T1 temperature difference for auxiliary heat source/alternative heat source to turn on | 0-7                            | 3             | 0-7 indicates 0 - 7°C (The value is accurate to 1°C or 1°F.)                                                                                                                |
| N14            | T1 temperature difference when auxiliary heat source/alternative heat source is off    | 0-10                           | 5             | 0-10 indicates -4 - 6°C(The value is accurate to 1°C or 1°F.)                                                                                                               |
| N15            | Auxiliary heater used alone                                                            | 00/01                          | 00            | 00: No<br>01: Yes                                                                                                                                                           |
| N16            | Auxiliary heater on/off                                                                | 00/01/02                       | 00            | 00: Auto<br>01: Forced on<br>02: Forced off                                                                                                                                 |
| N17            | IDU cold draft prevention temperature settings                                         | 00/01/02/03/04                 | 00            | Common IDU:<br>0: 15; 1: 20; 2: 24; 3: 26; 04: Anti-cold wind disabled<br>Fan coil unit: 00: 32°C; 01: 34°C; 02: 36°C; 03: 38°C;<br>04: anti-cold wind invalid              |
| N18            | Fan speed setting in Cooling standby mode                                              | 00/01/02/03/04/<br>05/06/07/14 | 01            | 00: Start/Stop delay<br>01: Speed 1<br>02: Speed 2<br>03: Speed 3<br>04: Speed 4<br>05: Speed 5<br>06: Speed 6<br>07: Speed 7<br>14: Fan speed before going to standby mode |
| N19            | Standby fan speed range in dry mode                                                    | 00/01/02/03                    | 01            | 00: Fan off<br>01: L1<br>02: L2<br>03: Speed 1                                                                                                                              |
| N20            | Fan speed setting in heating standby mode                                              | 0/1/14                         | 0             | 0: Thermal<br>1: Speed 1<br>14: Fixed to Speed 1                                                                                                                            |
| N21            | Time to stop the fan of IDU (Thermal)                                                  | 01/02/03/04                    | 01            | 00: Fan shutdown<br>01: 4min<br>02: 8min<br>03: 12min<br>04: 16min(stop the fan for Xmin; open the fan at speed 1 for 1min to detect the actual T1 temperature)             |

Table 4.2: Indoor unit Parameter Settings(continues)

| Parameter Code | Parameter Name                               | Parameter Range | Default Value | Remarks                                                                                         |
|----------------|----------------------------------------------|-----------------|---------------|-------------------------------------------------------------------------------------------------|
| N22            | EEV opening selection during heating standby | 00/01/02/14     | 14            | 00: 56P<br>01: 72P<br>02: 0P<br>14: Auto regulation                                             |
| N23            | Cooling return difference temperature        | 00/01/02/03/04  | 00            | 00: 1°C<br>01: 2°C<br>02: 0.5°C<br>03: 1.5°C<br>04: 2.5°C                                       |
| N24            | Heating return difference temperature        | 00/01/02/03/04  | 00            | 00: 1°C<br>01: 2°C<br>02: 0.5°C<br>03: 1.5°C<br>04: 2.5°C                                       |
| N25            | IDU heating mode temperature compensation    | 00/01/02/03/04  | 00            | 00: 6°C<br>01: 2°C<br>02: 4°C<br>03: 8°C<br>04: 0°C                                             |
| N26            | IDU cooling mode temperature compensation    | 00/01/02/03/04  | 00            | 00: 0°C<br>01: 1°C<br>02: 2°C<br>03: 3°C<br>04: -1°C                                            |
| N27            | Maximum indoor temperature drop in dry mode  | 00/01/02/03/04  | 01            | 00: 03°C<br>01: 04°C<br>02: 05°C<br>03: 06°C<br>04: 07°C                                        |
| N30            | Constant air flow setting                    | 00/01           | 01            | 00: Constant speed<br>01: Constant air flow                                                     |
| N31            | High ceiling setting                         | 00/01/02        | 00            | 00: $H \leq 3m$ ;<br>01: $3 < H \leq 4m$ ;<br>02: $4 < H \leq 4.5m$<br>(H: IDU Mounting height) |
| N32            | Q4/Q4C air outlet 1 setting                  | 00/01           | 00            | 00 - Free control<br>01 - Off                                                                   |
| N33            | Q4/Q4C air outlet 2 setting                  | 00/01           | 00            | 00 - Free control<br>01 - Off                                                                   |
| N34            | Q4/Q4C air outlet 3 setting                  | 00/01           | 00            | 00 - Free control<br>01 - Off                                                                   |

## V8 VRF Indoor Units



Table 4.2: Indoor unit Parameter Settings(continues)

| Parameter Code | Parameter Name                                                                                      | Parameter Range | Default Value | Remarks                                                                                                                                                                                      |
|----------------|-----------------------------------------------------------------------------------------------------|-----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N35            | Q4/Q4C air outlet 4 setting                                                                         | 00/01           | 00            | 00 - Free control<br>01 - Off                                                                                                                                                                |
| N37            | One-to-more of wired controller enabled                                                             | 00/01           | 00            | 00: No<br>01: Yes                                                                                                                                                                            |
| N38            | Remote On/Off port logic of the IDU                                                                 | 00/01           | 00            | 00: Remote off (closed);<br>01: Remote off (open)<br>Note: When powered off remotely, the digital display of wired controller of V8 displays d6, while that of V6 does not display this code |
| N39            | Remote OFF delay settings                                                                           | 00/01/.../06    | 00            | 00 - No delay<br>01 - 1min delay<br>02 - 2min<br>03- 3min<br>04- 4min<br>05- 5min<br>06- 10min                                                                                               |
| N40            | Alarm port logic                                                                                    | 00/01           | 00            | 00: Alarm when closed<br>01: Alarm when open                                                                                                                                                 |
| N41            | Powerful operation                                                                                  | 00/01           | 00            | 00: Off<br>01: On (Rapid cooling/Rapid heating)                                                                                                                                              |
| N42            | Sterilization function                                                                              | 00/01           | 00            | 00: No sterilization function (default)<br>01: Sterilization                                                                                                                                 |
| N43            | Sterilization setting                                                                               | 00/01/02        | 00            | 00: Auto on<br>01: Forced on<br>02: Forced off                                                                                                                                               |
| N44            | Silent mode setting                                                                                 | 00/01           | 00            | 00: Off<br>01: On                                                                                                                                                                            |
| N45            | ECO                                                                                                 | 00/01           | 00            | 00: Off<br>01: On                                                                                                                                                                            |
| N46            | Drying time at self-cleaning                                                                        | 0/1/2/3         | 0             | 0: 10 min<br>1: 20 min<br>2: 30 min<br>3: 40 min                                                                                                                                             |
| N47            | Mildew-proof fan operation duration (power off in cooling/dry mode, except power off due to faults) | 00/01/02/03     | 00            | 00 - 40s<br>01 - 120s<br>02 - 300s<br>03 - 600s                                                                                                                                              |
| N48            | Dirt proof for ceiling                                                                              | 00/01           | 00            | 00: Invalid<br>01: Valid                                                                                                                                                                     |



Table 4.2: Indoor unit Parameter Settings(continues)

| Parameter Code | Parameter Name                                          | Parameter Range      | Default Value | Remarks                                                                                                                |
|----------------|---------------------------------------------------------|----------------------|---------------|------------------------------------------------------------------------------------------------------------------------|
| N49            | Condensation proof                                      | 00/01                | 00            | 00: Invalid<br>01: Valid                                                                                               |
| N50            | Human Detect Sensor                                     | 00/01/02             | 01            | 00: Invalid<br>01: Used to adjust the set temperature when unattended<br>02: Used to turn off the unit when unattended |
| N51            | Setting temperature adjustment interval when unattended | 00/01/02/03/04/05    | 00            | 00: 15 min<br>01: 30 min<br>02: 45 min<br>03: 60 min<br>04: 90 min<br>05: 120 min                                      |
| N52            | Setting maximum temperature adjustment when unattended  | 00/01/02/03          | 03            | 00: 1°C<br>01: 2°C<br>02: 3°C<br>03: 4°C                                                                               |
| N53            | Stop delay when unattended                              | 00/01/02/03/04/05    | 01            | 00: 15 min<br>01: 30 min<br>02: 45 min<br>03: 60 min<br>04: 90 min<br>05: 120 min                                      |
| N54            | Midea ETA function setting                              | 00/01                | 01            | 00: Off<br>01: On                                                                                                      |
| N55            | Energy rating of cooling Midea ETA                      | 00/01/02             | 00            | 00: Level 1<br>01: Level 2<br>02: Level 3                                                                              |
| N56            | Energy rating of heating Midea ETA                      | 00/01/02             | 00            | 00: Level 1<br>01: Level 2<br>02: Level 3                                                                              |
| N57            | On-site air flow adjustment factor                      | 00/01/02/03/04/05/06 | 00            | 00: 1<br>01: 1.05<br>02: 1.1<br>03: 1.15<br>04: 0.95<br>05: 0.9<br>06: 0.85                                            |
| N58            | Initial static pressure detection                       | 00/01                | 00            | 00: Not reset<br>01: Reset                                                                                             |
| N59            | Filter ending - initial static pressure setting         | 00/01/.../19         | 00            | 00-10Pa/ 01-20Pa/<br>02~19-30Pa ~200Pa                                                                                 |

## V8 VRF Indoor Units



Table 4.2: Indoor unit Parameter Settings(continues)

| Parameter Code | Parameter Name                                                     | Parameter Range                 | Default Value | Remarks                                                                                                                    |
|----------------|--------------------------------------------------------------------|---------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------|
| N60            | Ambient temperature when preheating is turned on                   | 00/01/02                        | 00            | 00: 5°C<br>01: 0°C<br>02: (-5)°C                                                                                           |
| N61            | Fresh air dry contact 1                                            | 00/01                           | 00            | 00: Disconnected<br>01: Connected<br>Note: Applicable to FAPU only                                                         |
| N62            | Fresh air dry contact 2                                            | 00/01                           | 00            | 00: Disconnected<br>01: Connected<br>Note: Applicable to FAPU only                                                         |
| N63            | Fresh air dry contact 3                                            | 00/01                           | 00            | 00: Disconnected<br>01: Connected<br>Note: Applicable to FAPU only                                                         |
| N64            | Whether to open valve when the fan coil unit works in heating mode | 00/01                           | 00            | 00: Open the valve in heating mode;<br>01: Do not open the valve in heating mode<br>Note: Applicable to fan coil unit only |
| N65            | Fan coil unit's anti-hot wind temperature setting in cooling mode  | 01/02/03/04                     | 00            | 00: 0°C<br>01: -2°C<br>02: -4°C<br>03: -6°C<br>04: Invalid anti-hot wind<br>Note: Applicable to fan coil unit only         |
| N66            | Auto Dry Function                                                  | 00/01                           | 00            | 00: Invalid(default)<br>01: Valid<br>Note: Only applicable to operations in Cool or Auto mode                              |
| N67            | Auto Dry Target relative humidity                                  | 40%/41%/42%/...<br>.../7 65% 0% | 65%           |                                                                                                                            |
| N68            | Refrigerant leakage fault reset                                    | 00/01                           | 00            | 00: Not reset;<br>01: reset                                                                                                |
| N69            | Target humidity for third-party dehumidifiers                      | 35%/36%/37%/...<br>/75%         | 65%           |                                                                                                                            |
| N70            | Target humidity for third-party humidifiers                        | 35%/36%/37%/...<br>/75%         | 65%           |                                                                                                                            |
| N71            | IDU control type                                                   | 01/02                           | 01            | Valid to V8 FAPU.<br>01: Supply air temperature control<br>02: Room temperature control                                    |
| N72            | Minimum temperature settings of cooling operating range            | 00/01/02/03/04/<br>05/06/07     | 00            | Valid to V8 FAPU.                                                                                                          |
| N73            | Maximum temperature settings of heating operating range            | 00/01/02/03/04/<br>05/06/07     | 00            | Valid to V8 FAPU.                                                                                                          |

Table 4.2: Indoor unit Parameter Settings(continues)

| Parameter Code | Parameter Name                                              | Parameter Range | Default Value | Remarks                                                                                                                                                                                                                                                                                                       |
|----------------|-------------------------------------------------------------|-----------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N74            | Anti-cold wind temperature setting of special IDUs          | 00/01/02/03/04  | 00            | 00/01/02/03: corresponds to different values;<br>04: Anti-cold wind disabled                                                                                                                                                                                                                                  |
| N75            | IDU operating mode setting if the IDU is shut down remotely | 00/01           | 00            | 00: After the remote shutdown signal is canceled, the IDU runs in the preset mode or based on the command that is received during shutdown period. The preset mode is the mode set before the remote shutdown signal is triggered.<br>01: After the remote shutdown signal is canceled, the IDU is shut down. |

## Notes:

If use other controllers, parameter settings need refer to the corresponding manual.

## 4.2 Indoor unit parameter query

### Taking KJR-86S/BK as an example

- ① Hold "≡" and "∧" for 2 seconds to enter the query interface, "u00-u03" indicates ODUs, "n00-n63" indicates IDUs (the last two digits are the ODU or IDU addresses), and "CC" indicates the wired controller. Press "∧" and "∨" to switch the IDU code (For example n02), then press "↵" to enter the parameter query page.
- ② In the parameter query page, use "∧" and "∨" to query parameters, and the parameters can be queried cyclically.
- ③ The check list serial number is displayed in upper right corner of the wire controller, while the parameter value is displayed in the middle of the wire controller.
- ④ Press "⌚" to exit the query page. The parameter query page automatically closes if no button is pressed within the next 60 seconds.

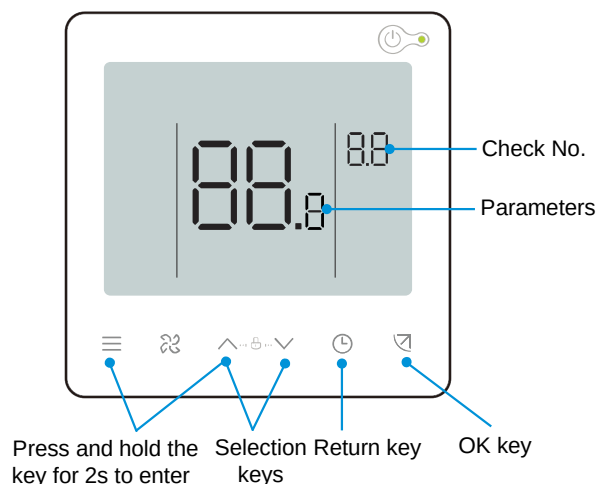


Table 4.3: Indoor unit parameters check list

| Check No. | Parameters                                                                                                                        | Remarks                        |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| 1         | IDU and ODU communication address <sup>1</sup>                                                                                    | 0 - 63                         |
| 2         | Capacity of indoor unit                                                                                                           | Unit: HP                       |
| 3         | Actual set temperature Ts                                                                                                         | Unit: °C                       |
| 4         | Set temperature of the unit that is operating currently, Ts (Remarks: The temperature displayed is the actual set temperature Ts) | Unit: °C                       |
| 5         | Actual T1 indoor temperature                                                                                                      | Actual value = value displayed |
| 6         | Modified indoor temperature T1_modify                                                                                             | Actual value = value displayed |
| 7         | T2 heat exchanger intermediate temperature                                                                                        | Actual value = value displayed |
| 8         | T2A heat exchanger liquid pipe temperature                                                                                        | Actual value = value displayed |
| 9         | T2B heat exchanger gas pipe temperature                                                                                           | Actual value = value displayed |
| 10        | Actual set humidity RHs                                                                                                           | Actual value = value displayed |

## V8 VRF Indoor Units



| Check No. | Parameters                         | Remarks                          |
|-----------|------------------------------------|----------------------------------|
| 11        | Actual RH indoor humidity          | Actual value = value displayed   |
| 12        | [— — —] is displayed               |                                  |
| 13        | Air discharge pipe temperature     | Actual value = value displayed   |
| 14        | Compressor discharge temperature   | Actual value = value displayed   |
| 15        | Target superheat                   | Actual value = value displayed   |
| 16        | EEV opening (actual opening/8)     | Actual value/8 = value displayed |
| 17        | Software version No.               | Actual value = value displayed   |
| 18        | Historical error code (recent)     | Actual value = value displayed   |
| 19        | Historical error code (sub-recent) | Actual value = value displayed   |
| 20        | Fan drive version No.              |                                  |
| 21        | [— — —] is displayed               |                                  |

### Notes:

1. For indoor units, the communication address and network address are the same and are routinely referred to simply as the unit's "address".
2. If use other controllers, please refer to the corresponding manual.

## 4.3 Function Descriptions

### 4.3.1 Power failure memory function

The power failure memory function can be used to ensure that, in the event of a power outage, the indoor units, which was in operation before, automatically restart once the power returns. When the power returns following a power outage, units with Power failure memory function enabled restart with the same operating mode, fan speed and remote control lock status settings as before the power outage. If, during this timed delay, the remote or wired controller is used to send a command to a unit, that unit starts-up immediately with those new settings. Indoor units with this function disabled go into standby once the power returns following a power outage.

### 4.3.2 Heating mode temperature compensation setting

Since indoor units are often installed at ceiling level, and since warm air rises, the ambient temperature sensed at the unit can be higher than the ambient temperature where users are standing or sitting. To compensate for this, in heating mode the indoor units target a temperature that is higher than the set temperature. The heating mode temperature compensation setting sets the difference between the set temperature and the target temperature. For example, if the set temperature is 20°C and the heating mode compensation setting is 4°C, the units target an ambient temperature (sensed at the unit) of 24°C.

Depending on a variety of factors including the height of the room and the position of the units, different values may be appropriate for the heating mode temperature compensation setting. Values of heating mode temperature compensation can be selected by controller.

### 4.3.3 Cooling mode temperature compensation setting

With cooling mode temperature compensation, in cooling mode the indoor units target a temperature that is lower than the set temperature. The cooling mode temperature compensation setting sets the difference between the set temperature and the target temperature. For example, if the set temperature is 26°C and the cooling mode compensation setting is 2°C, the units target an ambient temperature (sensed at the unit) of 24°C. Values of cooling mode temperature compensation can be selected by controller.

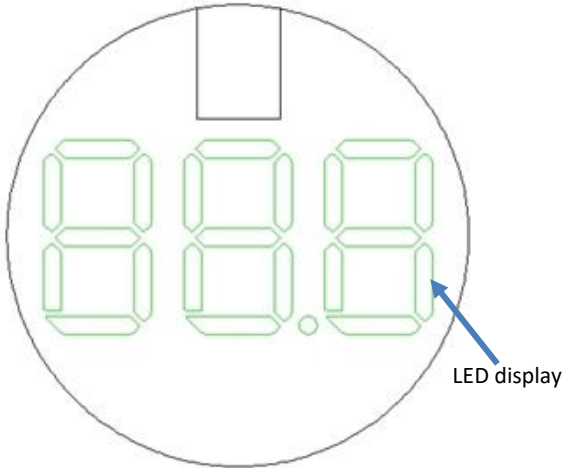
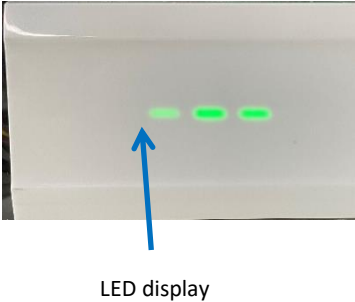
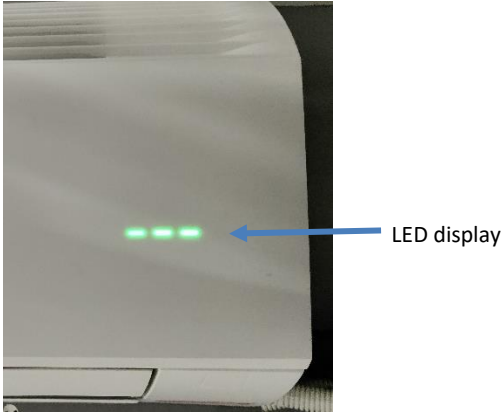
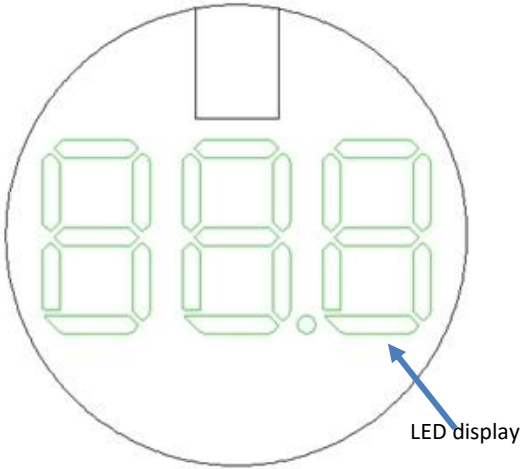
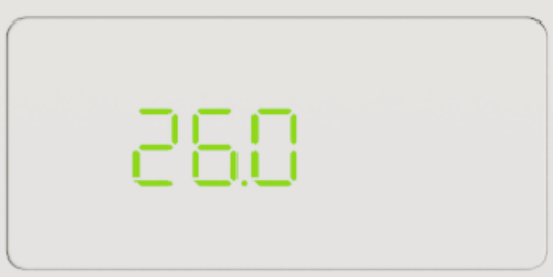


## 5 Display Panels

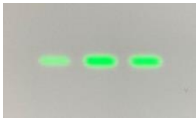
### 5.1 Appearance of Display Panel

The appearance of the digital display panel used is shown in Figure 5.1.

Figure 5.1: Digital display panel<sup>1</sup>

|                                                                                                             |                                                                                                |
|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Display panel for Compact Four-way Cassette and Four-way Cassette<br>(New 360 degree panel, standard panel) | Display panel for Arc Duct\Medium Static Pressure Duct\High Static Pressure Duct<br>(Optional) |
|                            |              |
| Display panel for Wall Mounted                                                                              | One-way Cassette/Two-way Cassette                                                              |
|                          |            |
| Ceiling&Floor                                                                                               |                                                                                                |
|                          |                                                                                                |

## 5.2 Output under Normal Operating Conditions

| Unit state         |                                | Digital display                                                                    |
|--------------------|--------------------------------|------------------------------------------------------------------------------------|
| Standby            |                                |  |
| Operating          | Normal operation               | Cooling and heating : set temperature                                              |
|                    |                                | dehumidify mode: set temperature                                                   |
|                    |                                | Fan only mode: indoor ambient temperature                                          |
|                    | Special operation <sup>1</sup> | Mode code                                                                          |
| Error <sup>2</sup> |                                | Error code                                                                         |

Notes:

1. The special operation modes refer to *Table 7.2:Operating Status Codes*
2. The error code refer to *Table 7.1:Error code*

## 6 Control

### 6.1 Temperature Compensation Control

Because of the installation position of Indoor Unit and different layout, indoor temperature detected by Indoor Unit may not consist with actual temperature. Indoor temperature could be compensated by controller (The parameter code is "N25" "N26")

### 6.2 EEV Control

When the IDU is powered on again or the ODU is stopped, the system automatically enters initialization mode. After initialization is completed, the system enters the normal start mode. The IDU EEV uses superheat degree control in cooling mode and uses supercool degree control in heating mode. If the IDU receives a protection control or special control command, this command is executed in priority.

#### ● Superheat Degree Control in Cooling Mode

During cooling (dry), the IDU calculates the difference between the heat exchanger gas pipe temperature (T2B) and the heat exchanger liquid pipe temperature (T2A) detected by the temperature sensors and write this difference as the current superheat degree (SH). By comparing the current superheat degree (SH) with the set superheat degree (SHS), the opening adjustment trend of the EEV can be decided.

$$SH = T2B - T2A$$

- ◆ When  $SH > SHS$ , the EEV opening increases
- ◆ When  $SH = SHS$ , the EEV opening unchanged
- ◆ When  $SH < SHS$ , the EEV opening decreases

#### ● Supercool Degree Control in Heating Mode

During heating, the IDU calculates the difference between the High pressure equivalent saturation temperature (Tc) and the heat exchanger liquid pipe temperature (T2A) detected by temperature sensors and write this difference as the current supercool degree (SC). By comparing the current supercool degree (SC) with the set supercool degree (SCS), the opening adjustment trend of the EEV can be determined.

$$SC = \max(T1 + 6, Tc_{\max} - 2) - T2A$$

- ◆ When  $SC > SCS$ , the EEV opening increases
- ◆ When  $SC = SCS$ , the EEV opening unchanged
- ◆ When  $SC < SCS$ , the EEV opening decreases

#### ● EEV Operating in other Situations

The EEV decides its operating opening based on the IDU operating mode, IDU working mode, and ODU working mode. For details, see the following table:

| IDU Status | Cooling Mode      |             | Heating Mode      |             |
|------------|-------------------|-------------|-------------------|-------------|
|            | ODU Operating     | ODU Stopped | ODU Operating     | ODU Stopped |
| Operating  | Superheat control | B PLS       | Supercool control | D PLS       |
| Standby    | A PLS             |             | C PLS             |             |
| Off        |                   |             |                   |             |
| Fault      |                   |             |                   |             |

Note:

1. PLS indicates the unit of pulses regarding the EEV opening.
2. The values of A,B,C and D are depend on IDUs' series.

### 6.3 Start and Stop Control

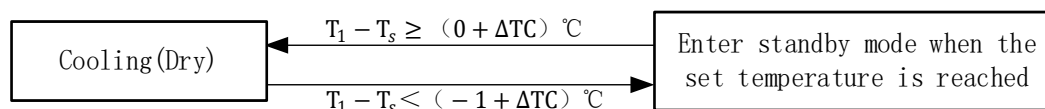
Indoor Unit judges the operation state according to the temperature compensation value ( $\Delta TC$ ) and the difference value between detected indoor temperature ( $T_1$ ) and set temperature ( $T_s$ ).

When the indoor temperature reaches the set one, Indoor Unit shut down; when the indoor temperature exceeds the set one, Indoor Unit start running.

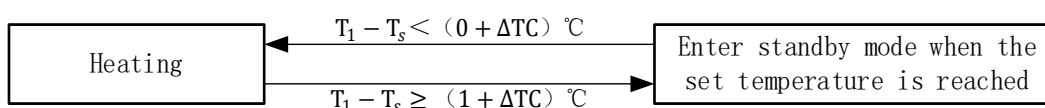
#### ● Objective

1. Ensure comfort. When the indoor temperature of indoor return air reaches the temperature range set by the user, if the IDU fails to shut down, the room temperature will deviate from the expected value of the user and reduce the comfort of the room.
2. Energy saving. When the temperature of the return air reaches the temperature range set by the user, if the IDU fails to shut down, the air conditioning system will continue to operate inefficiently under the condition of low indoor load, with low energy efficiency and no energy saving.
3. The use of temperature compensation values is to solve the problem of differences in the distribution of the room temperature field. The room due to structural differences, room heat source distribution differences, solar radiation, hot air uplift, cold air sink and other factors will cause the temperature detected by the indoor unit's own return air temperature sensor( $T_1$ ) and the user's human activity area temperature deviation, temperature compensation value( $\Delta TC$ ) is used to repair this deviation
4. Ensure compressor reliability. The control will prevent frequent start/stop and the temperature compensation in the temperature shutdown control will inhibit frequent opening and closing of the air conditioning system, extending the service life of the air conditioning system;

#### ● Cooling (Dry)



#### ● Heating



Note:

The temperature compensation value ( $\Delta TC$ ) of cooling and heating operation can be found in the specifications of each model. For details, please contact local technical support personnel

## V8 VRF Indoor Units

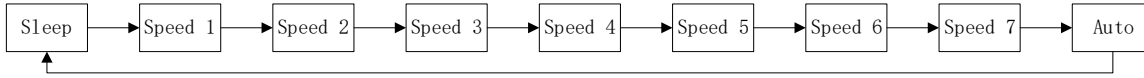
### 6.4 Fan Control

#### 6.4.1 Fan speeds control

The IDU can work in seven-speeds or three-speeds.

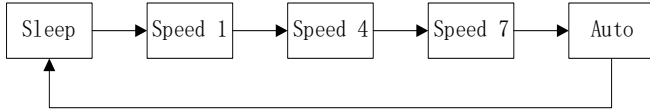
##### ● Seven-speeds

When the Indoor Unit detects seven wind speeds the wind speed is set as follows.



##### ● Three-speeds

When the Indoor Unit detects only three wind speeds the wind speed is set as follows.



For the specific IDU series, please consult the technical manual of each series. The following table describes the fan control in different situations

##### ● Fan control in different situations

|                        | IDU Status | Cooling Mode | Dry Mode | Heating Mode | Fan Mode  | Speed Switch |
|------------------------|------------|--------------|----------|--------------|-----------|--------------|
| Operating in Set Speed | Operating  | Set speed    | Speed 1  | Set speed    | Set speed | User set     |
|                        | Standby    | Set speed    | Speed 1  | Termal       | /         |              |
|                        | Off        | Stop fan     | Stop fan | Stop fan     | Stop fan  |              |
|                        | Fault      | Stop fan     | Stop fan | Stop fan     | Stop fan  |              |

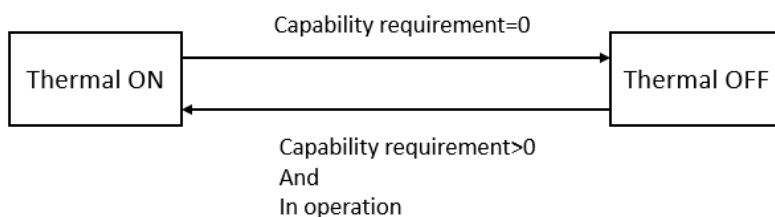
|                     | IDU Status | Cooling Mode | Heating Mode | Auto Mode                                                                            | Fan Mode | Speed Switch                                                                               |
|---------------------|------------|--------------|--------------|--------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------|
| Automatic Fan Speed | Operating  | Automatic    | Automatic    | Automatic                                                                            | Speed 1  | Switch fan speed based on the difference of the set temperature and return air temperature |
|                     | Standby    | Automatic    | Termal       | Automatic cooling, automatic fan speed, automatic heating, and Termal mode operating | /        |                                                                                            |
|                     | Off        | Stop fan     | Stop fan     | Stop fan                                                                             | Stop fan |                                                                                            |
|                     | Fault      | Stop fan     | Stop fan     | Stop fan                                                                             | Stop fan |                                                                                            |

Note:

Termal: In the heating mode, The IDU in the standby state heating mode will run fan periodically at speed 1 for one minute (the period can be set by controle)

#### 6.4.2 Auto fan control mode

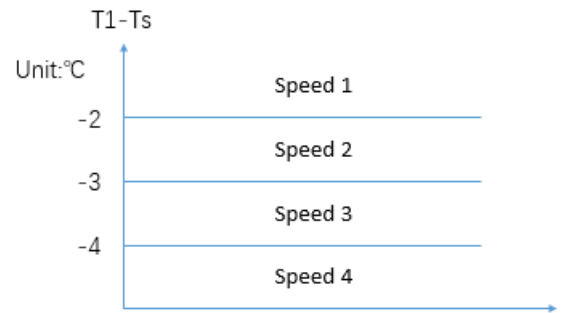
1. When set auto fan control in cooling or heating mode. After operation in the initial speed for a period of time, when Thermal ON, IDUs enter the auto mode and the fan speed will be changed every 2 minutes or when Ts change.
2. When Thermal OFF, IDUs enter the standby mode. When Thermal ON, IDUs enters the initial fan speed again.
3. The default speed is speed 1 when IDUs are set auto fan mode in Air supply only mode.



### ● Determine the initial fan speed of auto fan control

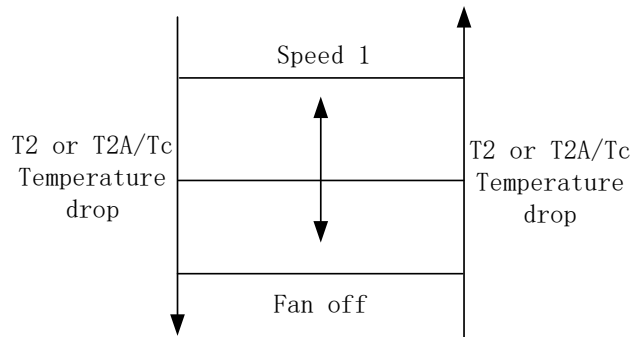
The initial fan speed is determined according to the difference between ambient indoor temperature ( $T_1$ ) and set temperature ( $T_s$ ), and it updates in the following situations:

- 1) The first time enter this mode
- 2)  $T_s$  is changed
- 3) When switching between normal operation and silent operation



### 6.4.3 Anti-cold Air Control

This function only be used in heating mode, fan speed is changed according to value changes of the heat exchanger intermediate temperature ( $T_2$ ) of the heat exchanger liquid pipe temperature ( $T_{2A}$ ) and High pressure equivalent saturation temperature ( $T_c$ ). While in anti-cold air mode, set temperature ( $T_s$ ) is displayed normally. Anti-cold air control is valid during the oil return or defrosting period. If the IDU is turned off, the fan is turned off as well.



Note: The switching temperature of the heat exchanger intermediate temperature ( $T_2$ ), the heat exchanger liquid pipe temperature ( $T_{2A}$ ) and the condensing temperature ( $T_c$ ) is determined by  $T_{fanoff}$ .

$T_{fanoff}$  is the switch temperature point between Breeze and Fan off can be adjusted by controller.

### 6.4.4 Standby fan speed Control

#### ● Cooling standby

The default cooling standby fan speed is Speed 1. You can change the cooling standby fan speed from speed 1 to speed 7 through the controller.

The parameter setting code is "N18".

#### ● Heating standby

The default heating standby is Thermal wind speed. The speed 1 runs for 1 minute and stops for X minutes (X is the set value by the controller) which can be set from 4 minutes (default), 8 minutes, 12 minutes and 16 minutes (The parameter setting code is "N21"). And You can change the heating standby fan speed through the controller (The parameter setting code is "N20").

Thermal: In the heating mode, The IDU in the standby state heating mode will run fan periodically at speed 1 for one minute (the period can be set by controller)



## V8 VRF Indoor Units

### 6.5 Swing control

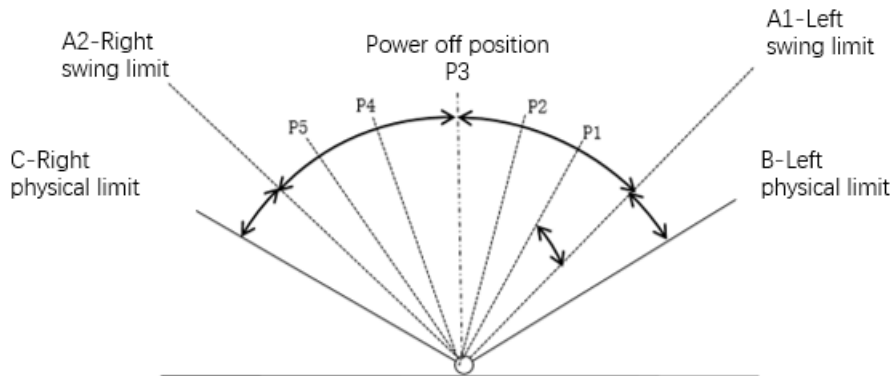
#### 6.5.1 Horizontal swing control

- Angle range of horizontal swing

Table 6.1: Angle range of horizontal swing

|                  | heating   | cooling   |
|------------------|-----------|-----------|
| adjustable range | A1+A2     | A1+A2     |
| shutdown angle   | A1+B/A2+C | A1+B/A2+C |

Figure 6.1 Horizontal swing angle



**A1:** Starting angle or power-on reset position (Swing from the left)

**A2:** Starting angle or power-on reset position (Swing from the right)

**B:** Angle limit of left end structure

**C:** Angle limit of right end structure

Table 6.2: Angle range of Horizontal swing

|               |                  | Heating | Cooling/Dehumidification |                   | Ventilation |
|---------------|------------------|---------|--------------------------|-------------------|-------------|
|               |                  | Heating | Cooling                  | Anti-condensation | Ventilation |
| Wall-mounted  | Adjustable range | P1-P5   | P1-P5                    | P2-P5             | P1-P5       |
|               | The default gear | P3      | P3                       | P3                | P3          |
| Ceiling&Floor | Adjustable range | P1-P5   | P1-P5                    | P2-P5             | P1-P5       |
|               | The default gear | P3      | P3                       | P3                | P3          |

### 6.5.2 Vertical swing control

Different IDU series have different adjustable swing angle and default swing angle under different functions.

And each operation mode has its default adjustable range of swing angle. P1-P5 values vary because of the different operation modes and IDU series.

For details, please refer to Table 6.3, Table 6.4 and Figure 6.2.

Figure 6.2 Vertical swing control

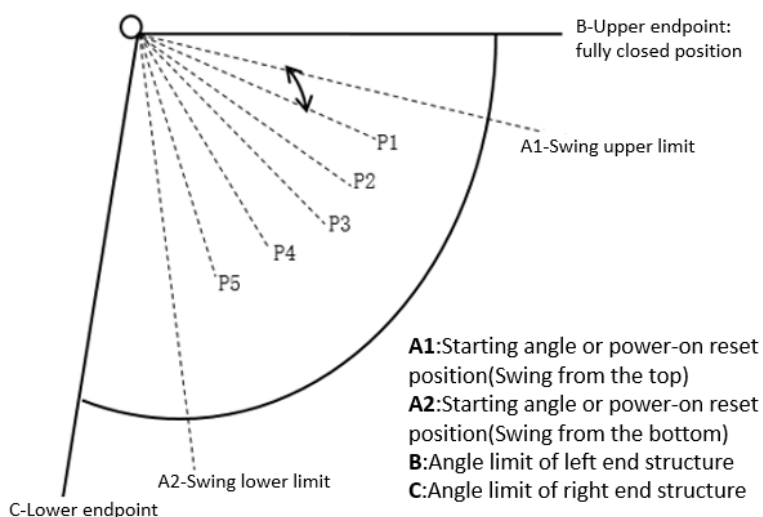


Table 6.3: Angle range of vertical swing.

|                  |                  | Heating | Cooling /Dehumidification |                   | Ventilation | Function operation                       |                |
|------------------|------------------|---------|---------------------------|-------------------|-------------|------------------------------------------|----------------|
|                  |                  | Heating | Cooling                   | Anti-condensation | Ventilation | Static pressure detection, Leakage alarm | Self-cleaning  |
| Wall-mounted     | Adjustable range | P1-P5   | P1-P5                     | P2-P5             | P1-P5       | non-adjustable                           | non-adjustable |
|                  | The default gear | P3      | P3                        | P3                | P3          | P5                                       | P5             |
| One-way cassette | Adjustable range | P1-P5   | P1-P5                     | P2-P5             | P1-P5       | non-adjustable                           | non-adjustable |
|                  | The default gear | P3      | P3                        | P3                | P3          | P5                                       | P5             |
| Two-way cassette | Adjustable range | P1-P5   | P1-P5                     | P2-P5             | P1-P5       | non-adjustable                           | non-adjustable |
|                  | The default gear | P5      | P2                        | P2                | P2          | P5                                       | P5             |
| Ceiling&Floor    | Adjustable range | P1-P5   | P1-P5                     | P2-P5             | P1-P5       | non-adjustable                           | non-adjustable |
|                  | The default gear | P3      | P3                        | P3                | P3          | P5                                       | P5             |

Table 6.4: Angle range of vertical swing in Four-way Cassette/Compact Four-way cassette.

|                           |                  | Heating                                                           | Cooling/ventilation                                                                                                | Function operation                 |                |
|---------------------------|------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------|
|                           |                  | heating/anti-blowing/ anti-dirty of ceiling/ High ceiling setting | cooling/ Dehumidification /ventilation/anti-condensation/anti-blowing/ anti-dirty of ceiling/ High ceiling setting | Static pressure detection, leakage | Self-cleaning  |
| Four-way Cassette         | Adjustable range | P1-P5                                                             |                                                                                                                    | non-adjustable                     | non-adjustable |
|                           | The default gear | P5                                                                | P2                                                                                                                 | P5                                 | P5             |
| Compact Four-way Cassette | Adjustable range | P1-P5                                                             |                                                                                                                    | non-adjustable                     | non-adjustable |
|                           | The default gear | P5                                                                | P3                                                                                                                 | P5                                 | P5             |

## V8 VRF Indoor Units



### 6.5.3 Individual louver control

Four-way Cassette and Compact Four-way Cassette have the individual louver control and the detail according to the following:

**a)** Louver selection: After entering the louver selection operation, all air flap immediately stop at the current spot and record the current spot. If there is no parameter setting within 3s, exit the louver selection state and all air flap return to the previous spot.

**b)** The corresponding digital tube will flash when the louver is selected. If no other operation is carried out within 1s, the current option will be confirmed.

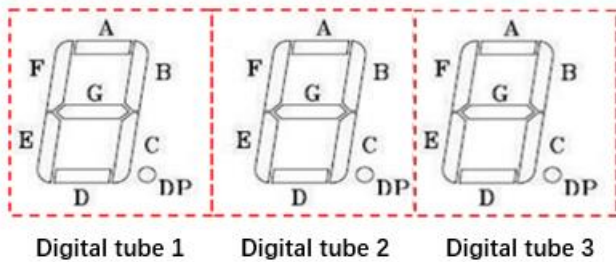
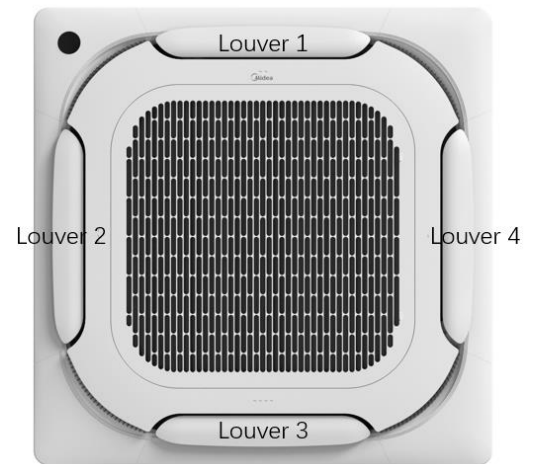


Table 6.5: Digital tube display instructions.

| Louver         | Digital tube 1 | Digital tube 2 | Digital tube 3 |
|----------------|----------------|----------------|----------------|
| Louver 1       | A flash        | A flash        | A flash        |
| Louver 2       | E/F flash      | -              | -              |
| Louver 3       | D flash        | D flash        | D flash        |
| Louver 4       | -              | -              | B/C flash      |
| Louver 1+2+3+4 | A/D/E/F flash  | A/D flash      | A/B/C/D flash  |

Note: If there are more than 2 louvers are set to close, only the first and second will close.

### 6.5.4 Anti-condensation control

In order to prevent the problem of hanging water and blowing water caused by excessive temperature difference. When the risk of condensation is detected, the Compact Four-way Cassette and Four-way Cassette adjusts the louver to the default minimum angle and limits the angle adjustment range; Other IDUs will adjust the louver to the default condensation angle and lock angle.

### 6.5.5 Ceiling anti-dirty control

In order to prevent flow of Compact Four-way Cassette and Four-way Cassette towards ceiling, you could open the function of control of ceiling anti-dirty, which will limit the angle that the louver allows to be set so that the airflow avoids the ceiling.

## 6.6 Operation mode control

### ● Outdoor Unit is Heat Pump

- ① When the mode is set by ODU to VIP priority, Voting priority, Capability requirements priority, Cooling priority, heating priority, the Indoor Unit can be set to cooling, heating, dehumidification, ventilation modes. When the IDU set mode different from the mode of ODU, the indoor unit will enter the standby mode, and the "No permission" displays in the upper left corner of the controller.
- ② When the mode is set by ODU to **changeover**, VIP IDU can be set to cooling, heating, dehumidification, ventilation modes, while non-VIP IDUs can only follow the operation mode of VIP's.

### ● Outdoor Unit is Heat Recovery

- ① When the ODU is Heat recovery, VIP IDUs and others can have different modes such as automatic, cooling, heating, dehumidification and ventilation mode.

- ② **Auto mode** is only available to Heat Recovery ODU. In auto mode, user should set the Tsc(cooling setting temperature) and Tsh(heating setting temperature), which should meet the following conditions  $Tsc \geq Tsh$ . The setting steps are as follows.

<1> when enter the auto mode, the mode icon  **Auto** and  **Cool** (or  **Auto** and  **Heat**) will flash at the same time

<2> Press "^" and "v" to switch mode (Cool or Heat) and press "↵" to enter temperature setting interface (In Cool is Tsc, and Tsh in Heat). Then press "^" and "v" to change value and press "↵" to save changes.

<3> In auto mode, Icons  **Auto** and  **Cool** light up during cooling operation, when Icons  **Auto** and  **Heat** light up during heating operation.

<4> The heating mode and cooling mode are switched according to the following 3 conditions.

#### I The setting temperature $Tsc = Tsh$

When the return air temperature  $T1 > Tsc + 2^{\circ}\text{C}$ , the IDU will run the **cooling mode**.

When the return air temperature  $T1 < Tsh - 2^{\circ}\text{C}$ , the IDU will run the **heating mode**.

#### II The setting temperature $Tsc > Tsh$ , and $Tsc - Tsh < 3^{\circ}\text{C}$

When the return air temperature  $T1 > Tsc + 1.5^{\circ}\text{C}$ , the IDU will run the **cooling mode**.

When the return air temperature  $T1 < Tsh - 1.5^{\circ}\text{C}$ , the IDU will run the **heating mode**.

#### III The setting temperature $Tsc > Tsh$ , and $Tsc - Tsh \geq 3^{\circ}\text{C}$

When the return air temperature  $T1 > Tsc$ , the IDU will run the **cooling mode**.

When the return air temperature  $T1 < Tsh$ , the IDU will run the **heating mode**.

### ● Set Temperature Display

- 1) When switching between cooling, heating or auto modes, if temperature Ts is not reset, the temperature after switching is the same as the temperature before switching.
- 2) In auto mode, switching between cooling and heating mode takes some time. The time can be set through the controller.

## 6.7 Human Detect control

## V8 VRF Indoor Units



The Human detect sensor is optional.

The operation mode of human detect control can be set by controller (N50).

1) **When set the mode "Used to adjust the set temperature when unattended" and enter the unattended state<sup>1</sup>, the following logic is executed**

- ① When the cooling/automatic cooling mode operates, the correction value<sup>2</sup> of the set temperature  $T_s$  is + 1 every  $A^3$  minute.
- ② During heating/automatic heating mode operation, the correction value of the set temperature  $T_s$  is - 1 every A minute;
- ③ Fan speed 1
- ④ The fan louver maintains the previous angle.
- ⑤ Resume normal control when someone is detected

2) **When set the mode " Used to turn off the unit when unattended " and enter the unattended state<sup>1</sup>, the following logic is executed**

- ① Turn off the unit
- ② Resume normal control when someone is detected

Note:

1. The unattended state will only be entered after the unattended state is detected for X minutes. X can be set by the controller (N53)
2. The value of maximum temperature adjustment can be set by controller (N52)
3. The value of A can be set by controller (N51)

## 6.8 Controlling the Condensate Water Pump and Water Level Switch

- 1) When the IDU is powered on the first time, the water pump is forced to operate for 5 minutes.
- 2) When the IDU and ODU are in cooling, dehumidification and self-cleaning mode, the water pump starts immediately and operates continuously. After this mode is stopped (stop or mode switch), the water pump turns off five minutes later.
- 3) If the water level rises, causing the water level switch to be disconnected, the condensate water pump immediately starts and operates. Five minutes later, if the water level drops to lower than the alarm level, the system restores operation based on the originally set mode. Otherwise, the IDU and water pump stop operating, and a water level alarm is reported. When the water level switch is connected again, the protection is released, and the system restores operation based on the mode that was originally set.

Note:

This function is reserved for the unit models without drainage pumps and water level switches and it is disabled by default.

## 6.9 Anti-freeze Control

The IDU will close Electronic expansion valve, and the wind shift into speed 1.

Condition:

A) Entry conditions: Coil temperature  $\leq$  A continuous T1 or coil temperature  $\leq$  B continuous T2, and in any mode of forced cooling, cooling, dehumidification, self-cleaning (Except for the second stage);

B) Exit condition: coil temperature  $\geq$  C continuous T3, and not in any mode of forced cooling, cooling, dehumidification, or at the second stage of self-cleaning mode;

## 6.10 Alarm control

Both IDU'S main control board and 1# Expansion board (Optional) have ALARM port, and can be used simultaneously.

### ● Setting positive or negative logic

#### ① Port on IDU'S main control board

The positive and negative logic of the IDU main control board is set by the wired controller or central controller. (N40)

#### ② Port on 1# Expansion board (Optional)

The positive and negative logic of the 1# expansion board is set by the S2-1/S2-2/S2-3 DIP switch on the 1# expansion board.

### ● Remote on/off port setting status and its corresponding function

| Outdoor unit Set                | Port status              | Functional interpretation |
|---------------------------------|--------------------------|---------------------------|
| Set to Positive logic (Default) | The port is connected    | outputs alarm signals     |
| Set to negative logic           | The port is disconnected | outputs alarm signals     |

## 6.11 High ceiling setting



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For embedded IDU series, such as Compact Four-way Cassette and Four-way Cassette, when the installation exceeds the specified height (default 3 meters), can enter the High ceiling setting ( The parameter code is "N31" ) to change . 3 meters high height, 4 meters high height or 4.5 meters high height can be set. When the high ceiling control is entered, the fan speed limits the minimum speed 3 operation.

\*Note: Refer to the IDU manual for detail

### 6.12 Remote on/off control

Both IDU'S main control board and 1# Expansion board (Optional) have remote on/off control port

- **Remote on/off control port selection**

- ① **Port on IDU'S main control board**

Port CN55 connects the passive switch signal

Note:

The port on the main board will be disabled when the port on the expansion board is enabled

- ② **Port on 1# Expansion board (Optional)**

Port CN7 connects the 220V switch signal. For detail refer to Expansion board manual

- **Setting positive or negative logic**

- ① **Port on IDU'S main control board**

The positive and negative logic of the IDU main control board is set by the wired controller or central controller. (N38)

- ② **Port on 1# Expansion board (Optional)**

The positive and negative logic of the 1# expansion board is set by the S4-1 DIP switch on the 1# expansion board.

- **Remote on/off port setting status and its corresponding function**

| Outdoor unit                    | Port status                                | Corresponding function   | Functional interpretation                                                                                   |
|---------------------------------|--------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------|
| Set to Positive logic (Default) | The port is connected, Input Low level     | Remote delay OFF control | Shut down after the delay time, the controller can send commands normally, but the indoor unit remains off. |
|                                 |                                            | Remote OFF control       | Direct shutdown without delay, the controller can send commands normally, but the indoor unit remains off.  |
| Set to negative logic           | The port is disconnected, Input High level | Remote delay OFF control | Shut down after the delay time, the controller can send commands normally, but the indoor unit remains off. |
|                                 |                                            | Remote OFF control       | Direct shutdown without delay, the controller can send commands normally, but the indoor unit remains off.  |

The remote OFF delay time can be set through the wired controller (N39), the default value is 0

### 6.13 Dry mode control

There is a difference between the control with humidity sensor and the control without humidity sensor, when the humidity sensor is damaged, the indoor unit automatically switches to the state without humidity sensor.

- **Without humidity sensor**

**Related settings:** ①The temperature of dry mode;②Maximum indoor temperature drop in dry mode (N27);③Standby fan speed in dry mode(N19)

**Enter Standby:** When  $T_s - T_1 > \Delta T$ , the IDU will Enter Dry standby mode.

**Fan speed (operation):** Automatic adjustment, cannot be set.

**Fan speed (Standby):** Can be set by controller (N19)

- **With humidity sensor(customized)**

**Related settings:** ①The temperature and humidity of dry mode;②Maximum indoor temperature drop in dry mode;③Standby fan speed in dry mode

**Enter Standby:** When  $T_s - T_1 > \Delta T$  or actual humidity is lower than the set humidity 5%, the IDU will Enter Dry standby mode.

**Fan speed (operation):** Automatic adjustment, cannot be set

**Fan speed (Standby):** Can be set by controller (N19)

Note:

1.  $T_s$ : Dehumidification setting temperature
2.  $T_1$ : IDU air return temperature
3.  $\Delta T$ : Maximum indoor temperature drop, can be set(N27)

- **Auto dry function**

**Prerequisites for function:**①Only IDU with humidity sensor (customized) can use this function.

②Need to enter the IDU parameter setting menu to enable this function (N66).

**Entry method:** Cooling or Auto mode.

**Operation Logic:** Priority cooling, when the room temperature reaches the set temperature, automatically switch to dry mode, to approximate the purpose of dual control of temperature and humidity.

Note:

1. For Auto Dry Target relative humidity, the Default value is 65% and can be set (N67).

## 7 Errors and operation code

### 7.1 Error Code Table

Table 7.1: Error code

| Error code | Content                                                                            | Error code | Content                                                                                 |
|------------|------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------|
| A01        | Emergency stop                                                                     | C52        | Abnormal communication between the IDU and Wi-Fi Kit                                    |
| A11        | R32 refrigerant leaks, requiring shutdown immediately                              | C61        | Abnormal communication between the IDU main control board and display board             |
| A51        | Outdoor unit fault                                                                 | C71        | Abnormal communication between the AHU Kit slave unit and master unit                   |
| A71        | Interlocking control Heat Recovery Ventilation Unit fault( in-series application)  | C72        | Number of AHU Kits is not the same as the set number                                    |
| A72        | The Humidity Unit fault                                                            | C73        | Abnormal communication between the linked humidifying IDU and master IDU                |
| A73        | Interlocking control Heat Recovery Ventilation Unit fault (non-serial application) | C74        | Abnormal communication between the linked FAPU and master IDU (series setting)          |
| A74        | The AHU Kit slave unit fault                                                       | C75        | Abnormal communication between the linked FAPU and master IDU (non-series setting)      |
| A81        | Self-check fault                                                                   | C76        | Abnormal communication between the main wired controller and secondary wired controller |
| A82        | MS (refrigerant flow direction switching device) fault                             | C77        | Abnormal communication between the IDU main control board and 1# Expansion board        |
| A91        | Mode conflict                                                                      | C78        | Abnormal communication between the IDU main control board and 2# Expansion board        |
| b11        | 1# EEV coil fault                                                                  | C79        | Abnormal communication between the IDU main control board and Switch module             |
| b12        | 1# EEV body fault                                                                  | C81        | The indoor unit is in a power-off state                                                 |
| b13        | 2# EEV coil fault                                                                  | d16        | Air inlet temperature of the IDU is too low in heating mode                             |
| b14        | 2# EEV body fault                                                                  | d17        | Air inlet temperature of the IDU is too high in cooling mode                            |
|            |                                                                                    | d50        | AHU kit fan running status input signal exception                                       |
| b34        | Protection on 1# water pump                                                        | d81        | Alarm for exceeding temperature and humidity range                                      |
| b35        | Protection on 2# water pump                                                        | dE1        | Sensor control board fault                                                              |
| b36        | Water level switch alarm                                                           | dE2        | PM2.5 sensor fault                                                                      |
| b71        | Reheating electric heater fault                                                    | dE3        | CO2 sensor fault                                                                        |
| b72        | Preprocessing electric heater fault                                                | dE4        | Formaldehyde sensor fault                                                               |
| b81        | Humidifier fault                                                                   | dE5        | Human Detect sensor fault                                                               |
| C11        | Duplicate IDU address code                                                         | E21        | T0 (fresh inlet air temperature sensor) short-circuits or cuts off                      |
| C21        | Abnormal communication between the IDU and ODU                                     | E22        | The upper dry bulb temperature sensor short-circuits or cuts off                        |
| C41        | Abnormal communication between the IDU main control board and fan drive board      | E23        | The lower dry bulb temperature sensor short-circuits or cuts off                        |
| C51        | Abnormal communication between the IDU and wired controller                        | E24        | T1 (IDU return air temperature sensor) short-circuits or cuts off                       |

Table 7.1: Error code(continues)

| Error code | Content                                                                        | Error code | Content                                                               |
|------------|--------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------|
| E31        | wired controller temperature sensor failure                                    | U01        | Locked (electronic lock)                                              |
| E32        | The wireless temperature sensor short-circuits or cuts off                     | U11        | Unit model code not set                                               |
| E33        | The external room temperature sensor short-circuits or cuts off                | U12        | Capacity(HP) code not set                                             |
| E61        | Tcp (pre-cooled fresh air temperature sensor) short-circuits or cuts off       | U14        | The capacity value of the AHU Kit DIP switch does not match the model |
| E62        | Tph (pre-heated fresh air temperature sensor) short-circuits or cuts off       | U15        | The DIP value of AHU Kit's fan speed output voltage is incorrect      |
| E81        | TA (outlet air temperature sensor) short-circuits or cuts off                  | U26        | Mismatch between indoor unit model and outdoor unit model             |
| EA1        | Outlet air humidity sensor fault                                               | U38        | Address code not detected                                             |
| EA2        | Return air humidity sensor fault                                               | J01        | Motor failed more than once                                           |
| EA3        | Upper wet bulb sensor fault                                                    | J1E        | IPM (fan module) overcurrent protection                               |
| EA4        | Lower wet bulb sensor fault                                                    | J11        | Instantaneous overcurrent protection for phase current                |
| EC1        | R32 refrigerant leakage sensor fault                                           | J3E        | Low bus voltage fault                                                 |
| F01        | T2A (heat exchanger liquid pipe temperature sensor) short-circuits or cuts off | J31        | High bus voltage fault                                                |
| F11        | T2 (heat exchanger middle temperature sensor) short-circuits or cuts off       | J43        | Phase current sample bias error                                       |
| F12        | T2 (heat exchanger middle temperature sensor) over temperature protection      | J45        | Motor and IDU are unmatched                                           |
| F21        | T2B (heat exchanger gas pipe temperature sensor) short-circuits or cuts off    | J47        | IPM and IDU are unmatched                                             |
| P71        | Main control board EEPROM fault                                                | J5E        | Motor startup failure                                                 |
| P72        | IDU display control board EEPROM fault                                         | J52        | Motor blocking protection                                             |
| P31/P34    | Fan drive board AC side overcurrent protection                                 | J55        | Speed control mode setting error                                      |
| P52        | The voltage of the power supply is too low                                     | J6E        | Phase lack protection of motor                                        |

## 7.2 Operating Status Codes

Table 7.2: Operating Status Codes

| Code | Content                            | Code | Content                         |
|------|------------------------------------|------|---------------------------------|
| d0   | Oil return or preheating operation | d61  | Remote shutdown                 |
| dC   | Self-cleaning                      | d71  | IDU backup operation            |
| dd   | Mode conflict                      | d72  | ODU backup operation            |
| dF   | Defrosting                         | OTA  | Main control program upgrading  |
| d51  | Initial static pressure detection  | dH   | Hot water mode(Specific series) |

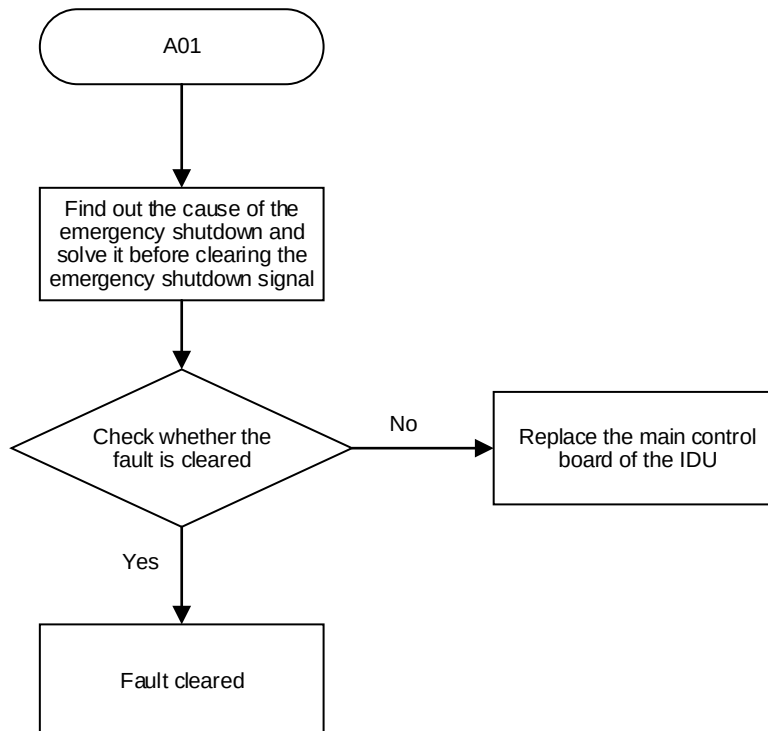
### 8 Troubleshooting

#### Warning



- All electrical work must be carried out by competent and suitably qualified, certified and accredited professionals and in accordance with all applicable legislation (all national, local and other laws, standards, codes, rules, regulations and other legislation that apply in a given situation).
- Power-off the unit before connecting or disconnecting any connections or wiring, otherwise electric shock (which can cause physical injury or death) may occur or damage to components may occur.

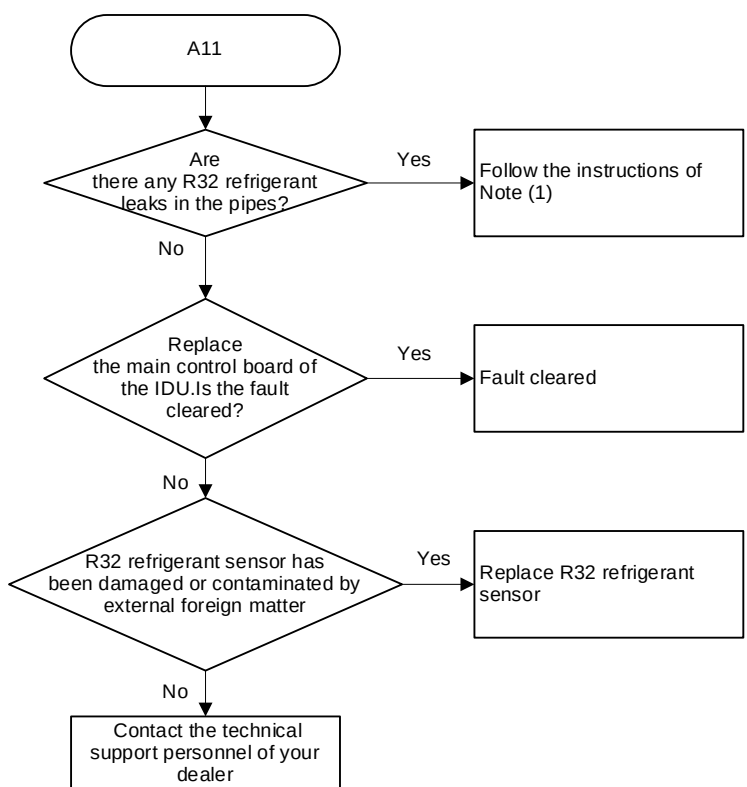
## 8.1.1 A01 – Emergency shutdown

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Display position                         |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Panel, display box, and wired controller |
| Error impact    | The faulty IDU and other IDUs of the same system: stop running, displaying code "A01" (V6 platform indoor unit displays "A0" code)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
|                 | ODU of the same system: stop running, displaying code "A01" (V6 platform outdoor unit displays "A0" code)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
| Error trigger   | When the IDU receives an emergency shutdown signal from the ODU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |
| Error recovery  | After troubleshooting, power on again                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ An emergency shutdown signal is received.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |
| Troubleshooting | <div>  <pre> graph TD     A01([A01]) --&gt; B[Find out the cause of the emergency shutdown and solve it before clearing the emergency shutdown signal]     B --&gt; C{Check whether the fault is cleared}     C -- No --&gt; D[Replace the main control board of the IDU]     C -- Yes --&gt; E[Fault cleared]                     </pre> </div> <p>Note:</p> <p>1. Emergency shutdown is usually caused by the outdoor unit receiving an emergency shutdown command sent by the central controller or external reasons. For detailed handling instructions, please refer to the corresponding outdoor unit troubleshooting manual.</p> |                                          |



## V8 VRF Indoor Units

### 8.1.2 A11 - R32 refrigerant leaks, requiring shutdown immediately

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Display position                         |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Panel, display box, and wired controller |
| Error impact    | <ul style="list-style-type: none"> <li>Faulty IDU: The fan operates at the highest speed, the EEV is closed (Note: Fault persists after power on again), and buzzer of the display control board of the faulty IDU and buzzer of wired controller connected to the faulty IDU keep beeping.</li> <li>Other IDUs of the same system: Refrigerant is recycled to ODU. After recycling is completed, other IDUs stop running, displaying code "A51" - ODU fault</li> </ul>                                                                                                                                                                            |                                          |
|                 | ODU of the same system: It stops running after recycling is completed, displaying code "A11" - IDU refrigerant leaks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |
| Error trigger   | When the IDU main control board receives a refrigerant leakage signal from R32 refrigerant detection device (See Figure 1 below) or the abnormal communication among the IDU main control board, the adapter board and the control board of the R32 refrigerant detection device causes the fault to trigger by mistake.                                                                                                                                                                                                                                                                                                                           |                                          |
| Error recovery  | Has not detected the refrigerant leak signal and has received the signal of refrigerant fault rectification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>R32 refrigerant of IDUs leaks.</li> <li>R32 refrigerant sensor is damaged or contaminated with external foreign matter (e.g. steam, oil)</li> <li>Abnormal communication among IDU main control board, adapter board and R32 refrigerant detection device control board</li> <li>IDU main control board or adapter board or R32 refrigerant detection device control board damaged</li> </ul>                                                                                                                                                                                                               |                                          |
| Troubleshooting |  <pre> graph TD     Start([A11]) --&gt; D1{Are there any R32 refrigerant leaks in the pipes?}     D1 -- Yes --&gt; N1[Follow the instructions of Note (1)]     D1 -- No --&gt; D2{Replace the main control board of the IDU. Is the fault cleared?}     D2 -- Yes --&gt; E1[Fault cleared]     D2 -- No --&gt; D3{R32 refrigerant sensor has been damaged or contaminated by external foreign matter?}     D3 -- Yes --&gt; E2[Replace R32 refrigerant sensor]     D3 -- No --&gt; E3[Contact the technical support personnel of your dealer]           </pre> |                                          |

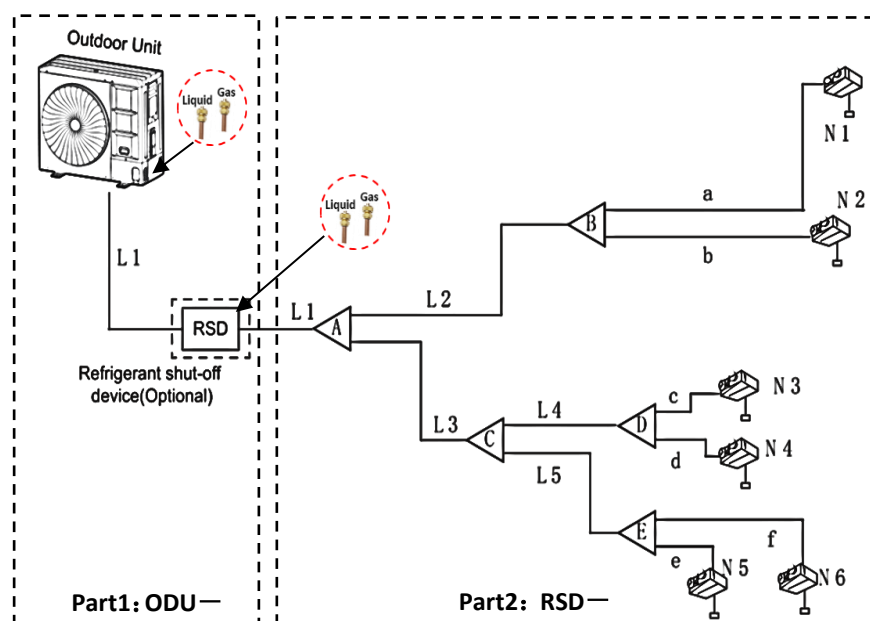
**Note 1:** Adapter board ENC1 dip switch setting When the function of determining refrigerant leakage fault is effective, if the communication abnormality between indoor unit main control board, adapter board and R32 refrigerant detection device control board lasts for more than 2 minutes (see "C79" fault handling in this manual for the communication abnormality handling method between indoor unit main control board and adapter board, and see R32 refrigerant detection device control board operation and installation manual for the communication abnormality handling method between adapter board and R32 refrigerant detection device control board), "A11" fault will be triggered by mistake.

**Note 2:**

**Step 1: Refrigerant leakage inspection method and refrigerant leakage treatment**

(1) Check whether there is refrigerant leakage in the field pipeline. Inspection method: if the system is connected with the refrigerant block device, use the refrigerant pressure gauge to connect the liquid test or gas test maintenance needle valve of the refrigerant block device; if the system is not connected with the refrigerant block device, use the refrigerant pressure gauge to connect the liquid test or gas test maintenance needle valve of the outdoor unit. Measure the refrigerant saturation gauge pressure in the field pipeline. If the measured liquid side or gas side refrigerant saturation pressure is less than the standard saturation pressure (see the table of R32 refrigerant ambient temperature and standard saturation gauge pressure in the attached table of this manual), it is determined that there is refrigerant leakage. Follow these steps to handle refrigerant leaks:

- As shown in the figure below, use the refrigerant recovery device to recover the refrigerant in Part 1 and Part 2 respectively. Note: 1) The recovery device must be connected to the liquid/gas side needle valve at the same time to ensure that the residual refrigerant in the liquid pipe and the air pipe is recovered completely; 2) For the recovery of Part 1, it is necessary to enter the outdoor unit engineering menu and select the vacuumizing mode to ensure that all valve bodies of the outdoor unit are in the open state.



- Recharge refrigerant according to the ODU Installation Manual.

(2) If the measured refrigerant saturation pressure on the liquid side or gas side is equal to the standard saturation pressure (see Table of Ambient Temperature and Standard Saturation Pressure of R32 attached to this manual), confirm whether there is a refrigerant leak by using refrigerant testing instruments. If it is determined that there is a refrigerant leak, please operate the refrigerant leak handling procedure above.

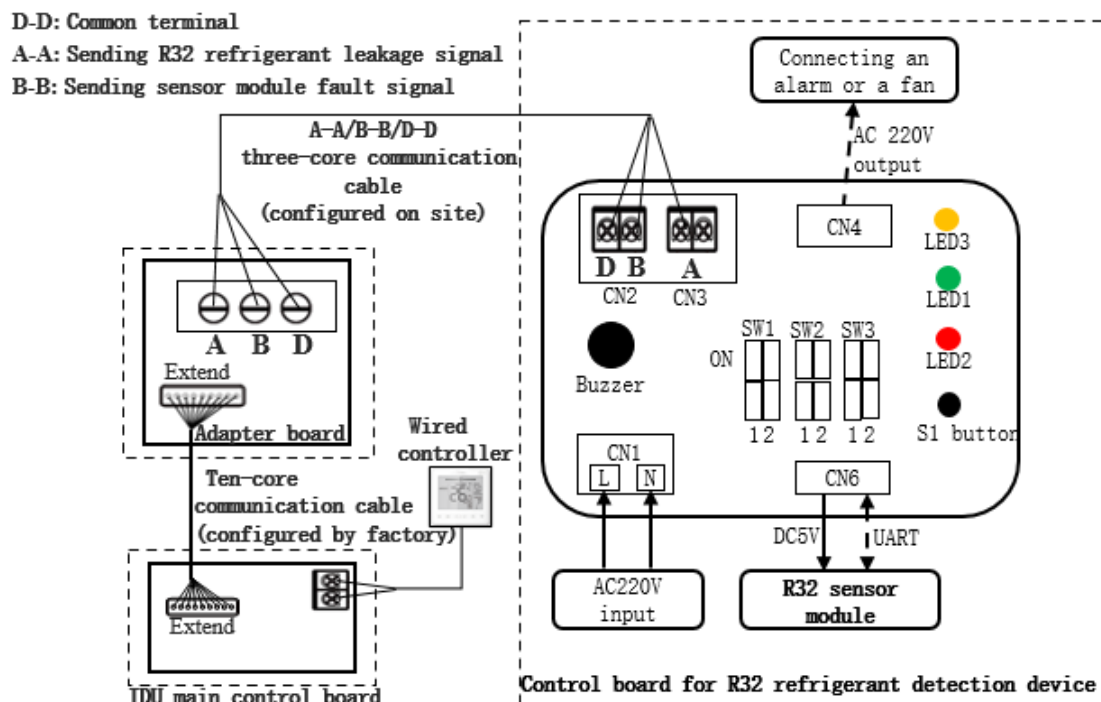
### Step 2: Reset the R32 refrigerant detection device.

Refer to Figure 1 below. After the refrigerant leakage alarm, the red LED (LED 2) in the R32 refrigerant detection device lights up once every 1s, and the buzzer sounds once every 1s. After maintenance, press and hold the S1 key on the control panel for 10s to reset. After resetting, all LEDs are on for 2S and then go out, and the buzzer stops ringing. The R32 sensor life timing recorded by EERPOM on the control panel is cleared.

### Step 3: Wired controller reset operation.

When the wired controller receives the refrigerant leakage fault command transmitted by the indoor unit, the interface will display the "A11" code, and the buzzer will sound once every 1s. After the above step 1/2 is completed and the R32 refrigerant leakage alarm signal is OFF, enter the wired controller engineering parameter setting menu to select the parameter: refrigerant leakage fault reset. After the reset is completed, the interface will no longer display the "A11" code, and the buzzer stops ringing. Note: If the R32 refrigerant leakage alarm signal = ON, the reset operation is invalid!

Figure 1 Schematic diagram of the R32 refrigerant leakage detection system



Note: The A/B/D wet printed numbers on the adapter board and the R32 refrigerant detection device control board are only used for the connection of the communication line. Please refer to the corresponding requirements in the installation instructions of the adapter board and the R32 refrigerant detection device control board when connecting the communication line on site.

## 8.1.3 A51 - ODU fault

| Error display  | Digital display                                                                                                                                                                                                                                                                                                 | Display position                         |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                |                                                                                                                                                                                                                                | Panel, display box, and wired controller |
| Error impact   | The faulty IDU and other IDUs of the same system: The fan continues running, the EEV is closed, and code "A51" is displayed (V6 platform IDU displays the code "Ed")                                                                                                                                            |                                          |
|                | ODU of the same system: <ul style="list-style-type: none"> <li>■ stops.</li> <li>■ The displayed code depends on the error type of the ODU. For the meaning of the code, please refer to the error table specific to the model of the ODU.</li> </ul>                                                           |                                          |
| Error trigger  | Duration of ODU error ≥ 10 minutes                                                                                                                                                                                                                                                                              |                                          |
| Error recovery | Automatic recovery                                                                                                                                                                                                                                                                                              |                                          |
| Possible cause | <ul style="list-style-type: none"> <li>■ The ODU error is transmitted to the IDU.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                  |                                          |
|                | <div> <pre> graph TD     A51([A51]) --&gt; B[Troubleshoot ODU according to ODU Maintenance Guide]     B --&gt; C{Check whether the fault is cleared}     C -- No --&gt; D[Replace the main control board of the IDU]     C -- Yes --&gt; E[Fault cleared]           </pre> </div> |                                          |

## V8 VRF Indoor Units



### 8.1.4 A71 - The error of the linked FAPU is transmitted to the master IDU (series setting)

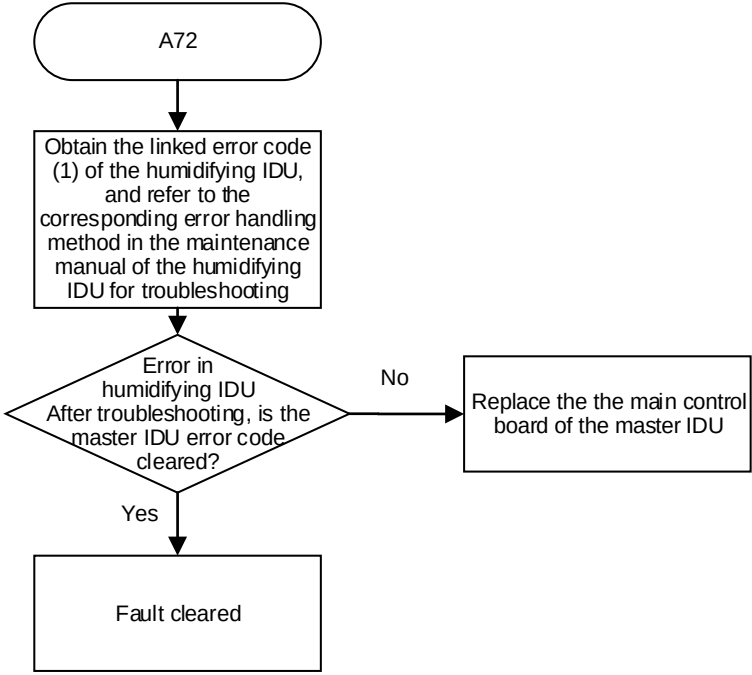
Note:

- 1) The type of FAPU may be HRV, VRF fresh air IDU and so on.
- 2) Series setting: The air supply side of the linked FAPU is directly connected to the air return side of the master IDU through an air duct. A wired controller is used to set this installation method as a series connection.

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Display position (master IDU)            |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Panel, display box, and wired controller |
| Error impact    | The master IDU and the linked FAPU: stop. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| Error trigger   | The error of the linked FAPU is transmitted to the master IDU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The FAPU is faulty.</li> <li>■ The master IDU's main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
| Troubleshooting | <div> <pre> graph TD     Start([A71/A73]) --&gt; Step1[Obtain the linked error code (1) of the FAPU, and refer to the corresponding error handling method in the maintenance manual of the FAPU for troubleshooting]     Step1 --&gt; Decision{Error in FAPU<br/>After troubleshooting, is the master IDU error code cleared?}     Decision -- No --&gt; Step2[Replace the the main control board of the master IDU]     Decision -- Yes --&gt; End([Fault cleared])                     </pre> </div> <p>Note:</p> <p>1. The error code can be queried after the FAPU is connected to the wired controller or the display box.</p> |                                          |

## 8.1.5 A72 - The error of the linked humidifying IDU is transmitted to the master IDU

| Error display  | Digital display                                                                                                                               | Display position (master IDU) |                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------|
|                |                                                              | Panel or display box          | Wired controller            |
|                |                                                                                                                                               | Spot check interface query    | Error code is not displayed |
| Error impact   | Master IDU: operates normally. Humidifying IDUs: stop. Other IDUs of the same system: operate normally.                                       |                               |                             |
|                | ODU of the same system: operate normally.                                                                                                     |                               |                             |
| Error trigger  | The error of the linked humidifying IDU is transmitted to the master IDU                                                                      |                               |                             |
| Error recovery | Automatic recovery                                                                                                                            |                               |                             |
| Possible cause | <ul style="list-style-type: none"> <li>■ The humidifying IDU is faulty.</li> <li>■ The master IDU's main control board is damaged.</li> </ul> |                               |                             |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Troubleshooting |  <pre> graph TD     A72([A72]) --&gt; B[Obtain the linked error code (1) of the humidifying IDU, and refer to the corresponding error handling method in the maintenance manual of the humidifying IDU for troubleshooting]     B --&gt; C{Error in humidifying IDU<br/>After troubleshooting, is the master IDU error code cleared?}     C -- Yes --&gt; D[Fault cleared]     C -- No --&gt; E[Replace the the main control board of the master IDU]         </pre> |
|                 | <p>Note:</p> <p>1. The error code can be queried after the humidifying IDU is connected to the wired controller or the display box.</p>                                                                                                                                                                                                                                                                                                                                                                                                                 |

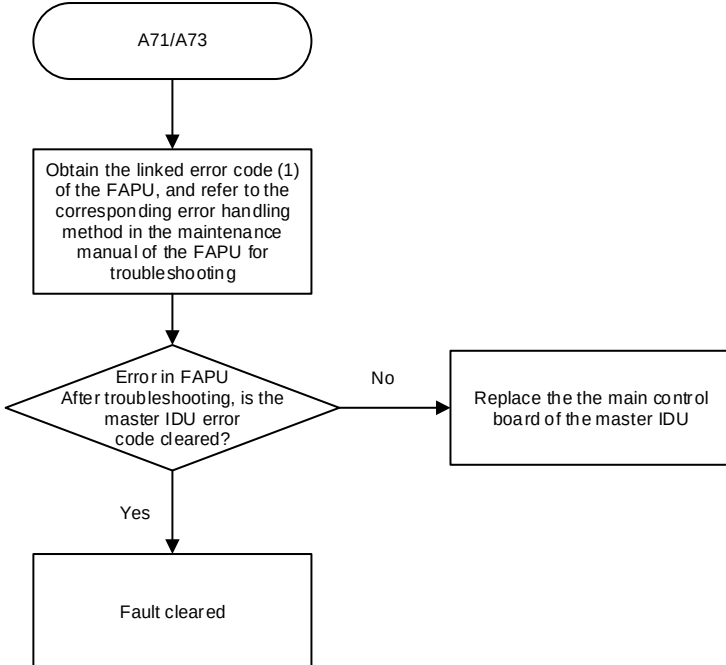


## V8 VRF Indoor Units

### 8.1.6 A73 - The error of the linked FAPU is transmitted to the master IDU (non-series connection)

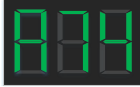
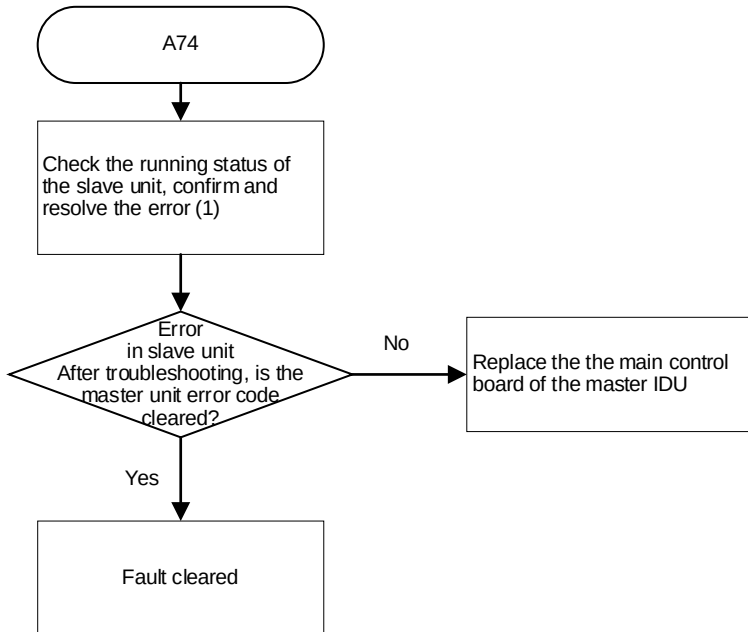
Note:

- 1) The type of FAPU may be HRV, VRF fresh air IDU and so on.
- 2) Series setting: The linked FAPU and the master IDU are connected to the air supply duct and air return duct respectively and separately. A wired controller is used to set this installation method as a non-series connection.

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Display position (master IDU) |                             |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Panel or display box          | Wired controller            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Spot check interface query    | Error code is not displayed |
| Error impact    | Master IDU: operates normally. FAPU: stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                               |                             |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |                             |
| Error trigger   | The error of the linked FAPU is transmitted to the master IDU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                               |                             |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                               |                             |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The FAPU is faulty.</li> <li>■ The master IDU's main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                               |                             |
| Troubleshooting | <div style="text-align: center;">  <pre> graph TD     Start([A71/A73]) --&gt; Process[Obtain the linked error code (1) of the FAPU, and refer to the corresponding error handling method in the maintenance manual of the FAPU for troubleshooting]     Process --&gt; Decision{Error in FAPU&lt;br/&gt;After troubleshooting, is the master IDU error code cleared?}     Decision -- Yes --&gt; End([Fault cleared])     Decision -- No --&gt; Replace[Replace the the main control board of the master IDU]           </pre> </div> <p>Note:</p> <ol style="list-style-type: none"> <li>1. The error code can be queried after the FAPU is connected to the wired controller or the display box.</li> </ol> |                               |                             |

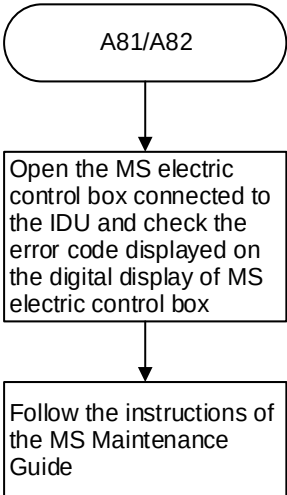
### 8.1.7 A74 - The error of the AHU Kit slave unit is sent to the master unit

Note: When multiple AHU Kits are connected in parallel, the master AHU Kit (referred to as the master) communicates with the ODU, and the slave AHU Kit (referred to as the slave) communicates with the master unit. When the slave fails, the slave unit sends a fault signal to the master unit, and the master unit displays 'A74' (the slave fault).

| Error display  | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Display position (master)         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Display box and wired controller* |
| Error impact   | Master unit and slave unit: stop. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |
|                | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                   |
| Error trigger  | The error of the slave unit is sent to the master unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                   |
| Error recovery | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |
| Possible cause | <ul style="list-style-type: none"> <li>■ The slave unit is faulty.</li> <li>■ The master unit's main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                   |
|                | <div> <div>Troubleshooting</div> <div>  <pre> graph TD     A74([A74]) --&gt; B[Check the running status of the slave unit, confirm and resolve the error (1)]     B --&gt; C{Error in slave unit<br/>After troubleshooting, is the master unit error code cleared?}     C -- Yes --&gt; D[Fault cleared]     C -- No --&gt; E[Replace the the main control board of the master IDU]                     </pre> </div> <div> <p>Note:</p> <p>1. When the display box or wired controller is connected to the slave unit, fault codes can be queried (when repairing on site, the display box or wired controller of the main unit can be temporarily removed and connected to the slave unit)</p> </div> </div> |                                   |

## V8 VRF Indoor Units

### 8.1.8 A81 - Self-check fault

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                             | Display position                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                            | Panel, display box, and wired controller |
| Error impact    | Faulty IDU: stops. Other IDUs of the same system: <ul style="list-style-type: none"> <li>■ IDUs that share the same MS with the faulty IDU will stop operating, while other IDUs remain in operation.</li> <li>■ IDUs that share the same MS with the faulty IDU display the code "A81" (V6 platform IDU displays the code "U4"). Meaning of the code: MS self-check fault); IDUs that are connected to other MSs work properly.</li> </ul> |                                          |
|                 | ODU of the same system: <ul style="list-style-type: none"> <li>■ stops.</li> <li>■ V8 platform ODU displays the code "A81", and V6 platform ODU displays the code "U4". Meaning of the code: MS self-check fault)</li> </ul>                                                                                                                                                                                                                |                                          |
| Error trigger   | The MS self-check fault lasts for at least 10 min                                                                                                                                                                                                                                                                                                                                                                                           |                                          |
| Error recovery  | The fault is cleared if one of the following conditions is met: <ul style="list-style-type: none"> <li>■ Automatic recovery 30 min after the MS fault is cleared</li> <li>■ Power on again</li> </ul>                                                                                                                                                                                                                                       |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ A fault may occur during the MS self-check process.</li> </ul>                                                                                                                                                                                                                                                                                                                                     |                                          |
| Troubleshooting |  <pre> graph TD     A81A82([A81/A82]) --&gt; B[Open the MS electric control box connected to the IDU and check the error code displayed on the digital display of MS electric control box]     B --&gt; C[Follow the instructions of the MS Maintenance Guide]           </pre>                                                                          |                                          |

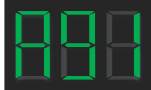
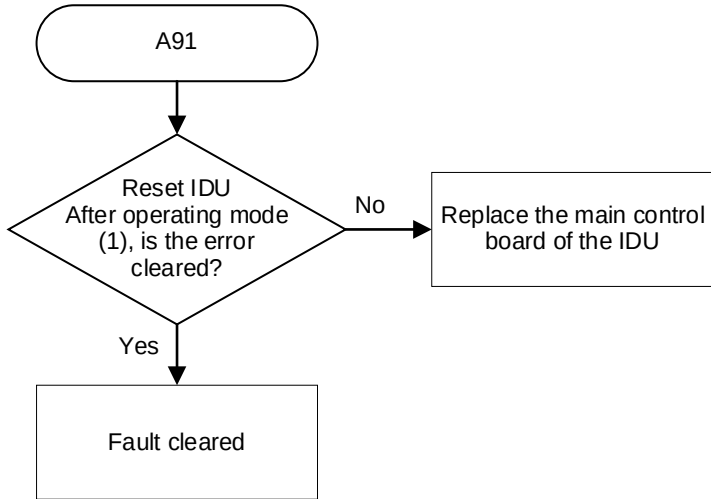
## 8.1.9 A82 - MS (refrigerant flow direction switching device) fault

| Faulty IDU      | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Display position                         |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                        | Panel, display box, and wired controller |
| Error impact    | Faulty IDU: The fan continues running, and the EEV is closed. Other IDUs of the same system: <ul style="list-style-type: none"> <li>■ IDUs that share the same MS with the faulty IDU: The fan continues running, and the EEV is closed. Other IDUs remain in operation.</li> <li>■ IDUs that share the same MS with the faulty IDU: V8 platform IDU displays the code "A82", and V6 platform IDU displays the code "F8". Meaning of the code: MS fault. IDUs that are connected to other MSs work properly.</li> </ul> |                                          |
|                 | ODU of the same system: <ul style="list-style-type: none"> <li>■ Shutdown</li> <li>■ V8 platform ODU displays the code "A82" (V6 platform ODU displays the code "F8". Meaning of the code: MS fault)</li> </ul>                                                                                                                                                                                                                                                                                                         |                                          |
| Error trigger   | When the IDU receives a fault signal from MS                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |
| Error recovery  | Automatic recovery (Note: Duration from fault triggering to automatic recovery is at least 30 min)                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
| Possible cause  | The MS is faulty.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
| Troubleshooting | <div> <pre> graph TD     A([A81/A82]) --&gt; B[Open the MS electric control box connected to the IDU and check the error code displayed on the digital display of MS electric control box]     B --&gt; C[Follow the instructions of the MS Maintenance Guide]           </pre> </div>                                                                                                                                                                                                    |                                          |

## V8 VRF Indoor Units

### 8.1.10 A91 - Mode conflict (V6 communication protocol adopted)

Available when using V6 platform wired controller.

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Display position                                                                                                   |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Panel, display box, and wired controller<br>(Note: Error codes are displayed 2 minutes after faults are triggered) |
| Error impact    | Faulty IDU: The fan continues running, and the EEV is closed. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                    |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                    |
| Error trigger   | <ul style="list-style-type: none"> <li>■ The ODU is running in heating mode, and the IDU is running in cooling mode or dehumidification mode.</li> <li>■ The ODU is running in heating mode, and the IDU is running in fan mode (note: the wired controller can be used to set whether the heating mode conflicts with the fan mode).</li> <li>■ The ODU is running in cooling mode, and the IDU is running in heating mode.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                    |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                    |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The operation mode of IDU conflicts with that of the ODU.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                    |
| Troubleshooting | <div>  <pre> graph TD     A91([A91]) --&gt; D{Reset IDU<br/>After operating mode<br/>(1), is the error<br/>cleared?}     D -- Yes --&gt; FC[Fault cleared]     D -- No --&gt; RMCB[Replace the main control<br/>board of the IDU]           </pre> </div> <p>Note:</p> <ol style="list-style-type: none"> <li>For all IDUs in the heat pump system (Except for DC Fresh Air Processing Unit): 1) When the ODU is running in heating mode, the IDU can only operate in heating mode. If you would like to use the fan mode for the IDU, the wired controller needs to be used to change the settings (for more instructions on how to change settings, refer to "Instruction for Use of the wired controller").</li> <li>When the ODU is running in cooling mode, the IDU can operate in cooling mode or fan mode.</li> </ol> |                                                                                                                    |

## 8.1.11 b11, b13 - Error in 1# electronic expansion valve coil, error in 2# electronic expansion valve coil

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Display position                         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                          |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                          |
| Error trigger   | The IDU main control board cannot detect the feedback signal from the electronic expansion valve coil for no less than 4 seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                          |
| Error recovery  | After the unit is powered on again, the main control program detects a feedback signal from the electronic expansion valve.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The electronic expansion valve coil plugged into the EEV port in the IDU main control board is loose.</li> <li>■ The IDU main control board is damaged.</li> <li>■ The electronic expansion valve coil is faulty.</li> <li>■ The electronic expansion valve coil is short circuited or disconnected.</li> </ul>                                                                                                                                                                                                                                                                                 |  |                                          |
| Troubleshooting | <pre> graph TD     Start([b11/b13 (1)]) --&gt; D1{Is the electronic expansion valve coil plugged into the EXV port in the IDU main control board loose?}     D1 -- Yes --&gt; A1[Reconnect the plug tightly]     D1 -- No --&gt; D2{Check the electronic expansion valve Is the coil abnormal (2)?}     D2 -- Yes --&gt; A2[Replace the electronic expansion valve coil]     D2 -- No --&gt; D3{Check the electronic expansion valve Is the coil adapter short circuited or disconnected (3)?}     D3 -- Yes --&gt; A3[Replace the adapter]     D3 -- No --&gt; A4[Replace the main control board of the IDU]                     </pre> |  |                                          |

Note:

1. The error code corresponds to the following two situations:
  - a. If there is only one electronic expansion valve port on the main control board of the IDU, when an error occurs in the electronic expansion valve coil connected to the EEV port, the error code is b05.
  - b. If there are two electronic expansion valve ports on the main control board of the IDU named EEV1 and EEV2, when an error occurs in the electronic expansion valve coil connected to port EEV1, the error code is b05; when an error occurs in the electronic expansion valve coil connected to port EEV2, the error code is b07.
2. In Figure 1 below: The numbers 1 to 5 stand for the pins of different colours paired with individual wires which have the same colour as the pin. 5(com) is a pin of the common terminal, and number 6 is a null pin without any wire connected; an XHP coil plug is used to connect to the EEV port of the main control board, and an APM coil plug is used to connect to the A-direction plug of the adapter wire (see Figure 2 below). Table 1 shows the resistance between pin 1-4 and pin 5 (the common terminal) when the electronic expansion valve coil is in a normal state. If the resistance is near zero or significantly deviates from its normal state, the coil is damaged.

Figure 1: Electronic expansion valve coil plug illustration and pin sequence

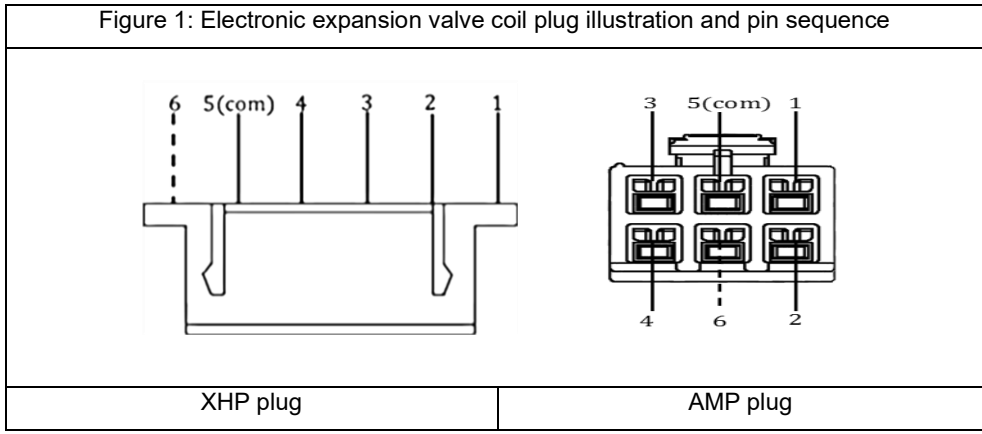
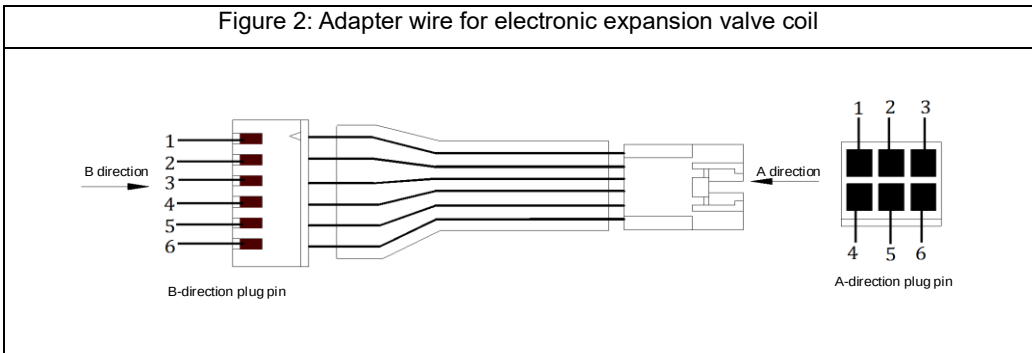


Table 1: Resistance between pins with an electronic expansion valve coil in normal condition

| Pin measured | Resistance in normal status |
|--------------|-----------------------------|
| 1-5          | 40-50Ω                      |
| 2-5          | 40-50Ω                      |
| 3-5          | 40-50Ω                      |
| 4-5          | 40-50Ω                      |

3. When the distance between the throttle part and the main control board of the IDU in need of connection is too great, you will need an adapter wire for the electronic expansion valve coil. This is shown in Figure 2 below: Use a multimeter to measure the resistance between the pin in the plug at end A of each wire and at end B. A resistance value close to 0 indicates a short circuit has occurred in the wire, and a resistance value close to infinity indicates an open circuit of the wire.

Figure 2: Adapter wire for electronic expansion valve coil





## 8.1.12 b12, b14 - Error in 1# electronic expansion valve body, error in 2# electronic expansion valve body

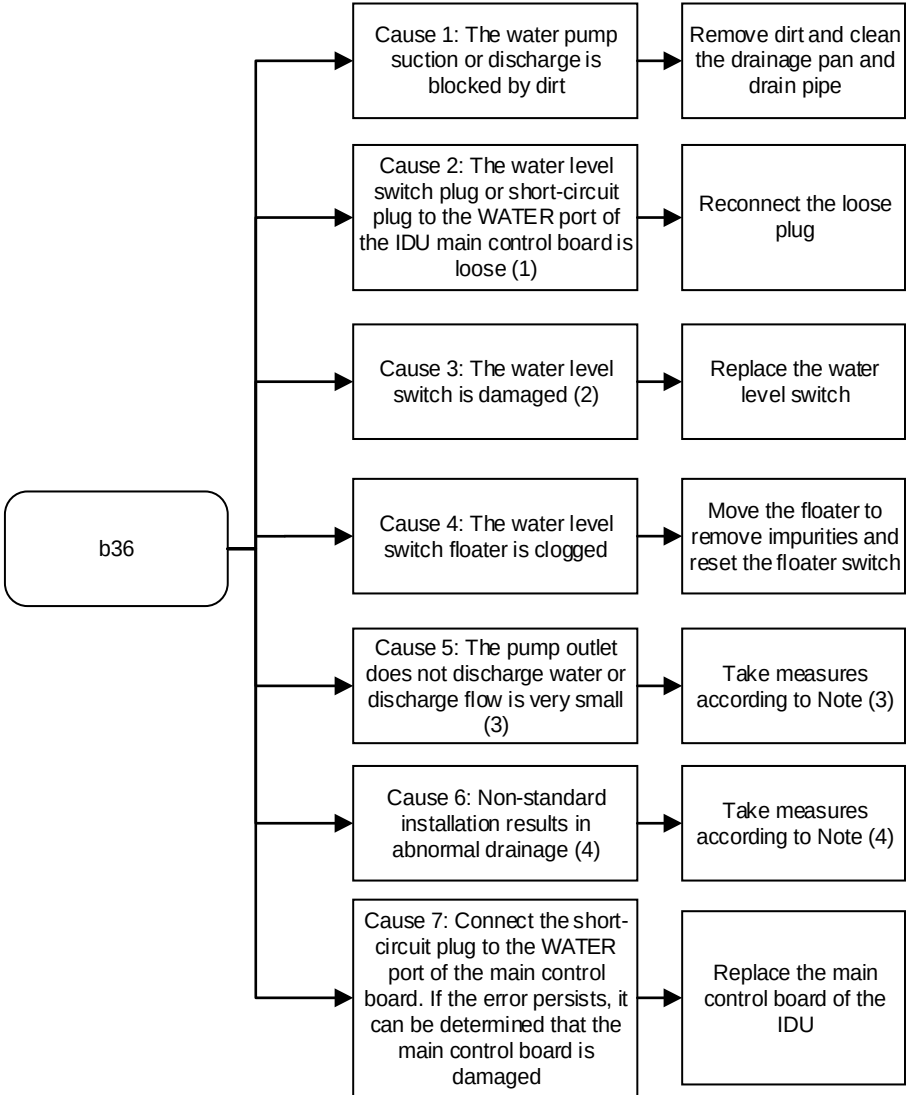
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Display position           |                             |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------|-----------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Panel or display box       | Wired controller            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Spot check interface query | Error code is not displayed |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                            |                             |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                            |                             |
| Error trigger   | <ul style="list-style-type: none"> <li>Return air temperature(T1) - Heat exchanger liquid pipe temperature (T2A) &gt; Set value</li> <li>IDU EEV=0, ODU running in cooling mode and compressor speed ≠0</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                            |                             |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                            |                             |
| Possible cause  | <ul style="list-style-type: none"> <li>The electronic expansion valve needle is stuck or clogged.</li> <li>The electronic expansion valve coil is damaged and unable to drive the valve body.</li> <li>The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                            |                             |
| Troubleshooting | <div> <pre> graph TD     Start([b12/b14 (1)]) --&gt; D1{Remove the coil and fix it to the valve body again. Is the fault cleared?}     D1 -- Yes --&gt; E1[Operate normally (loose coil)]     D1 -- No --&gt; D2{Replace the coil and re-energize. Is the error cleared?}     D2 -- Yes --&gt; E2[Operate normally (the coil cannot drive the valve body)]     D2 -- No --&gt; D3{Replace the main control board. Is the fault cleared?}     D3 -- Yes --&gt; E3[Operate normally (the IDU main control board is damaged and the electronic expansion valve body cannot be driven)]     D3 -- No --&gt; E4[Replace the electronic expansion valve body (the interior of the body is clogged or the valve needle is stuck)]                     </pre> </div> <p>Note:</p> <ol style="list-style-type: none"> <li>The error code corresponds to the following two situations: <ol style="list-style-type: none"> <li>If there is only one electronic expansion valve port on the main control board of the IDU, when an internal leakage error occurs in the electronic expansion valve body connected to the EEV port, the error code is b12.</li> <li>If there are two electronic expansion valve ports on the main control board of the IDU named EEV1 and EEV2, when there is a leak inside the electronic expansion valve body connected to port EEV1, the error code is b12; when there is a leak inside the electronic expansion valve body connected to port EEV2, the error code is b14.</li> </ol> </li> </ol> |  |                            |                             |

## V8 VRF Indoor Units

### 8.1.13 b34, b35 - Stall protection for 1# water pump, stall protection on 2# water pump

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Display position                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                          |
| Error trigger   | The main control board of the IDU detects the pump rotation speed $\leq 100$ rpm for 10 seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The water pump suction impeller is clogged.</li> <li>■ The water pump plug to the PUMP port in the IDU main control board is loose.</li> <li>■ The pump body is damaged (due to motor damage, control drive circuit damage, etc.).</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                          |
| Troubleshooting | <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>DC-PUMP<br/>CN190</p> </div> <div> <pre> graph LR     A[b34/b35 (1)] --&gt; B[Cause 1: Water pump suction impeller is clogged]     A --&gt; C[Cause 2: The water pump plug to the PUMP port in the IDU main control board is loose]     A --&gt; D[Cause 3: DC voltage output between Pin 2 and Pin 3 of the PUMP port in the main control board is less than 11V (2)]     A --&gt; E[Cause 4: If the error cannot be cleared after causes 1/2/3 have been eliminated, it can be determined that the pump body is damaged]     B --&gt; B1[Remove the debris at the suction, and clean the drainage pan and drain pipe]     C --&gt; C1[Reconnect the loose plug]     D --&gt; D1[Replace the main control board of the IDU]     E --&gt; E1[Replace the water pump]           </pre> </div> </div> <p>Note:</p> <ol style="list-style-type: none"> <li>The error code corresponds to the following two situations:             <ol style="list-style-type: none"> <li>If there is only one PUMP port on the main control board of the IDU, when a stall error occurs in the water pump connected to the PUMP port, the error code is b34.</li> <li>If there are two PUMP ports on the main control board of the IDU named PUMP1 and PUMP2, when a stall error occurs in the water pump connected to PUMP1 port, the error code is b34; when a stall error occurs in the water pump connected to PUMP2 port, the error code is b35.</li> </ol> </li> <li>Figure 1 above shows the pins of the PUMP port. The output voltage between pin 2 and pin 3 can be measured with a multimeter in DC voltage gear. If the output voltage is less than 11 V, the water pump cannot be driven.</li> </ol> |  |                                          |

## 8.1.14 b36 - Water level switch alarm error

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Display position                         |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |
| Error trigger   | The water level switch alarm is triggered when the floater of the water level switch rises to the warning water level and lasts for 5 min.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The drain pump/water level switch is damaged.</li> <li>■ Water level switch float is stuck by a foreign object</li> <li>■ The water level switch plug or short-circuit plug to the WATER port of the IDU main control board is loose.</li> <li>■ Non-standard installation results in abnormal drainage: The drain pipe is blocked; the improperly sloped drain pipe causes the condensate water to flow backwards; and the lift of the drain pipe exceeds the allowable value.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
| Troubleshooting |  <pre> graph LR     b36[b36] --&gt; C1[Cause 1: The water pump suction or discharge is blocked by dirt]     b36 --&gt; C2[Cause 2: The water level switch plug or short-circuit plug to the WATER port of the IDU main control board is loose (1)]     b36 --&gt; C3[Cause 3: The water level switch is damaged (2)]     b36 --&gt; C4[Cause 4: The water level switch floater is clogged]     b36 --&gt; C5[Cause 5: The pump outlet does not discharge water or discharge flow is very small (3)]     b36 --&gt; C6[Cause 6: Non-standard installation results in abnormal drainage (4)]     b36 --&gt; C7[Cause 7: Connect the short-circuit plug to the WATER port of the main control board. If the error persists, it can be determined that the main control board is damaged]     C1 --&gt; S1[Remove dirt and clean the drainage pan and drain pipe]     C2 --&gt; S2[Reconnect the loose plug]     C3 --&gt; S3[Replace the water level switch]     C4 --&gt; S4[Move the floater to remove impurities and reset the floater switch]     C5 --&gt; S5[Take measures according to Note (3)]     C6 --&gt; S6[Take measures according to Note (4)]     C7 --&gt; S7[Replace the main control board of the IDU]           </pre> |                                          |

# V8 VRF Indoor Units



Note:

- The plug attached to the WATER port of the main control board corresponds to the following two cases:
  - The factory default of IDUs without a water level switch uses a short-circuit plug to seal the WATER port.
  - IDUs with a water level switch use a water level switch plug to seal the WATER port.
- Use a multimeter to measure the resistance between the pins corresponding to the two wires of the water level switch plug.
  - After the floater of the water level switch is moved upwards to the highest position, the water level switch is in a short-circuited state, and the resistance value is infinite.
  - After the floater of the water level switch is moved downwards to the lowest position, the water level switch is closed, and the resistance value is less than 1 Ω. If the detected resistance value does not meet the above values, the water level switch is damaged.
- Possible causes and solutions for the situation where the pump outlet does not discharge water or the discharge flow is very small:
  - The water pump plug to the PUMP port in the IDU main control board is loose. Reconnect it firmly.
  - The drain pump suction impeller is clogged. Remove the debris causing the clog to make the pump continue running.
  - If the error cannot be cleared after implementing solutions for causes 1) and 2), the drain pump body is damaged. Replace the drain pump.
- Possible causes and solutions for abnormal drainage due to non-standard installation:
  - If the drain pipe is blocked, remove the debris and clean the drainage pan and the drain pipe of the IDU.
  - If the drain pipe is improperly installed, which causes the condensate water to flow backward, tilt the IDU to the drainage side by a certain gradient (inclination ≥ 1%). The centralized drain pipe must be lower than the drainage outlet of the unit. Air outlets must be placed at the highest horizontal pipeline (see Installation and Operation Manual of IDUs).
  - If the lift of the drain pipe exceeds the allowable value, reduce the vertical height of the drain pipe or replace the drain pump with the one which has a higher lift.

## 8.1.15 C11 - Duplicate IDU address code

| Error display         | Digital display                                                                                                                                                                                                                                       | Display position                                          |                                                  |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------|
|                       |                                                                                                                                                                                                                                                       | Panel or display box                                      | Wired controller                                 |
|                       |                                                                                                                                                                                                                                                       | Error code and address code are displayed alternately (2) | Error code and address code flash simultaneously |
| <b>Error impact</b>   | Faulty IDU: The fan continues running, and the EEV is closed. Other IDUs of the same system: The fan continues running, the EEV is closed, and error code "A51" is displayed (V6 platform IDU displays the code "Ed"). Meaning of the code: ODU fault |                                                           |                                                  |
|                       | ODU of the same system: <ul style="list-style-type: none"> <li>■ Stop.</li> <li>■ Error code "C26" is displayed (V6 platform ODU displays the code "H7"). Meaning of the code: IDU qty decrease fault</li> </ul>                                      |                                                           |                                                  |
| <b>Error trigger</b>  | Repeated address codes for IDU                                                                                                                                                                                                                        |                                                           |                                                  |
| <b>Error recovery</b> | Automatic recovery                                                                                                                                                                                                                                    |                                                           |                                                  |
| <b>Possible cause</b> | <ul style="list-style-type: none"> <li>■ Duplicate IDU address code (▲)</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                  |                                                           |                                                  |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <b>Troubleshooting</b> | <div style="text-align: center;"> <pre> graph TD     C11([C11]) --&gt; Decision{Locate the IDU that reports repeated addresses. Is the address repeated?}     Decision -- Yes --&gt; Reset[Reset the address (1)]     Decision -- No --&gt; Replace[Replace the main control board of the IDU (the communication circuit of the main control board is damaged)]           </pre> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
|                        | <p>(▲): The common reasons for address code duplication are as follows:</p> <ol style="list-style-type: none"> <li>1. After replacing the main control board, the address was not reset, resulting in address duplication. The address can be manually set using the controller or the indoor unit address can be cleared at the outdoor unit and then automatically addressed again.</li> <li>2. In systems where the nominal capacity of an indoor unit is greater than or equal to 20KW, the indoor unit usually occupies more than two addresses (one real address + several virtual addresses, see Note 1 below), which may cause the addresses of other indoor units in the system to duplicate with the virtual addresses of the large indoor unit. In this case, the indoor unit address can be cleared at the outdoor unit and then automatically addressed again, or the controller can be used to manually set the address to avoid duplicate codes when the duplicate address code is known.</li> </ol> |  |  |

Note:

1. The following table shows the number of addresses and address codes for any indoor unit (AHU kit/direct expansion unit not applicable) with different capacities (HP)

| Nominal capacity (kW) | capacity (HP) | Number of IDUs (N) | Number of addresses (N) | Address code                                                                                                                                  | Address code to be queried at the centralized controller or wired controller (★) |
|-----------------------|---------------|--------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| kW<20                 | HP<7          | 1                  | 1                       | Address code can be any integer from 0 to 63, denoted by X                                                                                    | X                                                                                |
| 20≤kW<40              | 7≤HP<14       | 1                  | 2                       | The address code can be any integer from 0 to 62, denoted by X, and the virtual address following it is X+1                                   | X                                                                                |
| 40≤kW<78.5            | 14≤HP<28      | 1                  | 4                       | The address code can be any integer from 0 to 60, denoted by X, and the virtual addresses following it are: X+1, X+2, X+3                     | X                                                                                |
| 78.5≤kW<101           | 28≤HP<36      | 1                  | 5                       | The address code can be any integer from 0 to 59, denoted by X, and the virtual addresses following it are: X+1, X+2, X+3, X+4                | X                                                                                |
| 101≤kW<112            | 36≤HP<40      | 1                  | 6                       | The address code can be any integer from 0 to 58, denoted by X, and the virtual addresses following it are: X+1, X+2, X+3, X+4, X+5           | X                                                                                |
| kW>112                | HP>40         | 1                  | 8                       | The address code can be any integer from 0 to 56, denoted by X, and the virtual addresses following it are: X+1, X+2, X+3, X+4, X+5, X+6, X+7 | X                                                                                |

★Example: If one IDU is 5 HP and the address code is set to 1, then the query address at the centralized controller side or wired controller side is 1. If one IDU is 20 HP and the address code is set to 5, then this IDU has four address codes, which are 5, 6, 7, and 8, but the query address at the centralized controller side or wired controller side is 5.

## 2. Repeated display of address codes and confirmation of repeated address codes

|                                                             | Error code | Display box/panel                                                                                                                                                                                                                                                                       | Wired controller              |
|-------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| IDU with repeated address codes (number of addresses N = 1) | C11        | Error code "C11" and address code are displayed alternately every 1s (★1)                                                                                                                                                                                                               | Error code "C11" is displayed |
| IDU with repeated address codes (number of addresses N>1)   | C11        | If the number of repeated address codes is 1, then the error code "C11" is displayed alternately with the minimum address code every 1s. If the number of repeated address codes is >1, then the error code "C11" is displayed alternately with the minimum address code every 1s; (★2) | Error code "C11" is displayed |

★ Example 1: If IDU 1 is 5 HP and the address code is set to 1, and IDU 2 is 5 HP and the address code is set to 1 too, then the display box or panel of IDU 1 and IDU 2 will alternately display the code C11 and the address code 1.

★Example 2: If IDU 1 is 20 HP and the address code is set to 1 (the addresses actually occupied are 1, 2, 3, and 4), IDU 2 is 5 HP and the address code is set to 2, IDU 3 is 5 HP and the address code is set to 3, then the display box or panel of IDU 1 will alternately display the code C11 and the address code 2 (If there are multiple repeated addresses, then the minimum address code is displayed); the display box or panel of IDU 2 will alternately display the code C11 and the address code 2; and the display box or panel of IDU 3 will alternately display the code C11 and the address code 3.



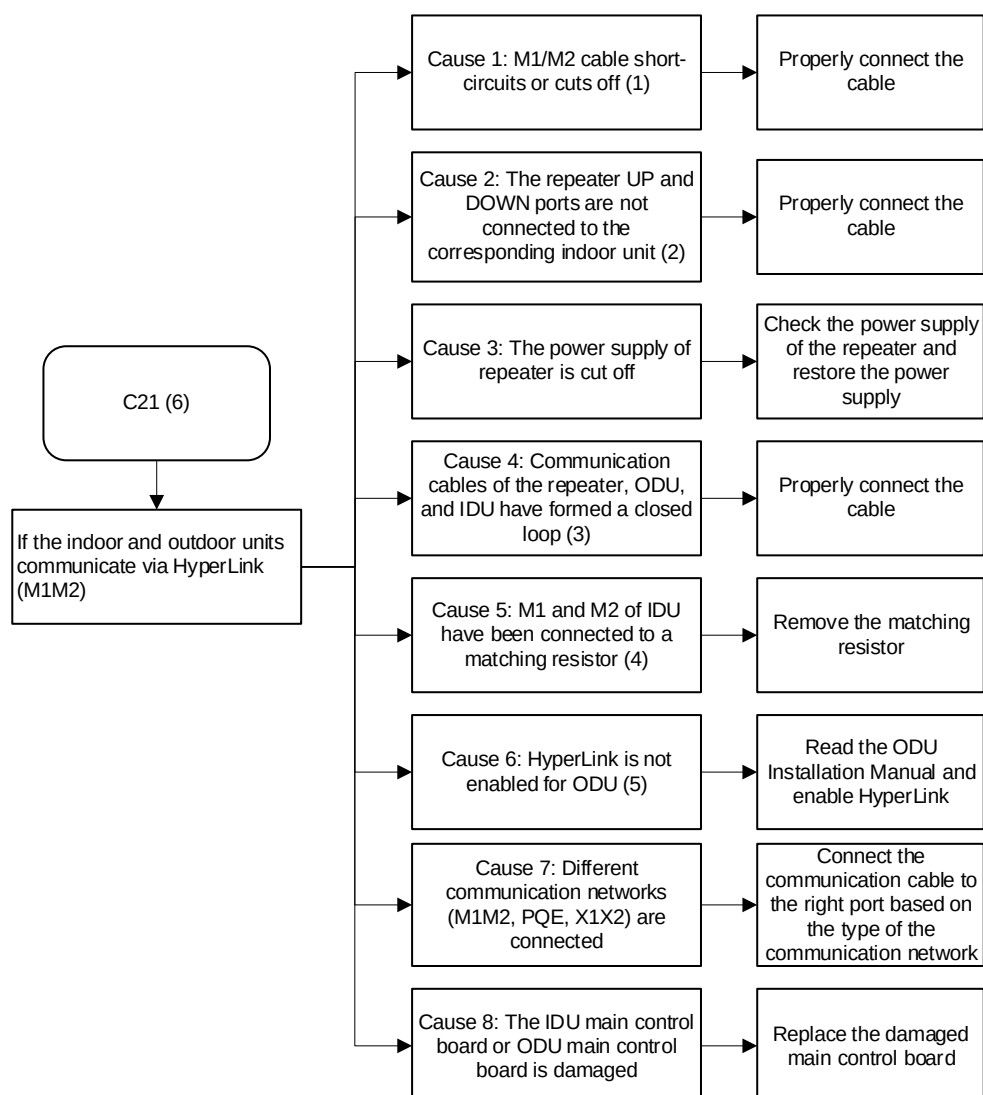
## V8 VRF Indoor Units

### 8.1.16 C21 - Abnormal communication between IDU and ODU

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Display position                         |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Panel, display box, and wired controller |
| Error impact    | Faulty IDU: The fan continues running, and the EEV is closed. Other IDUs of the same system: The fan continues running, the EEV is closed, and error code "A51" is displayed (V6 platform IDU displays the code "Ed"). Meaning of the code: ODU fault                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
|                 | ODU of the same system: <ul style="list-style-type: none"> <li>■ stops.</li> <li>■ Error code "C26" is displayed (V6 platform ODU displays the code "H7"). Meaning of the code: IDU qty decrease fault</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| Error trigger   | If the IDU has not received any communication signal from ODU for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| Troubleshooting | ■ If the indoor and outdoor units communicate via RS-485(PQE/PQ): <div style="text-align: center; margin-top: 20px;"> <pre> graph TD     C21[C21 (6)] --&gt; Start[If the indoor and outdoor units communicate via RS-485 (PQE/PQ)]     Start --&gt; C1[Cause 1: P/Q/E communication cable short-circuits or cuts off (1)]     Start --&gt; C2[Cause 2: Communication cables are not connected in a series]     Start --&gt; C3[Cause 3: Cable P or Q is connected to port E]     Start --&gt; C4[Cause 4: The communication cable does not have a shield layer]     Start --&gt; C5[Cause 5: Interfered by strong-current power cables (over 220 V)]     Start --&gt; C6[Cause 6: Interfered by electromagnetic radiation source (transformer/high-power fluorescent lamp, etc.)]     Start --&gt; C7[Cause 7: Different communication networks (M1M2, PQE, X1X2) are connected]     Start --&gt; C8[Cause 8: The IDU main control board or ODU main control board is damaged]     C1 --&gt; S1[Properly connect the cable]     C2 --&gt; S2[Connect the cables in a series]     C3 --&gt; S3[Connect P/Q/E to the right port]     C4 --&gt; S4[Use shielded cables]     C5 --&gt; S5[Separate the communication cable from the strong-current power cable]     C6 --&gt; S6[Eliminate sources of interference or add one more shield to the cable]     C7 --&gt; S7[Connect the communication cable to the right port based on the type of the communication network]     C8 --&gt; S8[Replace the damaged main control board]           </pre> </div> |                                          |
|                 | Note 1: If you measure the resistance between ports P, Q, and E of the IDU main control board, normally the resistance between P and Q is 120 Ω, the resistance between P and E is infinite, and the resistance between Q and E is infinite.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |

## Troubleshooting

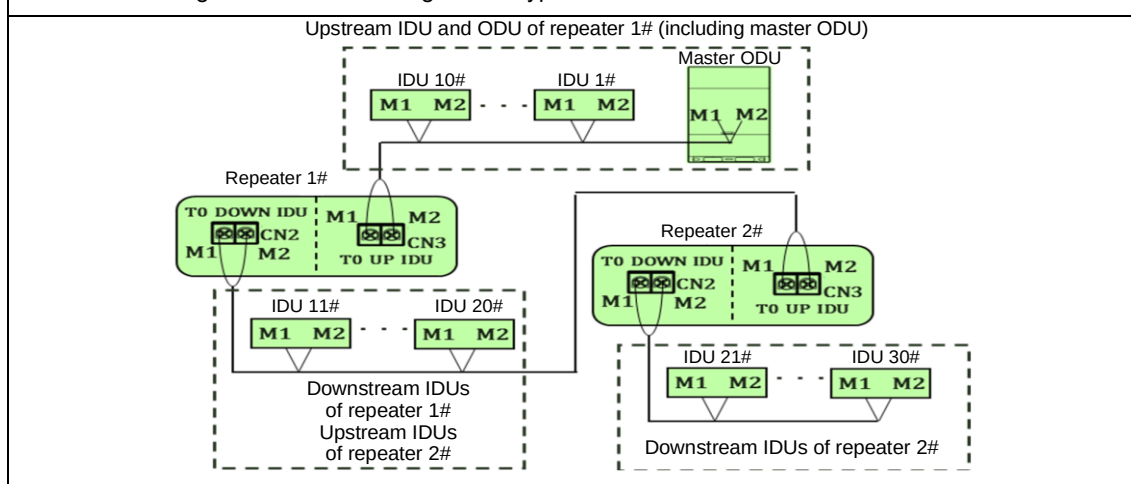
- If the indoor and outdoor units communicate via HyperLink (M1M2):



## Note:

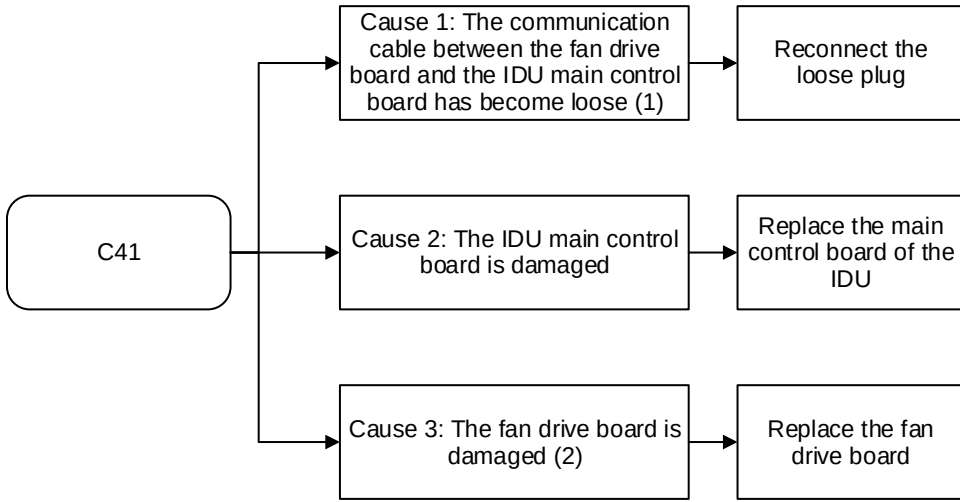
1. If you measure the resistance between terminal blocks M1 and M2 of the IDU main control board, normally this resistance is greater than 1 MΩ.
2. Figure 1 shows the schematic diagram of HyperLink communication line connection. The connection of repeater wires must comply with the following requirements. Otherwise, an IDU communication fault may occur.

Figure 1 Schematic diagram of HyperLink communication cable connection



- 1) The UP communication port of 1# repeater is connected to the communication port of 10# IDU, and the DOWN communication port of 1# repeater is connected to the communication port of 11# IDU.
- 2) The UP communication port of 2# repeater is connected to the communication port of 20# IDU, and the DOWN communication port of 2# repeater is connected to the communication port of 21# IDU.
- 3) For each repeater added, 10 IDUs and 200 m communication distance can be added. A refrigerant system allows the addition of a maximum of 2 repeaters and can connect to up to 30 IDUs. If more than 30 IDUs are connected, please allocate separate refrigerant systems.
3. If communication cables connecting the communication ports of the repeater, IDU and ODU form a closed loop, it will cause a communication fault.
4. RS-485 communication cables must be connected hand in hand. If communication is unstable, a matching resistor needs to be added to the last IDU on the PQ (in the accessory bag of the ODU). However, a matching resistor should not be added between M1 and M2. Otherwise, a communication fault may occur.
5. To select the communication mode HyperLink (M1M2), users must go to the ODU menu item to change the mode (For the setting method, refer to the ODU Installation Manual). Otherwise, communication faults may occur.
6. The V8 platform ODU typically uses the V8 communication protocol. If there are any IDUs that use a non-V8 platform, users must go to the ODU menu item to change the communication protocol (Please refer to the ODU Installation Manual for setup instructions). Otherwise, these IDUs will display communication fault codes (For the code number, please refer to the IDU wiring nameplate).

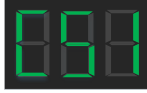
## 8.1.17 C41 - Abnormal communication between IDU main control board and fan drive board

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Display position                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |
| Error trigger   | If the main control board of an IDU has lost communication with the fan drive board for 2 min (3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The fan drive board is damaged.</li> <li>■ The IDU main control board is damaged.</li> <li>■ The communication cable between the fan drive board and the IDU main control board has become loose.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| Troubleshooting | <div>  <pre> graph LR     C41([C41]) --&gt; C1[Cause 1: The communication cable between the fan drive board and the IDU main control board has become loose (1)]     C41 --&gt; C2[Cause 2: The IDU main control board is damaged]     C41 --&gt; C3[Cause 3: The fan drive board is damaged (2)]     C1 --&gt; R1[Reconnect the loose plug]     C2 --&gt; R2[Replace the main control board of the IDU]     C3 --&gt; R3[Replace the fan drive board]                     </pre> </div> <p>Note:</p> <ol style="list-style-type: none"> <li>Communication cables are only provided for units whose fan drive board is independent of the IDU main control board.</li> <li>For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</li> </ol> |                                          |

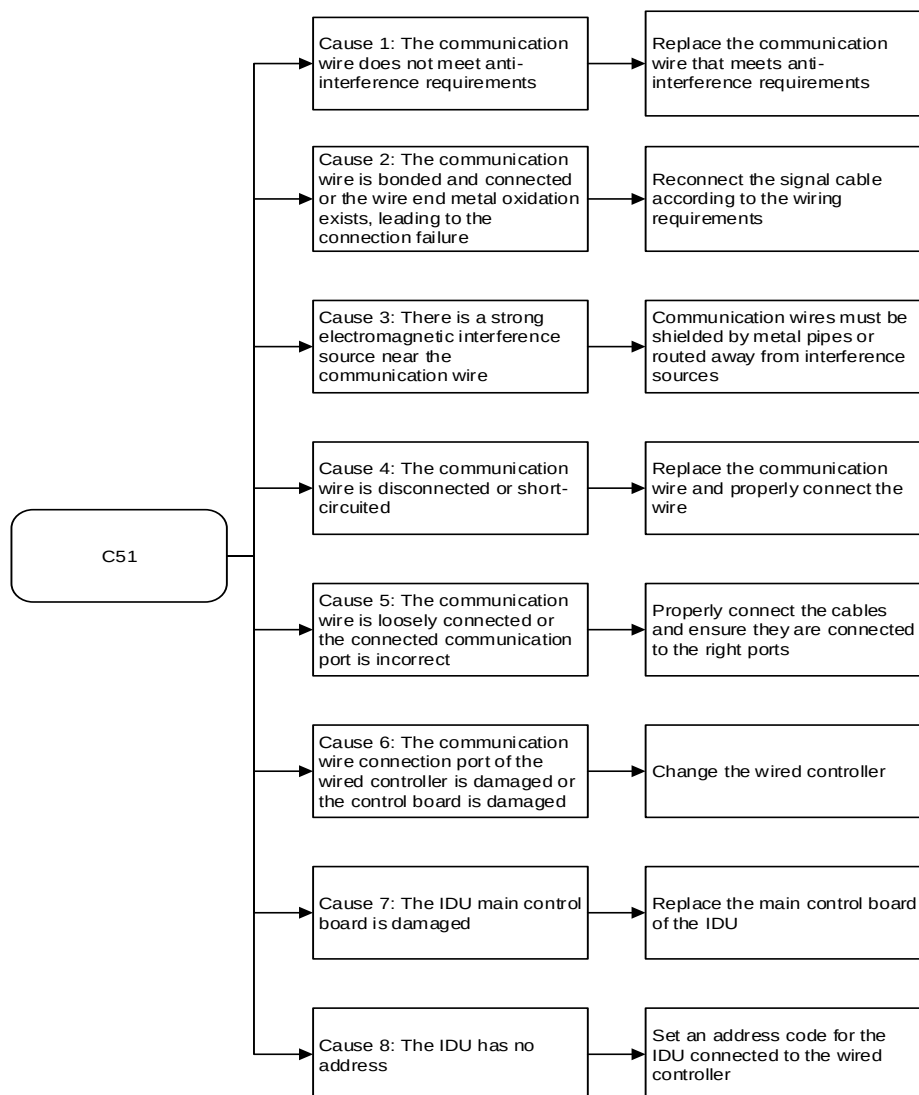
## V8 VRF Indoor Units

### 8.1.18 C51: communication exception between the IDU and wired controller

Note: The error code C51 can be triggered either at the IDU side or the wired controller side.

| Fault Display  | LED display                                                                                                                                                                                                                                                                                                                                                                                                                                | Display position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                                                                                                                                                                                                                                                                                                                                                           | <p>If a powered-on IDU does not receive any message from the wired controller:<br/>1) Wired controller: "C51" is displayed; 2) Panel or display box: The LED display and the error code bit on the inspection interface are displayed normally.</p> <p>If a powered-on IDU receives any message from the wired controller: 1) Wired controller: "C51" is displayed; 2) Panel or display box: The LED display is normal, and "C51" is displayed in the error code bit on the inspection interface.</p> |
| Fault Impact   | <ul style="list-style-type: none"> <li>Triggered at the IDU side: The faulty IDU and other IDUs of the same system operate normally.</li> <li>Triggered at the wired controller side: The wired controller is unavailable.</li> </ul>                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                | ODU of the same system operates normally.                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Fault Trigger  | <ul style="list-style-type: none"> <li>Triggered at the IDU side: The IDU main control board experiences a two-minute communication interruption with the wired controller.</li> <li>Triggered at the wired controller side: The wired controller has not received any reply from the IDU main control board for one continuous minute.</li> </ul>                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Fault Recovery | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Possible Cause | <ul style="list-style-type: none"> <li>The wired controller is damaged.</li> <li>The IDU main control board is damaged.</li> <li>Communication wires are loose or the communication port is faulty.</li> <li>Communication wires have short-circuited or been cut off.</li> <li>The communication wire does not meet anti-interference requirements or is affected by strong-current interference.</li> <li>IDU has no address.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Troubleshooting



## V8 VRF Indoor Units

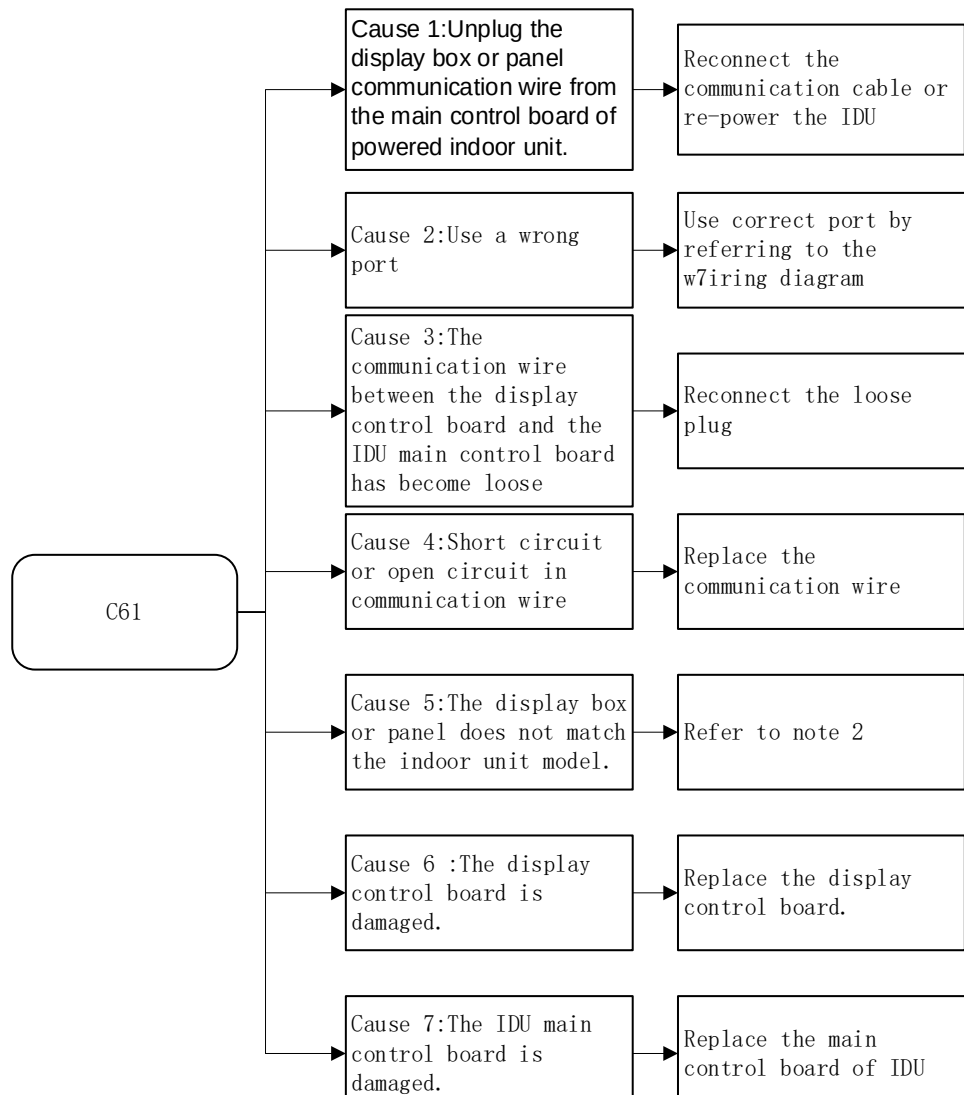
### 8.1.19 C61 - Abnormal communication between the IDU main control board and display control board

Note: The error code C61 can be triggered either at the IDU side or at the panel or display box side.

|                       | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Display position                                                                                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>After power on, normal communication was not established between the indoor unit and the wired controller:</p> <ol style="list-style-type: none"> <li>1) The wired controller does not display fault code;</li> <li>2) The panel or display box displays "C61".</li> </ol> |
| <b>Error display</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>After power on, normal communication was established between the indoor unit and the wired controller:</p> <ol style="list-style-type: none"> <li>1) The wired controller displays "C61";</li> <li>2) The panel or display box displays "C61".</li> </ol>                  |
| <b>Error impact</b>   | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                               |
|                       | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                               |
| <b>Error trigger</b>  | <ul style="list-style-type: none"> <li>■ Triggered at the IDU side: If the main control board of the IDU has been connected to the display board but has not communicated with the display board for 2 min;</li> <li>■ Triggered at panel or display box side: If the display board has not received any reply from the main control board of an IDU for 1 min</li> </ul>                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                               |
| <b>Error recovery</b> | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                               |
| <b>Possible cause</b> | <ul style="list-style-type: none"> <li>■ Unplug the display box or panel communication wire from the main control board of powered indoor unit.</li> <li>■ Use a wrong port to connect display control board and IDU main control board.</li> <li>■ The communication wire between the display control board and the IDU main control board has become loose.</li> <li>■ Short circuit or open circuit in communication wire</li> <li>■ The display box or panel does not match the indoor unit model.</li> <li>■ The display control board is damaged.</li> <li>■ The IDU main control board is damaged.</li> </ul> |                                                                                                                                                                                                                                                                               |



## Troubleshooting



## Note:

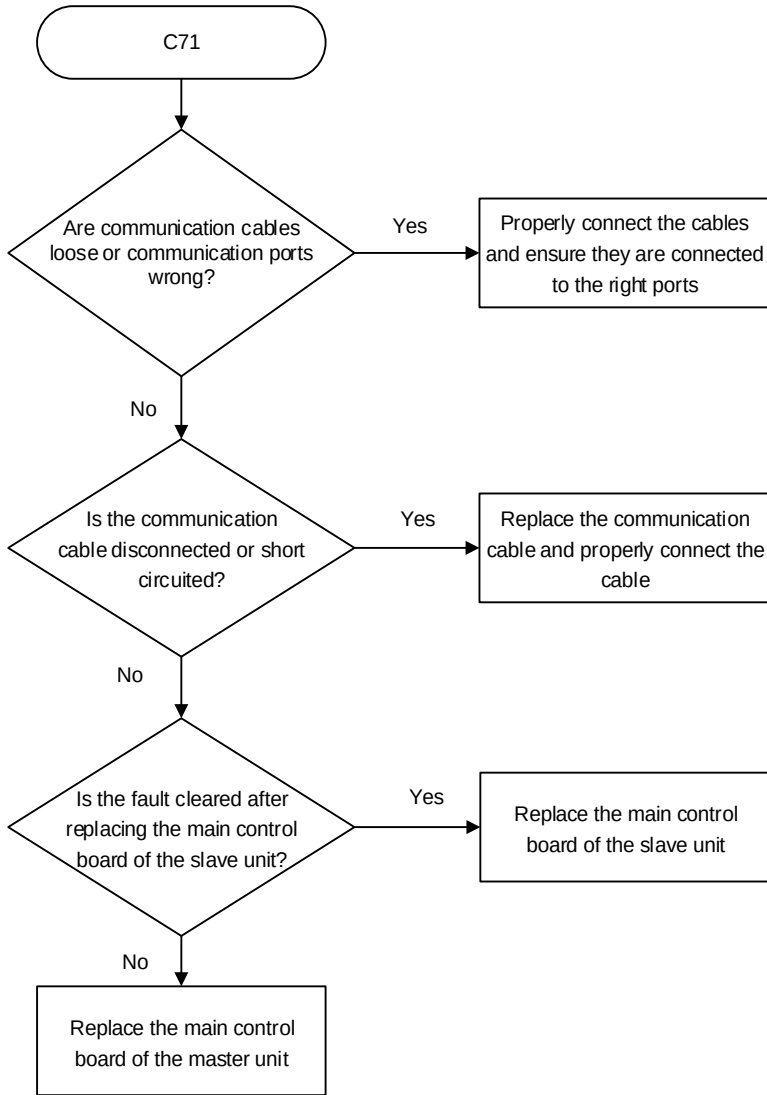
1. The control boards of display box and panel are uniformly named as display control board.
2. Check whether the model of display box and panel is correct and the type of the indoor unit main control board is set correctly

## V8 VRF Indoor Units

### 8.1.20 C71 - Abnormal communication between AHU Kit slave unit and master unit

Note: When multiple AHU Kits are connected in parallel, the master AHU Kit (referred to as the master) communicates with the ODU, and the slave AHU Kit (referred to as the slave) communicates with the master AHU Kit.

| Error display  | Digital display                                                                                                                                                                                                                                                                                                      | Display position (master)        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|                |                                                                                                                                                                                                                                     | Display box or wired controller* |
| Error impact   | Master unit and slave unit: stop. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                   |                                  |
|                | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                            |                                  |
| Error trigger  | If the main control board of the master unit has lost communication with the main control board of the slave unit for 2 min;                                                                                                                                                                                         |                                  |
| Error recovery | Automatic recovery                                                                                                                                                                                                                                                                                                   |                                  |
| Possible cause | <ul style="list-style-type: none"> <li>■ The slave unit's main control board is damaged.</li> <li>■ The master unit's main control board is damaged.</li> <li>■ Communication cables are loose or the communication port is faulty.</li> <li>■ Communication cables have short-circuited or been cut off.</li> </ul> |                                  |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Troubleshooting |  <pre> graph TD     C71([C71]) --&gt; D1{Are communication cables loose or communication ports wrong?}     D1 -- Yes --&gt; A1[Properly connect the cables and ensure they are connected to the right ports]     D1 -- No --&gt; D2{Is the communication cable disconnected or short circuited?}     D2 -- Yes --&gt; A2[Replace the communication cable and properly connect the cable]     D2 -- No --&gt; D3{Is the fault cleared after replacing the main control board of the slave unit?}     D3 -- Yes --&gt; A3[Replace the main control board of the slave unit]     D3 -- No --&gt; A4[Replace the main control board of the master unit]           </pre> |  |
|                 | <p>Note: When the display box or wired controller is connected to the slave unit, fault codes can be queried (when repairing on site, the display box or wired controller of the main unit can be temporarily removed and connected to the slave unit).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |

## 8.1.21 C72 - Number of AHU Kits is not the same as the set number

Note: When multiple AHU Kits are connected in parallel, the master AHU Kit (referred to as the master) communicates with the ODU, and the slave AHU Kit (referred to as the slave) communicates with the master AHU Kit.

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Display position (master)                       |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Master AHU Kit: Display box or wired controller |
| Error impact    | Master unit and slave unit: stop. Other IDUs of the same system: stops.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                 |
|                 | ODU of the same system: <ul style="list-style-type: none"> <li>■ stops.</li> <li>■ Error code "C26" is displayed (V6 platform ODU displays the code "H7"). Meaning of the code: IDU qty decrease fault</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                 |
| Error trigger   | When it is detected that the number of AHU Kits in operation is different from the set number and this lasts for 3 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                 |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                 |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The master unit's or slave unit's main control board is damaged.</li> <li>■ The actual number of AHU Kits is different from the set number.</li> <li>■ The address setting for the AHU kit is duplicated.</li> <li>■ Communication between the master unit and slave unit fails.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                 |
| Troubleshooting | <div> <div>C72</div> <div> <div>           Cause 1: The actual number of AHU Kits is different from the set number           <div>Set the number of AHU Kits based on the actual situation</div> </div> <div>           Cause 2: The address setting for the AHU kit is duplicated.           <div>Correct the address DIP switch</div> </div> <div>           Cause 3: The master unit's or slave unit's main control board is damaged           <div>Replace the damaged main control board</div> </div> <div>           Cause 4: Communication between master unit and slave unit has failed           <div>Check the communication cables and take measures according to troubleshooting process for the error code "C71"</div> </div> </div> </div> |                                                 |

## V8 VRF Indoor Units



### 8.1.22 C73 - Abnormal communication between the linked humidifying IDU and master IDU

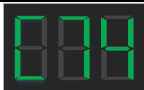
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Display position (master IDU) |                             |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Panel or display box          | Wired controller            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Spot check interface query    | Error code is not displayed |
| Error impact    | Master IDU: operates normally. Humidifying IDUs: stop. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |                             |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                               |                             |
| Error trigger   | If the main control board of the master IDU has lost communication with the main control board of the humidifying IDU for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |                             |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                               |                             |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The main control board of the humidifying IDU is damaged.</li> <li>■ The master IDU's main control board is damaged.</li> <li>■ Communication cables are loose or the communication port is faulty.</li> <li>■ Communication cables have short-circuited or been cut off.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |                             |
| Troubleshooting | <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; margin-right: 20px;">C73</div> <div> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="width: 2px; height: 100px; background-color: black;"></div> <div style="width: 10px; height: 10px; background-color: black; margin: 0 5px;"></div> <div style="width: 2px; height: 100px; background-color: black;"></div> </div> <div style="display: flex; flex-direction: column; gap: 10px;"> <div> <div style="border: 1px solid black; padding: 5px; width: 250px;">Cause 1: The communication cable between the main control board of the humidifying IDU and the main control board of master IDU is disconnected or short circuited</div> <div style="border: 1px solid black; padding: 5px; width: 150px; margin-left: 10px;">Replace the communication cable and properly connect the cable</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 250px;">Cause 2: The communication cable between the main control board of the humidifying IDU and the main control board of the master IDU has become loose or is connected to a wrong port</div> <div style="border: 1px solid black; padding: 5px; width: 150px; margin-left: 10px;">Properly connect the cables and ensure they are connected to the right ports</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 250px;">Cause 3: The main control board of the master IDU is damaged</div> <div style="border: 1px solid black; padding: 5px; width: 150px; margin-left: 10px;">Replace the main control board of the master IDU</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 250px;">Cause 4: The main control board of the humidifying IDU is damaged</div> <div style="border: 1px solid black; padding: 5px; width: 150px; margin-left: 10px;">Replace the main control board of the humidifying IDU</div> </div> </div> </div> </div> |                               |                             |
|                 | <p>Note:</p> <p>1. The error code can be queried after the humidifying IDU is connected to the wired controller or the display box.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |                             |

## 8.1.23 C74 - Abnormal communication between the linked FAPU and master IDU (series setting)

Note:

1) The type of FAPU may be HRV, VRF fresh air IDU and so on.

2) Series setting: The air supply side of the linked FAPU is directly connected to the air return side of the master IDU through an air duct. A wired controller is used to set this installation method as a series connection.

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Display position (master IDU)            |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Panel, display box, and wired controller |
| Error impact    | The master IDU and the linked FAPU: stop. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| Error trigger   | If the main control board of the master IDU has lost communication with the main control board of the FAPU for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The main control board of the FAPU is damaged.</li> <li>■ The master IDU's main control board is damaged.</li> <li>■ Communication cables are loose or the communication port is faulty.</li> <li>■ Communication cables have short-circuited or been cut off.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| Troubleshooting | <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin-right: 10px;">C74/C75</div> <div> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="width: 100%; border-left: 1px solid black; height: 100px;"></div> <div style="width: 100%; border-left: 1px solid black; height: 100px;"></div> <div style="width: 100%; border-left: 1px solid black; height: 100px;"></div> <div style="width: 100%; border-left: 1px solid black; height: 100px;"></div> </div> <div style="margin-left: 10px;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Cause 1: The communication cable between the main control board of the FAPU and the main control board of the master IDU is disconnected or short circuited</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Cause 2: The communication cable between the main control board of the FAPU and the main control board of the master IDU has become loose or is connected to a wrong port</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Cause 3: The main control board of the master IDU is damaged</div> <div style="border: 1px solid black; padding: 5px;">Cause 4: The main control board of the FAPU is damaged</div> </div> <div style="margin-left: 10px;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Replace the communication cable and properly connect the cable</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Properly connect the cables and ensure they are connected to the right ports</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Replace the main control board of master IDU</div> <div style="border: 1px solid black; padding: 5px;">Replace the main control board of the FAPU</div> </div> </div> </div> <div style="margin-top: 20px;"> <p>Note:</p> <p>1. The error code can be queried after the FAPU is connected to the wired controller or the display box.</p> </div> |                                          |

## V8 VRF Indoor Units

### 8.1.24 C75 - Communication fault between linked FAPU and master IDU (non-series setting)

Note:

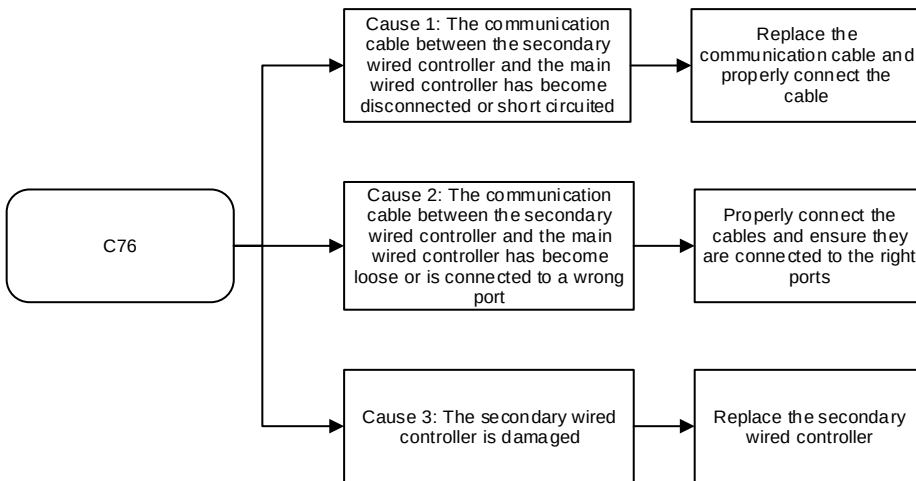
1) The type of FAPU may be HRV, VRF fresh air IDU and so on.

2) Series setting: The linked FAPU and the master IDU are connected to the air supply duct and air return duct respectively and separately. A wired controller is used to set this installation method as a non-series connection.

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                               |                             |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------|
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Display position (master IDU) |                             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Panel or display box          | Wired controller            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Spot check interface query    | Error code is not displayed |
| Error impact    | Master IDU: operates normally. FAPU: stops. Other IDUs of the same system: operate normally.<br>ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                               |                             |
| Error trigger   | If the main control board of the master IDU has lost communication with the main control board of the FAPU for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                               |                             |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |                             |
| Possible cause  | <ul style="list-style-type: none"><li>■ The main control board of the FAPU is damaged.</li><li>■ The master IDU's main control board is damaged.</li><li>■ Communication cables are loose or the communication port is faulty.</li><li>■ Communication cables have short-circuited or been cut off.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                               |                             |
| Troubleshooting | <div><div><div>C74/C75</div><div><div><div><div>Cause 1: The communication cable between the main control board of the FAPU and the main control board of the master IDU is disconnected or short circuited</div><div>Replace the communication cable and properly connect the cable</div></div><div><div>Cause 2: The communication cable between the main control board of the FAPU and the main control board of the master IDU has become loose or is connected to a wrong port</div><div>Properly connect the cables and ensure they are connected to the right ports</div></div><div><div>Cause 3: The main control board of the master IDU is damaged</div><div>Replace the main control board of the master IDU</div></div><div><div>Cause 4: The main control board of the FAPU is damaged</div><div>Replace the main control board of the FAPU</div></div></div></div></div><div>Note:<br/>1. The error code can be queried after the FAPU is connected to the wired controller or the display box.</div></div> |                               |                             |

## 8.1.25 C76 - Abnormal communication between the main wired controller and secondary wired controller

Note: The error code C51 can be triggered either at the IDU side or at the wired controller side.

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Display position                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The error code "C76" is displayed only on the secondary wired controller |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally. The wired controller does not work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                          |
| Error trigger   | If the secondary wired controller has not received any reply from the main wired controller for 1 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The secondary wired controller is damaged.</li> <li>■ Communication cables are loose or the communication port is faulty.</li> <li>■ Communication cables have short-circuited or been cut off.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                          |
| Troubleshooting |  <pre> graph LR     C76[C76] --&gt; C1[Cause 1: The communication cable between the secondary wired controller and the main wired controller has become disconnected or short circuited]     C76 --&gt; C2[Cause 2: The communication cable between the secondary wired controller and the main wired controller has become loose or is connected to a wrong port]     C76 --&gt; C3[Cause 3: The secondary wired controller is damaged]     C1 --&gt; R1[Replace the communication cable and properly connect the cable]     C2 --&gt; R2[Properly connect the cables and ensure they are connected to the right ports]     C3 --&gt; R3[Replace the secondary wired controller]           </pre> |                                                                          |



## V8 VRF Indoor Units

### 8.1.26 C77, C78 - Abnormal communication between IDU main control board and 1# Expansion Board, abnormal communication between IDU main control board and 2# Expansion Board

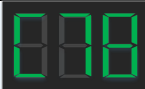
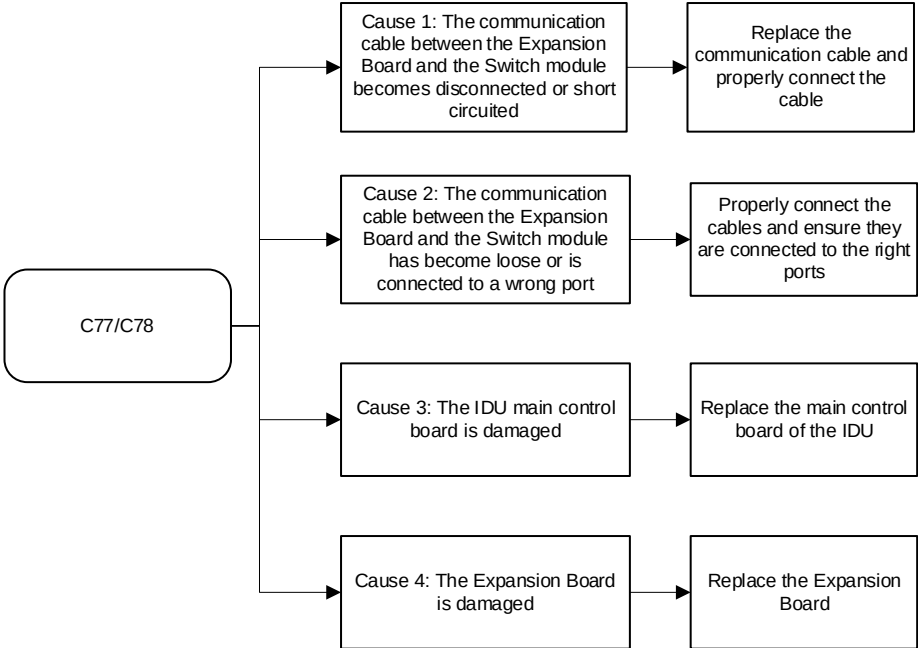
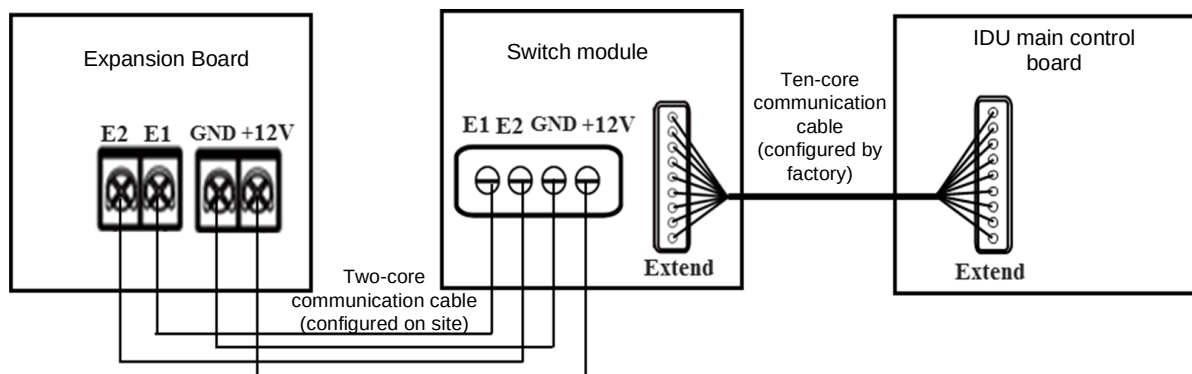
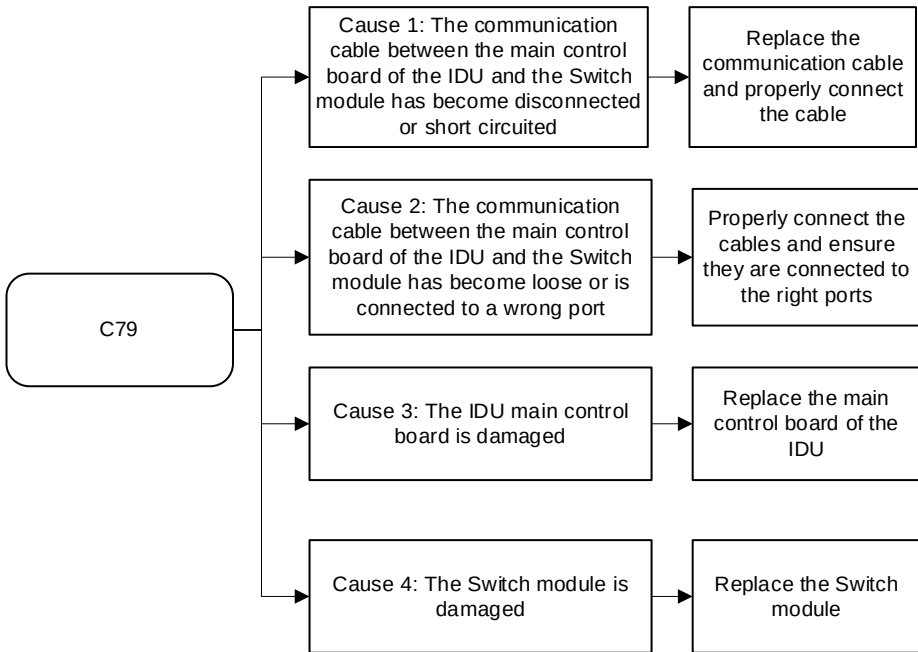
|                 |                                                                                                                                                                  |                                                                                   |                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------|
| Error display   | Digital display                                                                                                                                                  |                                                                                   | Display position                         |
|                 |                                                                                 |  | Panel, display box, and wired controller |
| Error impact    | Faulty IDU: The fan continues running, and the EEV is closed. Other IDUs of the same system: operate normally.                                                   |                                                                                   |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                        |                                                                                   |                                          |
| Error trigger   | If the main control board of an IDU has lost communication with 1# Expansion Board or 2# Expansion Board for 2 min                                               |                                                                                   |                                          |
| Error recovery  | Automatic recovery                                                                                                                                               |                                                                                   |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                 |                                                                                   |                                          |
| Troubleshooting |                                                                               |                                                                                   |                                          |
|                 | <p>Note: The main control board of the IDU cannot be directly connected to the Expansion Board. Instead, a Switch module has to be used. See Figure 1 below:</p> |                                                                                   |                                          |

Figure 1 Wiring diagram of Expansion Board, Switch module, and IDU main control board

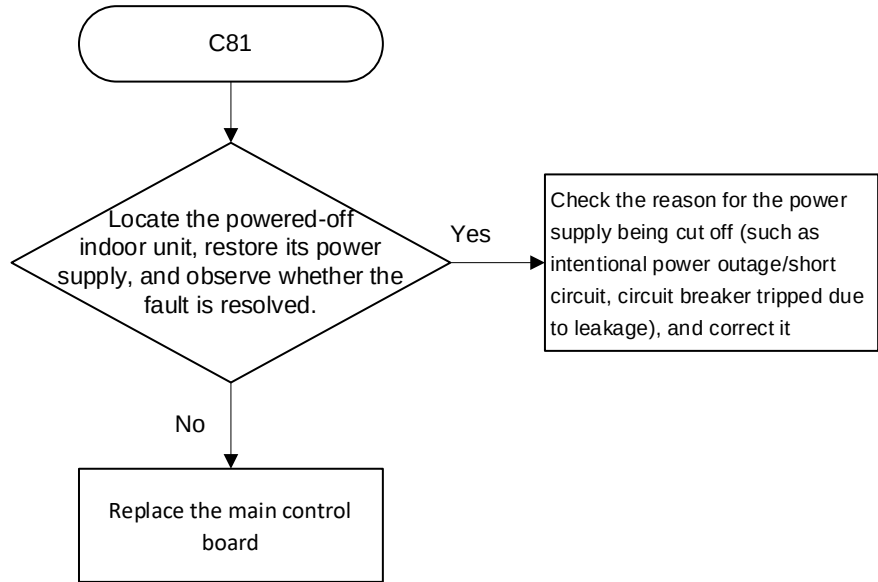


## 8.1.27 C79 - Abnormal communication between the IDU main control board and Switch module

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Display position                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Panel, display box, and wired controller |
| Error impact    | Faulty IDU: The fan continues running, and the EEV is closed. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
| Error trigger   | If the main control board of an IDU has lost communication with the Switch module for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| Troubleshooting |  <pre> graph LR     C79([C79]) --&gt; C1[Cause 1: The communication cable between the main control board of the IDU and the Switch module has become disconnected or short circuited]     C79 --&gt; C2[Cause 2: The communication cable between the IDU and the Switch module has become loose or is connected to a wrong port]     C79 --&gt; C3[Cause 3: The IDU main control board is damaged]     C79 --&gt; C4[Cause 4: The Switch module is damaged]     C1 --&gt; R1[Replace the communication cable and properly connect the cable]     C2 --&gt; R2[Properly connect the cables and ensure they are connected to the right ports]     C3 --&gt; R3[Replace the main control board of the IDU]     C4 --&gt; R4[Replace the Switch module]           </pre> |                                          |

## V8 VRF Indoor Units

### 8.1.28 C81—The indoor unit is in a power-off state

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Display position                                                 |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Central controller or various types of control terminal software |
| Error impact    | <ul style="list-style-type: none"> <li>The faulty indoor unit and the panels, display boxes, and wired controllers connected to it will stop running, and the central controller or various types of control terminal software will display "C81".</li> <li>Other indoor units in the same system are operating normally.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                  |
|                 | <p>The outdoor unit in the same system is operating normally, displaying 'd41'(There are indoor units in the system that are in a powered-off state).</p> <p>HyperLink will close the electronic expansion valve of the powered-off indoor unit.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                  |
| Error trigger   | The power supply to the indoor unit has been detected as being cut off.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                  |
| Error recovery  | The faulty indoor unit will automatically resume operation once power supply is restored.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                  |
| Possible cause  | <ul style="list-style-type: none"> <li>The power supply to the indoor unit has been cut off.</li> <li>The main control board of the indoor unit is damaged</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                  |
| Troubleshooting | <div>  <pre> graph TD     Start([C81]) --&gt; Decision{Locate the powered-off indoor unit, restore its power supply, and observe whether the fault is resolved.}     Decision -- Yes --&gt; YesBox[Check the reason for the power supply being cut off (such as intentional power outage/short circuit, circuit breaker tripped due to leakage), and correct it]     Decision -- No --&gt; NoBox[Replace the main control board]           </pre> </div> <p>Note: The C81 fault trigger is only supported when both the indoor and outdoor units belong to the V8 series and the communication line between the indoor and outdoor units is connected to the M1/M2 ports.</p> |                                                                  |

## 8.1.29 d16 - Air inlet temperature of IDU is too low in heating mode

| Error display  | Digital display                                                                                                                                               | Display position                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                |                                                                                                                                                               | Panel, display box, and wired controller |
| Error impact   | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                        |                                          |
|                | ODU of the same system: operate normally.                                                                                                                     |                                          |
| Error trigger  | If the air inlet temperature of the IDU is lower than the set value (See the operating temperature range set out in the IDU Manual) for 5 min in heating mode |                                          |
| Error recovery | Automatic recovery                                                                                                                                            |                                          |
| Possible cause | See the Troubleshooting section.                                                                                                                              |                                          |

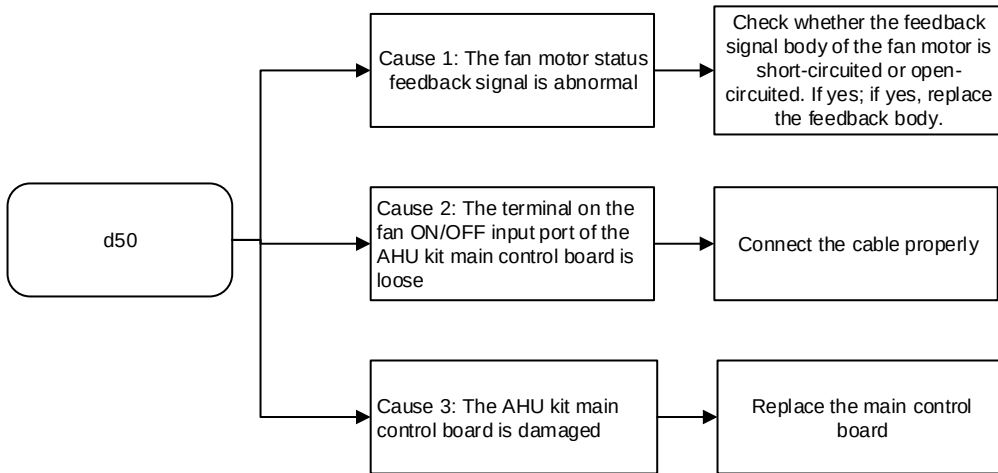
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Troubleshooting | <pre> graph LR     d16([d16]) --&gt; C1[Cause 1: Spot check the inlet air temperature and measure the inlet air temperature. If the point check result is the same as the measured result (error ≤ 1°C), it is a normal protection measure for the unit. Otherwise, refer to cause 2/3/4]     d16 --&gt; C2[Cause 2: Remove the plug of the inlet air temperature sensor from the main control board of the IDU, measure its resistance value, and compare it with the Table of Sensor Resistance - Temperature Characteristics (1). If the temperature that corresponds to the resistance value deviates from the actual inlet air temperature by more than 5°C, the sensor is damaged.]     d16 --&gt; C3[Cause 3: The sensor body comes into contact with a cold source, such as low-temperature condensed water and cold surface of a heat exchanger, which causes the detected value to be lower than the normal value]     d16 --&gt; C4[Cause 4: If the error cannot be cleared after causes 1/2/3 have been eliminated, the main control board of the IDU is damaged]     C1 --&gt; R1[It is a normal protection measure for the IDU. When the inlet air temperature exceeds the set value, the fault will be cleared]     C2 --&gt; R2[Replace the inlet air temperature sensor]     C3 --&gt; R3[Eliminate the interference of external cold source to the sensor]     C4 --&gt; R4[Replace the main control board of the IDU]         </pre> |  |
|                 | <p>Note:</p> <p>1. The inlet air temperature sensor is commonly found in the fresh air IDUs (The sensor code is defined as T0), and its resistance and temperature characteristics are similar to T1 - return air temperature sensor. Please refer to the Table of Temperature Sensor Resistance Characteristics listed in the Maintenance Manual to learn more about the sensor's features.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |

## V8 VRF Indoor Units

### 8.1.30 d17 - Air inlet temperature of IDU is too high in cooling mode

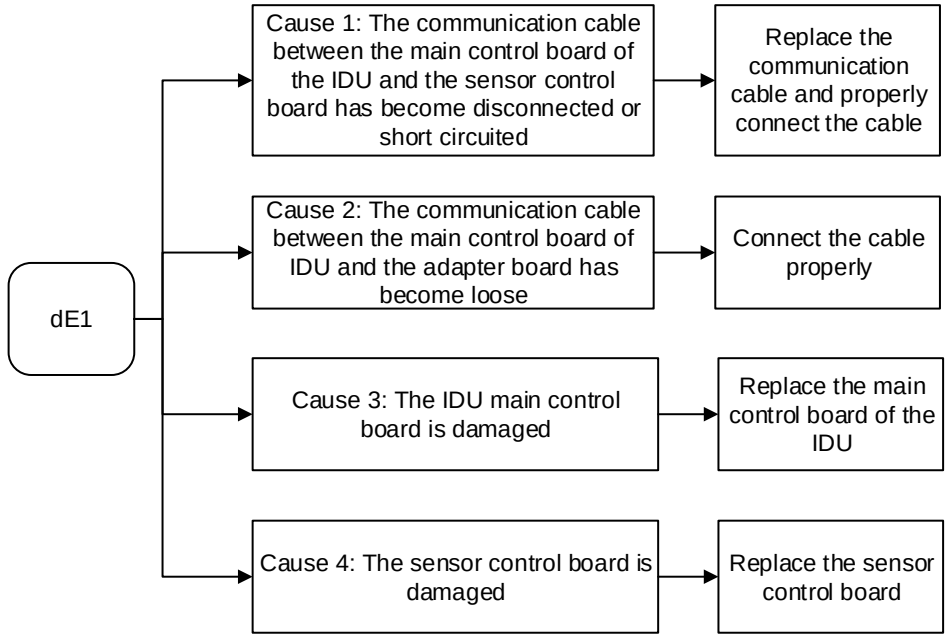
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Display position                         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
| Error trigger   | If the air inlet temperature of the IDU is higher than the set value (See the operating temperature range set out in the IDU Manual) for 5 min in cooling mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
| Troubleshooting | <pre> graph LR     d17([d17]) --&gt; C1[Cause 1: Spot check the inlet air temperature and measure the inlet air temperature. If the point check result is the same as the measured result (error ≤ 1°C), it is a normal protection measure for the unit. Otherwise, refer to cause 2/3/4]     d17 --&gt; C2[Cause 2: Remove the plug of the inlet air temperature sensor from the main control board of the IDU, measure its resistance value, and compare it with the Table of Sensor Resistance - Temperature Characteristics (1). If the temperature that corresponds to the resistance value deviates from the actual inlet air temperature by more than 5°C, the sensor is damaged.]     d17 --&gt; C3[Cause 3: The sensor body has come into contact with a hot source, such as direct sunlight or hot surface of a heat exchanger, which causes the detected value to be lower than the normal value]     d17 --&gt; C4[Cause 4: If the error cannot be cleared after causes 1/2/3 have been eliminated, the main control board of the IDU is damaged]     C1 --&gt; R1[It is a normal protection measure for the IDU. When the inlet air temperature is lower than the set value, the fault will be cleared]     C2 --&gt; R2[Replace the inlet air temperature sensor]     C3 --&gt; R3[Eliminate the interference of external hot source to the sensor]     C4 --&gt; R4[Replace the main control board of the IDU]           </pre> |                                          |
|                 | <p>Note:</p> <p>1. The inlet air temperature sensor is commonly found in the fresh air IDUs (The sensor code is defined as T0), and its resistance and temperature characteristics are similar to T1 - return air temperature sensor. Please refer to the Table of Temperature Sensor Resistance Characteristics listed in the Maintenance Manual to learn more about the sensor's features.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |

## 8.1.31 d50 - AHU kit fan running status input signal exception

|                        | LED display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Display position                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| <b>Fault Display</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Panel, display box, and wired controller |
| <b>Fault Impact</b>    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
|                        | ODU of the same system operates normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| <b>Fault Trigger</b>   | The V8 series AHU kit fan runs normally, but the fan ON/OFF input port on the main control board is disconnected for 20 seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
| <b>Fault Recovery</b>  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
| <b>Possible Cause</b>  | <ul style="list-style-type: none"> <li>■ The fan motor status feedback signal is abnormal.</li> <li>■ The terminal inserted on the fan ON/OFF input port of the AHU kit main control board is loose.</li> <li>■ The AHU kit main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| <b>Troubleshooting</b> |  <pre> graph LR     d50([d50]) --&gt; C1[Cause 1: The fan motor status feedback signal is abnormal]     d50 --&gt; C2[Cause 2: The terminal on the fan ON/OFF input port of the AHU kit main control board is loose]     d50 --&gt; C3[Cause 3: The AHU kit main control board is damaged]     C1 --&gt; A1[Check whether the feedback signal body of the fan motor is short-circuited or open-circuited. If yes; if yes, replace the feedback body.]     C2 --&gt; A2[Connect the cable properly]     C3 --&gt; A3[Replace the main control board]         </pre> |                                          |

## V8 VRF Indoor Units

### 8.1.32 dE1 - Sensor control board fault

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Display position                         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Panel, display box, and wired controller |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| Error trigger   | If the main control board of an IDU has lost communication with sensor control board for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| Troubleshooting |  <pre> graph LR     dE1([dE1]) --&gt; C1[Cause 1: The communication cable between the main control board of the IDU and the sensor control board has become disconnected or short circuited]     dE1 --&gt; C2[Cause 2: The communication cable between the main control board of IDU and the adapter board has become loose]     dE1 --&gt; C3[Cause 3: The IDU main control board is damaged]     dE1 --&gt; C4[Cause 4: The sensor control board is damaged]     C1 --&gt; R1[Replace the communication cable and properly connect the cable]     C2 --&gt; R2[Connect the cable properly]     C3 --&gt; R3[Replace the main control board of the IDU]     C4 --&gt; R4[Replace the sensor control board]           </pre> |                                          |

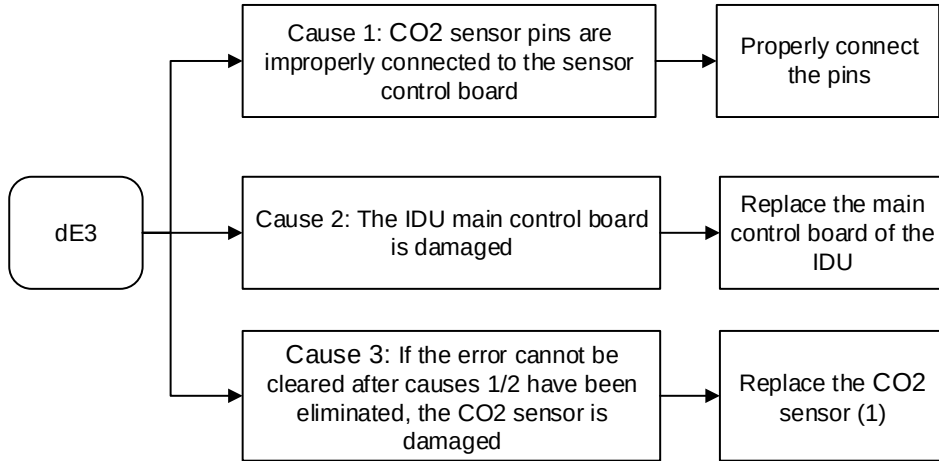


## 8.1.33 dE2 - PM2.5 sensor fault

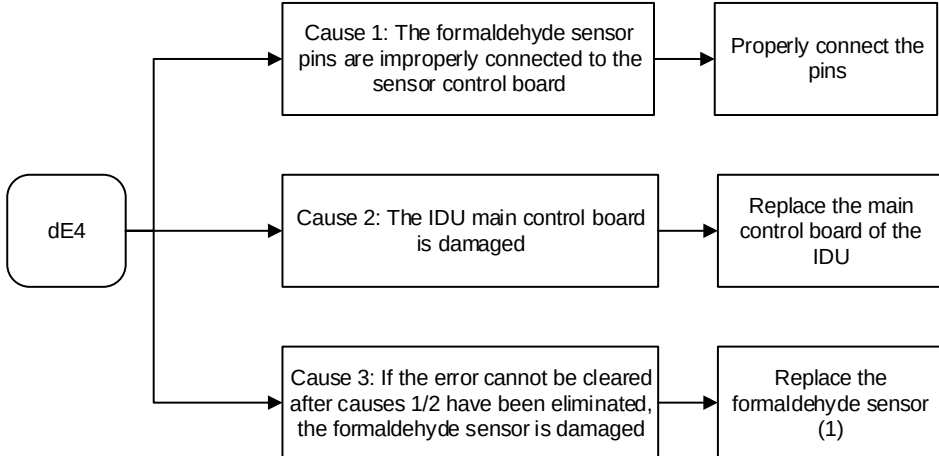
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Display position                         |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Panel, display box, and wired controller |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| Error trigger   | If the main control board of an IDU has lost communication with PM2.5 sensor for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |
| Troubleshooting | <pre> graph LR     dE2([dE2]) --&gt; C1[Cause 1: The communication cable between the PM2.5 sensor and the sensor control board becomes disconnected or short circuited]     dE2 --&gt; C2[Cause 2: The communication cable between the PM2.5 sensor and the adapter board has become loose]     dE2 --&gt; C3[Cause 3: The IDU main control board is damaged]     dE2 --&gt; C4[Cause 4: If the error cannot be cleared after causes 1/2/3 have been eliminated, the PM2.5 sensor is damaged]     C1 --&gt; R1[Replace the communication cable and properly connect the cable]     C2 --&gt; R2[Connect the cable properly]     C3 --&gt; R3[Replace the main control board of the IDU]     C4 --&gt; R4[Replace the PM2.5 sensor (1)]                     </pre> |                                          |
|                 | <p>Note:</p> <p>1. If the PM2.5 sensor is integrated with the sensor control board, making disassembly difficult, then replace the sensor control board directly.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |

## V8 VRF Indoor Units

### 8.1.34 dE3 - CO2 sensor fault

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Display position                         |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Panel, display box, and wired controller |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                          |
| Error trigger   | If the main control board of an IDU has lost communication with CO2 sensor for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| Troubleshooting |  <pre> graph LR     dE3([dE3]) --&gt; C1[Cause 1: CO2 sensor pins are improperly connected to the sensor control board]     dE3 --&gt; C2[Cause 2: The IDU main control board is damaged]     dE3 --&gt; C3[Cause 3: If the error cannot be cleared after causes 1/2 have been eliminated, the CO2 sensor is damaged]     C1 --&gt; S1[Properly connect the pins]     C2 --&gt; S2[Replace the main control board of the IDU]     C3 --&gt; S3[Replace the CO2 sensor (1)]           </pre>                                                                                                                                                                   |                                          |
|                 | <p>Note 1:</p> <p>1) The CO2 sensor pins should be inserted on the sensor control board according to the wiring nameplate.</p> <p>2) When inserting and removing the sensor, do not press and deform the sensor surface, as it may change its internal optical path and cause zero drift to the sensor, making the measuring results of sensor too large or even out of range.</p> <p>3) When inserting and removing the sensor: Operators must keep their hands clean and dry; the antistatic wrist strap should be worn on the wrist; the metal piece inside the antistatic wrist strap should be in close contact with the skin; and the metal clamp of the antistatic wrist strap should be placed at the exposed copper grounding wire.</p> |                                          |

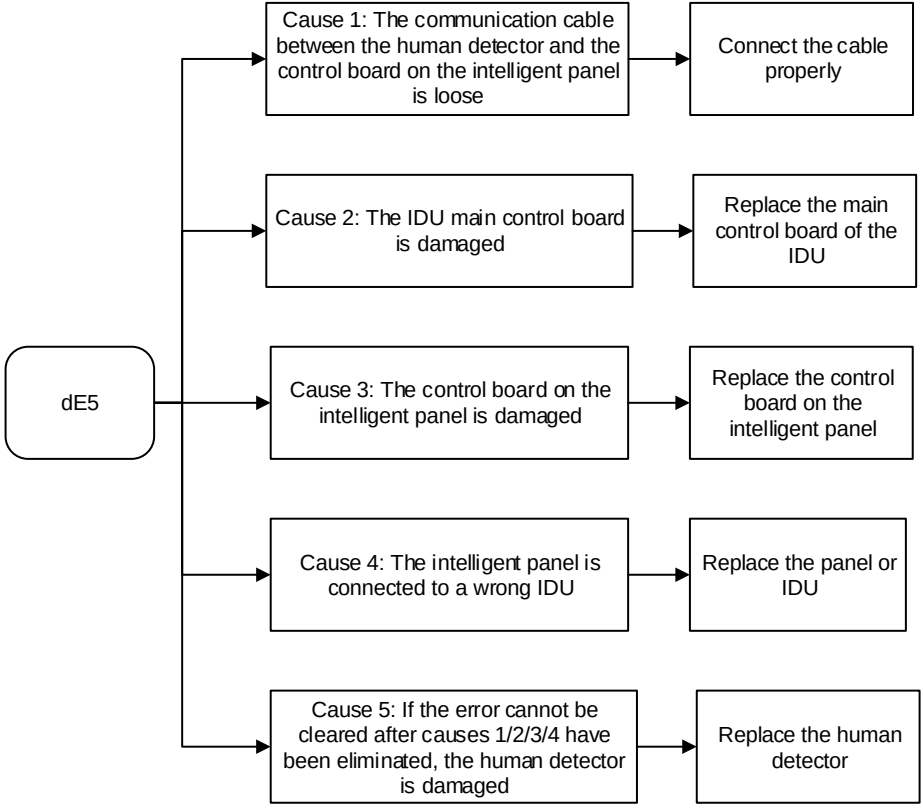
## 8.1.35 dE4 - Formaldehyde sensor fault

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Display position                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Panel, display box, and wired controller |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| Error trigger   | If the main control board of an IDU has lost communication with formaldehyde sensor for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
| Troubleshooting |  <pre> graph LR     dE4([dE4]) --&gt; C1[Cause 1: The formaldehyde sensor pins are improperly connected to the sensor control board]     dE4 --&gt; C2[Cause 2: The IDU main control board is damaged]     dE4 --&gt; C3[Cause 3: If the error cannot be cleared after causes 1/2 have been eliminated, the formaldehyde sensor is damaged]     C1 --&gt; A1[Properly connect the pins]     C2 --&gt; A2[Replace the main control board of the IDU]     C3 --&gt; A3[Replace the formaldehyde sensor (1)]           </pre>         |                                          |
|                 | <p>Note 1:</p> <p>1) The formaldehyde sensor pins should be inserted on the sensor control board according to the wiring nameplate.</p> <p>2) When inserting and removing the sensor, do not touch or squeeze the white sensor film with your hand.</p> <p>3) When inserting and removing the sensor: Operators must keep their hands clean and dry; the antistatic wrist strap should be worn on the wrist; the metal piece inside the antistatic wrist strap should be in close contact with the skin; and the metal clamp of the antistatic wrist strap should be placed at the exposed copper grounding wire.</p> |                                          |

## V8 VRF Indoor Units

### 8.1.36 dE5 - Human Detect sensor fault

Note: The human detector sensor on the smart panel is used to detect the location of the human body.

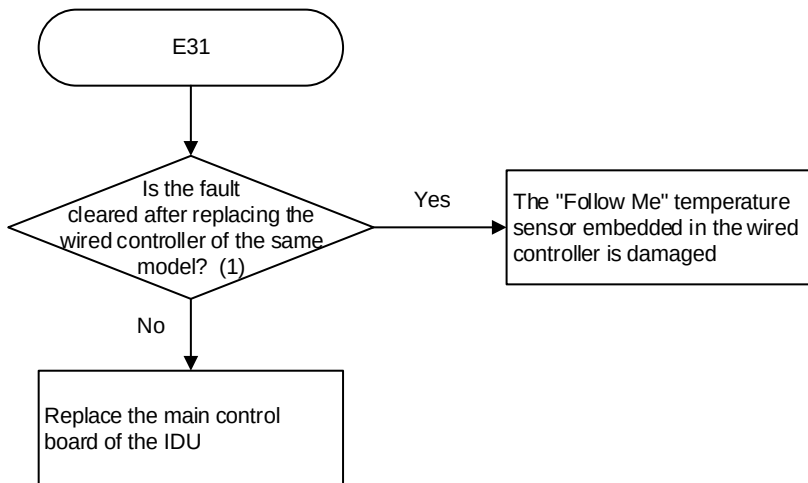
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Display position        |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Panel, wired controller |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                         |
| Error trigger   | If the control board of intelligent panel has lost communication with the human detector sensor for 10s and a fault signal has been sent to the IDU main control board                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |
| Possible cause  | See the Troubleshooting section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         |
| Troubleshooting |  <pre> graph LR     dE5(dE5) --&gt; C1[Cause 1: The communication cable between the human detector and the control board on the intelligent panel is loose]     dE5 --&gt; C2[Cause 2: The IDU main control board is damaged]     dE5 --&gt; C3[Cause 3: The control board on the intelligent panel is damaged]     dE5 --&gt; C4[Cause 4: The intelligent panel is connected to a wrong IDU]     dE5 --&gt; C5[Cause 5: If the error cannot be cleared after causes 1/2/3/4 have been eliminated, the human detector is damaged]     C1 --&gt; R1[Connect the cable properly]     C2 --&gt; R2[Replace the main control board of the IDU]     C3 --&gt; R3[Replace the control board on the intelligent panel]     C4 --&gt; R4[Replace the panel or IDU]     C5 --&gt; R5[Replace the human detector]           </pre> |                         |

### 8.1.37 E21, E24, E81 - T0 (fresh inlet air temperature sensor) short-circuits or cuts off, T1 (IDU return air temperature sensor) short-circuits or cuts off, and TA (outlet air temperature sensor) short-circuits or cuts off

| Error display          | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  | Display position                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------|
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  | Panel, display box, and wired controller |
| <b>Error impact</b>    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |                                          |
|                        | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |                                          |
| <b>Error trigger</b>   | When detecting that the temperature sensor short-circuits or cuts off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |                                          |
| <b>Error recovery</b>  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |                                          |
| <b>Possible cause</b>  | <ul style="list-style-type: none"> <li>■ The temperature sensor is damaged.</li> <li>■ The sensor plug to the T0/T1/TA port in the IDU main control board is loose.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |                                          |
| <b>Troubleshooting</b> | <div style="text-align: center;"> <pre> graph TD     Start([E21/E24/E81 (1)]) --&gt; D1{Is the temperature sensor plug connecting to the IDU main control board loose?}     D1 -- Yes --&gt; A1[Reconnect the plug tightly]     D1 -- No --&gt; D2{Is the temperature sensor resistance abnormal (2)?}     D2 -- Yes --&gt; A2[Replace the temperature sensor]     D2 -- No --&gt; A3[Replace the main control board of the IDU]                     </pre> </div> <p><b>Note:</b></p> <p>1) The E21/E24/E81 code respectively corresponds to the T0/T1/TA temperature sensor. Check the wiring nameplate to find the sensor port on the main control board.</p> <p>2) Measure the resistance between two pins of the sensor plug with a multimeter. A resistance value close to 0 indicates a short circuit has occurred in the temperature sensor, and a resistance value close to infinity indicates an open circuit in the temperature sensor.</p> <p>3) When the AHU kit is set to return air temperature control, it is able to determine if the T1 sensor is short-circuited or open-circuited, but it is not able to determine if the T0 or TA sensors are short-circuited or open-circuited.</p> |  |  |                                          |

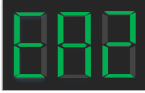
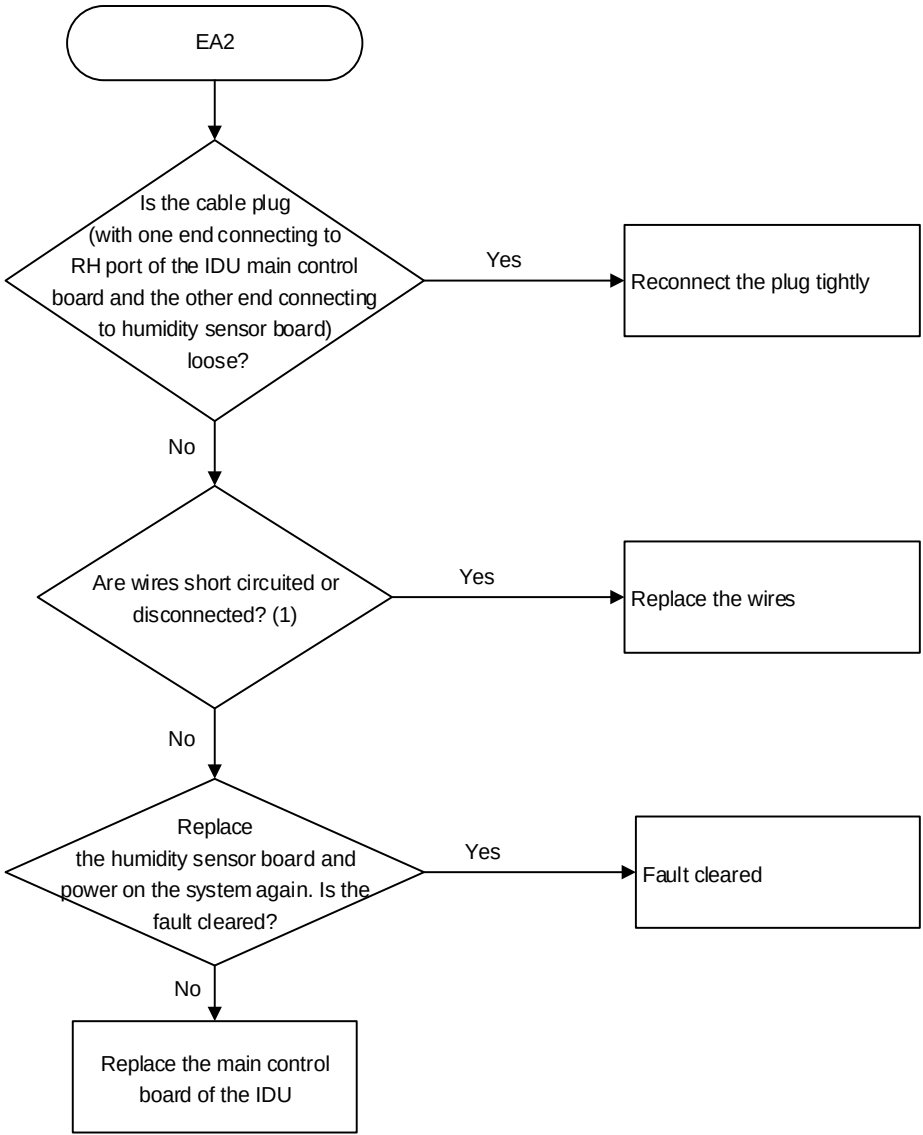
|  |                                                                                                                                                                                                                                                                                                                                                                         |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>When the AHU kit is set to supply air temperature control, it is able to determine if the T0 or TA sensors are short-circuited or open-circuited, but it is not able to determine if the T1 sensor is short-circuited or open-circuited.</p> <p>4) Only the master unit needs to be connected to the T1/T0/TA sensors when the AHU kit is installed in parallel.</p> |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 8.1.38 E31: wired controller temperature sensor failure

|                 |                                                                                                                                                                                                                                                                                   |                                          |                  |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
| Fault Display   | LED display                                                                                                                                                                                                                                                                       | Display position                         |                  |
|                 |                                                                                                                                                                                                  | Panel or display box                     | Wired controller |
|                 |                                                                                                                                                                                                                                                                                   | Panel, display box, and wired controller |                  |
| Fault Impact    | The faulty IDU and other IDUs of the same system operate normally.                                                                                                                                                                                                                |                                          |                  |
|                 | ODU of the same system operates normally.                                                                                                                                                                                                                                         |                                          |                  |
| Fault Trigger   | When the V8 series FAPU uses room temperature control, the "Follow Me" temperature value received from the wired controller is abnormal.                                                                                                                                          |                                          |                  |
| Fault Recovery  | Automatic recovery                                                                                                                                                                                                                                                                |                                          |                  |
| Possible Cause  | <ul style="list-style-type: none"><li>■ The built-in room temperature sensor of the wired controller is short-circuited or open-circuited.</li><li>■ The wired controller is damaged.</li><li>■ The main control board of the FAPU is damaged.</li></ul>                          |                                          |                  |
| Troubleshooting | <div></div>                                                                                                                                                                                    |                                          |                  |
|                 | <p>Note:</p> <p>1. After replacing the wired controller of the same model, set the FAPU to room temperature control and activate the "Follow Me" function according to the engineering parameter settings in the Installation Manual for V8 Series Fresh Air Processing Unit.</p> |                                          |                  |

## V8 VRF Indoor Units

### 8.1.39 EA2 - Return air humidity sensor fault

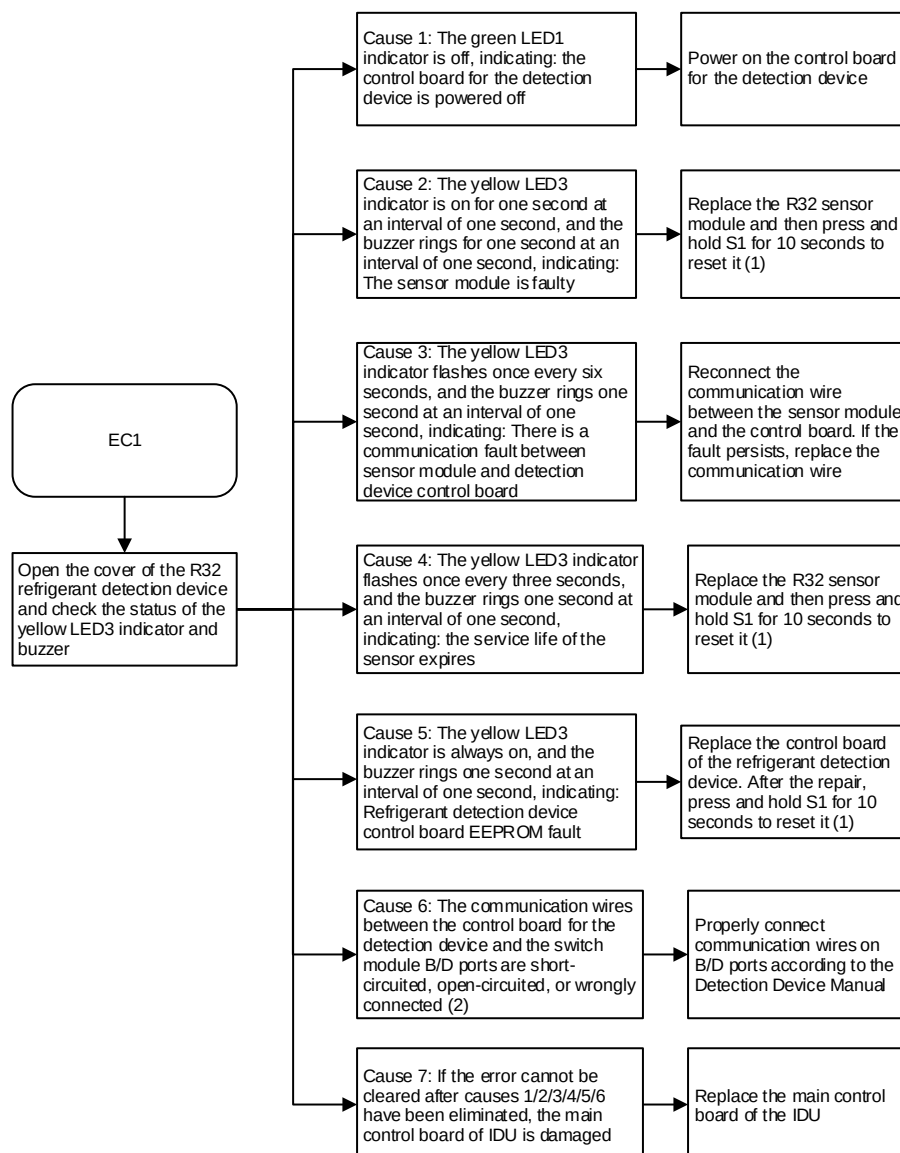
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Display position           |                             |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Panel or display box       | Wired controller            |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Spot check interface query | Error code is not displayed |
| Error impact    | The faulty IDU and other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                             |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                             |
| Error trigger   | If the main control board of an IDU has lost communication with the return air humidity sensor for 2 min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |                             |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |                             |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The humidity sensor board is damaged.</li> <li>■ The cable plug connecting to the RH port in the IDU main control board is loose.</li> <li>■ The cable plug connecting to the humidity sensor board is loose.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                             |
| Troubleshooting |  <pre> graph TD     Start([EA2]) --&gt; D1{Is the cable plug<br/>(with one end connecting to<br/>RH port of the IDU main control<br/>board and the other end connecting<br/>to humidity sensor board)<br/>loose?}     D1 -- Yes --&gt; A1[Reconnect the plug tightly]     D1 -- No --&gt; D2{Are wires short circuited or<br/>disconnected? (1)}     D2 -- Yes --&gt; A2[Replace the wires]     D2 -- No --&gt; D3{Replace<br/>the humidity sensor board and<br/>power on the system again. Is the<br/>fault cleared?}     D3 -- Yes --&gt; A3[Fault cleared]     D3 -- No --&gt; A4[Replace the main control<br/>board of the IDU]           </pre> <p>Note:</p> <p>1. Use a multimeter to measure the resistance between the pin in the plug at two ends of each wire. A resistance value close to 0 indicates a short circuit has occurred in the wire, and a resistance value close to infinity indicates an open circuit in the wire.</p> |                            |                             |



## 8.1.40 EC1: R32 refrigerant leakage sensor fault

|                |                                                                                                           |                                          |
|----------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------|
| Fault Display  | LED display                                                                                               | Display position                         |
|                |                          | Panel, display box, and wired controller |
| Fault Impact   | Faulty IDU: stops. Other IDUs of the same system: operate normally.                                       |                                          |
|                | ODU of the same system operates normally.                                                                 |                                          |
| Fault Trigger  | The IDU main control board receives sensor module fault signal from the R32 refrigerant detection device. |                                          |
| Fault Recovery | No sensor module fault signal is detected by the IDU main control board.                                  |                                          |
| Possible Cause | See the Troubleshooting section.                                                                          |                                          |

## Troubleshooting



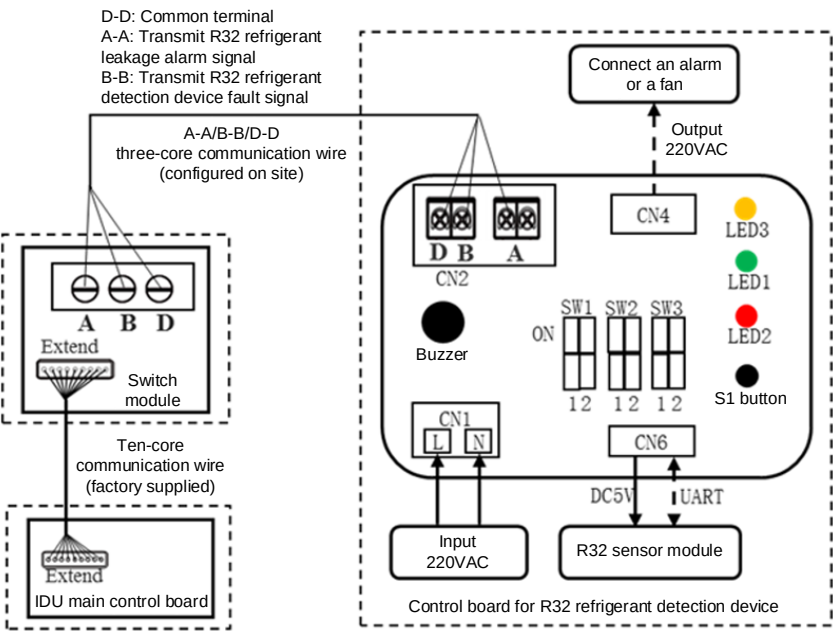
Note:

1. Three fault resetting methods: sensor module fault, sensor module life expiration, and refrigerant detection device control board EEPROM fault: After faults have been cleared, press and hold the S1 button on the control board for 10 seconds to reset the unit. After resetting, all the LED indicators are lit for two seconds before they become dimmed. The R32 sensor life recorded by the control board EEPROM is cleared. Communication between the sensor and the control board for the detection device is automatically restored.

2. The communication connection between the control board for the detection device and the switch

module A/B/D is shown in Figure 1 below.

Figure 1 Schematic diagram of the R32 refrigerant leakage detection system

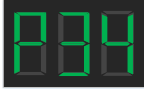


### 8.1.41 F01, F11, F21 - T2A (heat exchanger liquid pipe temperature sensor) short-circuits or cuts off, T2 (heat exchanger middle temperature sensor) short-circuits or cuts off, and T2B (heat exchanger gas pipe temperature sensor) short-circuits or cuts off

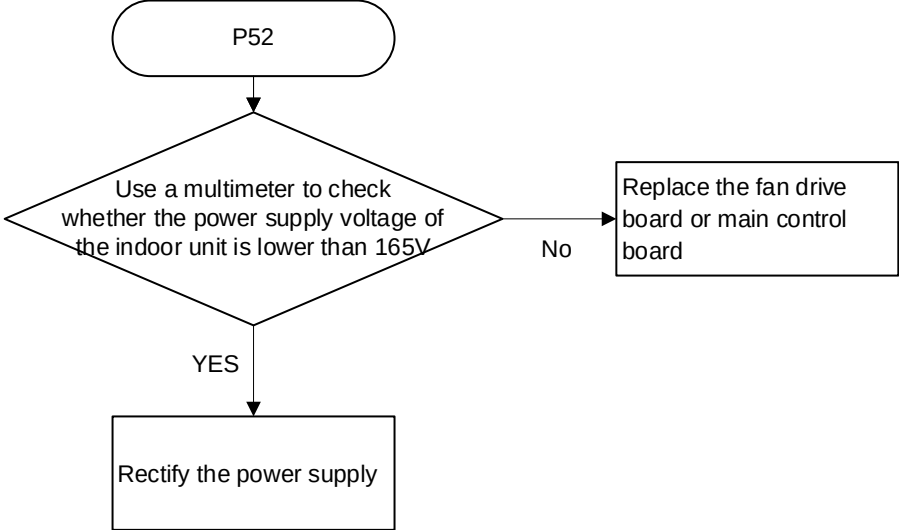
| Error display          | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  | Display position                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------|
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  | Panel, display box, and wired controller |
| <b>Error impact</b>    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |                                          |
|                        | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |                                          |
| <b>Error trigger</b>   | When detecting that the temperature sensor short-circuits or cuts off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |                                          |
| <b>Error recovery</b>  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                          |
| <b>Possible cause</b>  | <ul style="list-style-type: none"> <li>■ The temperature sensor is damaged.</li> <li>■ The sensor plug connecting to the T2A/T2/T2B port in the IDU main control board is loose.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |                                          |
| <b>Troubleshooting</b> | <div style="text-align: center;"> <pre> graph TD     Start([F01/F11/F21 (1)]) --&gt; D1{Is the temperature sensor plug connecting to the IDU main control board getting loose?}     D1 -- Yes --&gt; A1[Reconnect the plug tightly]     D1 -- No --&gt; D2{Is the temperature sensor resistance abnormal (2)?}     D2 -- Yes --&gt; A2[Replace the temperature sensor]     D2 -- No --&gt; A3[Replace the main control board of the IDU]                     </pre> </div> <p><b>Note:</b></p> <p>1) The F01/F11/F21 codes respectively correspond to T2A/T2/T2B temperature sensors. Check the wiring nameplate to find the sensor port on the main control board.</p> <p>2) Measure the resistance between two pins of the sensor plug with a multimeter. A resistance value close to 0 indicates a short circuit has occurred in the temperature sensor, and a resistance value close to infinity indicates an open circuit in the temperature sensor.</p> <p>3) If only the master unit is connected to the T2A/T2/T2B temperature sensors in the parallel control of the AHU kit, then only the master unit can detect the F01/F11/F21 faults, and the slave units cannot detect them.</p> |  |  |                                          |

## V8 VRF Indoor Units

### 8.1.42 P31/P34 - Fan drive board AC side overcurrent protection

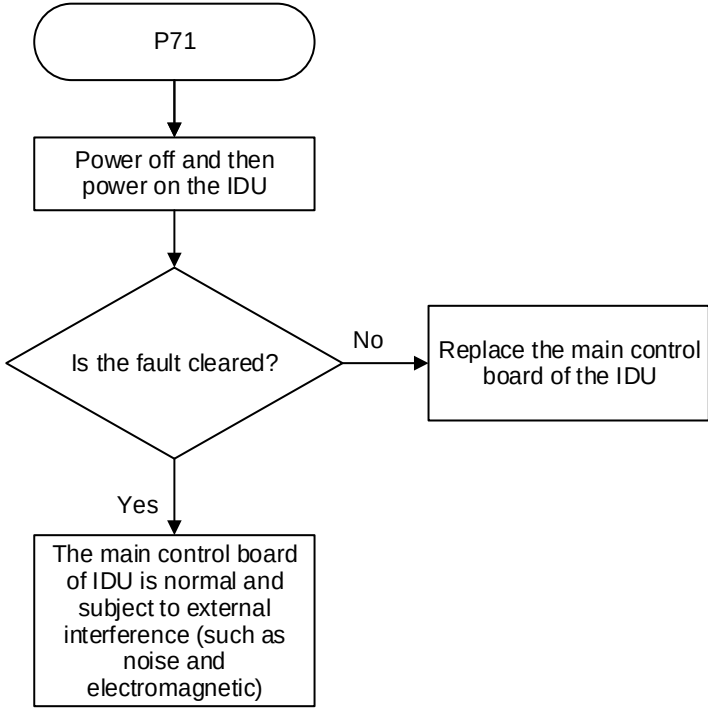
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                   | Display position                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                   |                                          |
| Error trigger   | <ul style="list-style-type: none"> <li>■ P31: The current value detected on the AC side of the fan drive board exceeds the programmed overcurrent protection value</li> <li>■ P34: Six P31 failures within an hour.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                   |                                          |
| Error recovery  | <ul style="list-style-type: none"> <li>■ P31: Automatic recovery</li> <li>■ P34: Power-on again</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                   |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The actual static pressure resistance of the indoor unit outlet is less than the static pressure value of indoor unit</li> <li>■ Instantaneous power failure or violent voltage fluctuation</li> <li>■ Indoor unit fan driver board is damaged</li> <li>■ Indoor unit main control board is damaged</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   |                                          |
| Troubleshooting | <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin-right: 20px;">P31/P34</div> <div style="display: flex; flex-direction: column; gap: 10px;"> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 200px;">Cause 1: The actual static pressure resistance of the indoor unit outlet is less than the static pressure value of indoor unit</div> <div style="margin: 0 10px;">→</div> <div style="border: 1px solid black; padding: 5px; width: 150px;">Use control to set the static pressure value of indoor unit</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 200px;">Cause 2: Instantaneous power failure or violent voltage fluctuation</div> <div style="margin: 0 10px;">→</div> <div style="border: 1px solid black; padding: 5px; width: 150px;">Power-on again, check whether the power supply voltage is stable, if the fluctuation is violent, the power supply needs to be rectified</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 200px;">Cause 3: If the error cannot be cleared after all other cause have been eliminated, the main control board or fan drive board is damaged</div> <div style="margin: 0 10px;">→</div> <div style="border: 1px solid black; padding: 5px; width: 150px;">Replace the main control board or fan drive board</div> </div> </div> </div> <div style="margin-top: 20px;"> <p>Note 1:</p> <p>When replacing the fan drive board, the following should be noted: For models where the fan drive board is integrated and soldered onto the main control board, if either the fan drive board or the indoor unit main control board is damaged, the entire control board needs to be replaced."</p> </div> |                                                                                   |                                          |

## 8.1.43 P52 - The voltage of the power supply is too low

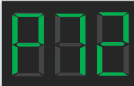
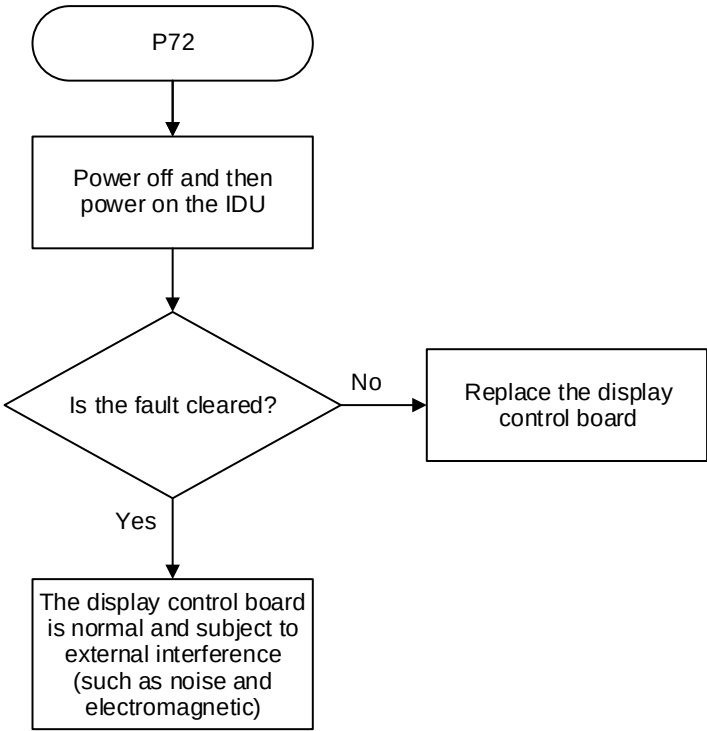
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                          | Display position                         |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                         | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                   |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                |                                          |
| Error trigger   | <ul style="list-style-type: none"> <li>Power supply voltage is below the programmed protection threshold (165V)</li> </ul>                                                                                                                                                                                                                                                                               |                                          |
| Error recovery  | <ul style="list-style-type: none"> <li>Automatic recovery</li> </ul>                                                                                                                                                                                                                                                                                                                                     |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>Power supply voltage is lower than 165V</li> <li>Indoor unit fan driver board is damaged</li> </ul>                                                                                                                                                                                                                                                               |                                          |
| Troubleshooting |  <pre> graph TD     P52([P52]) --&gt; Decision{Use a multimeter to check whether the power supply voltage of the indoor unit is lower than 165V}     Decision -- YES --&gt; Rectify[Rectify the power supply]     Decision -- No --&gt; Replace[Replace the fan drive board or main control board]             </pre> |                                          |

## V8 VRF Indoor Units

### 8.1.44 P71 - Main control board EEPROM fault

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Display position                         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                             | Panel, display box, and wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
| Error trigger   | When the master chip cannot receive data from EEPROM (EEPROM: a non-volatile memory whose data are kept even when powered off)                                                                                                                                                                                                                                                                                                                                               |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The IDU main control board is damaged.</li> <li>■ External interference (such as noise and electromagnetic)</li> </ul>                                                                                                                                                                                                                                                                                                              |                                          |
| Troubleshooting |  <pre> graph TD     P71([P71]) --&gt; PowerOff[Power off and then power on the IDU]     PowerOff --&gt; Decision{Is the fault cleared?}     Decision -- No --&gt; Replace[Replace the main control board of the IDU]     Decision -- Yes --&gt; Normal[The main control board of IDU is normal and subject to external interference (such as noise and electromagnetic)]           </pre> |                                          |

## 8.1.45 P72 - IDU display control board EEPROM fault

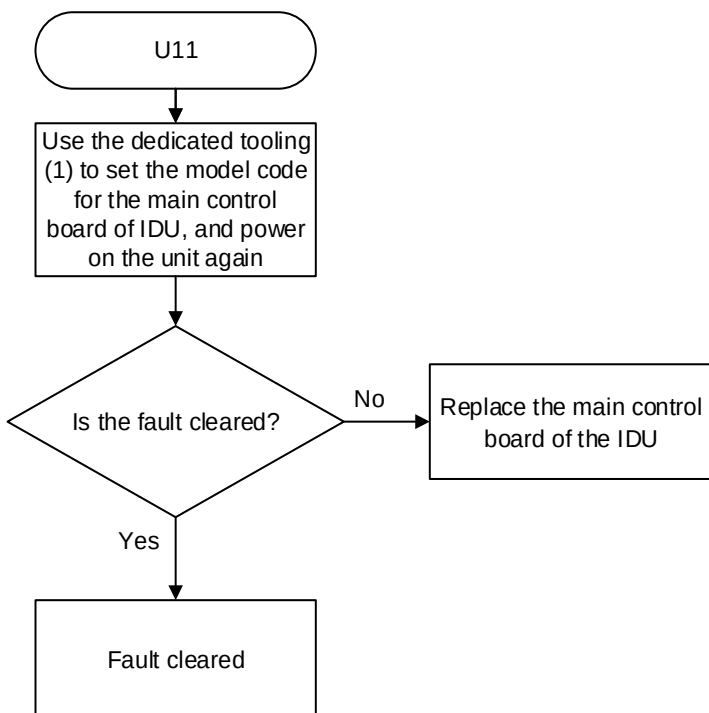
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Display position     |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                    | Panel or display box |
| Error impact    | The faulty IDU operates normally, and the error code is displayed on the panel or display box only. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                |                      |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |
| Error trigger   | Unable to read data from display control board EEPROM (EEPROM: a non-volatile memory whose data are kept even when powered off)                                                                                                                                                                                                                                                                                                                                     |                      |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The display control board is damaged.</li> <li>■ External interference (such as noise and electromagnetic)</li> </ul>                                                                                                                                                                                                                                                                                                      |                      |
| Troubleshooting |  <pre> graph TD     Start([P72]) --&gt; Step1[Power off and then power on the IDU]     Step1 --&gt; Decision{Is the fault cleared?}     Decision -- No --&gt; Step2[Replace the display control board]     Decision -- Yes --&gt; Step3[The display control board is normal and subject to external interference (such as noise and electromagnetic)]                     </pre> |                      |

8.1.46 U01 - Locked (electronic lock)

|                 |                                                                                                                                                                                                                              |                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Error display   | Digital display                                                                                                                                                                                                              | Display position                         |
|                 |                                                                                                                                             | Panel, display box, and wired controller |
| Error impact    | All IDUs of the same system: stop running, displaying code "U01"                                                                                                                                                             |                                          |
|                 | ODU of the same system: stops running, displaying code "U01"                                                                                                                                                                 |                                          |
| Error trigger   | When detecting that the ODU is locked                                                                                                                                                                                        |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                           |                                          |
| Possible cause  | The ODU is still locked.                                                                                                                                                                                                     |                                          |
| Troubleshooting | <div><div>U01</div><div>↓</div><div>Unlock the ODU<br/>depending on the type of<br/>ODUs (1)</div></div> <p>Note 1: To get unlocking methods and tools, please contact your local dealer or technical support personnel.</p> |                                          |

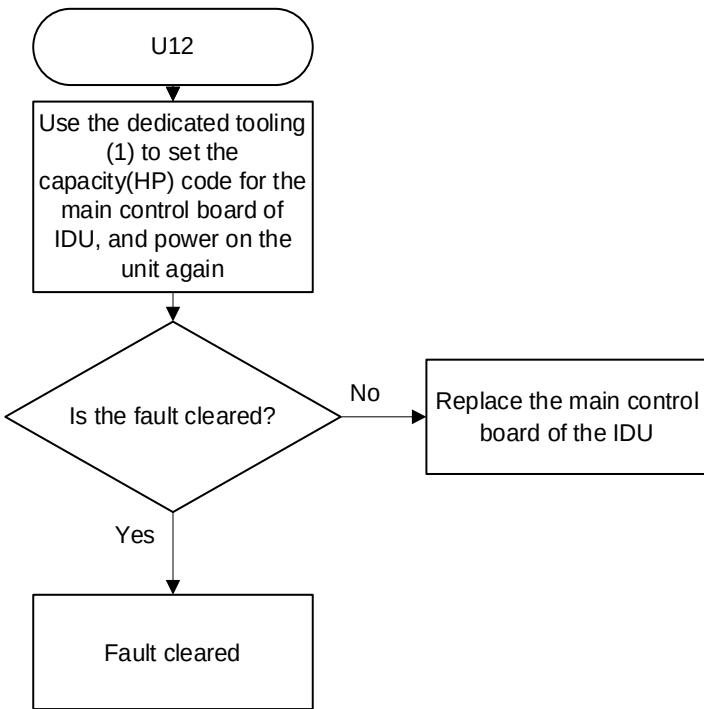


## 8.1.47 U11 - Unit model code not set

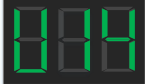
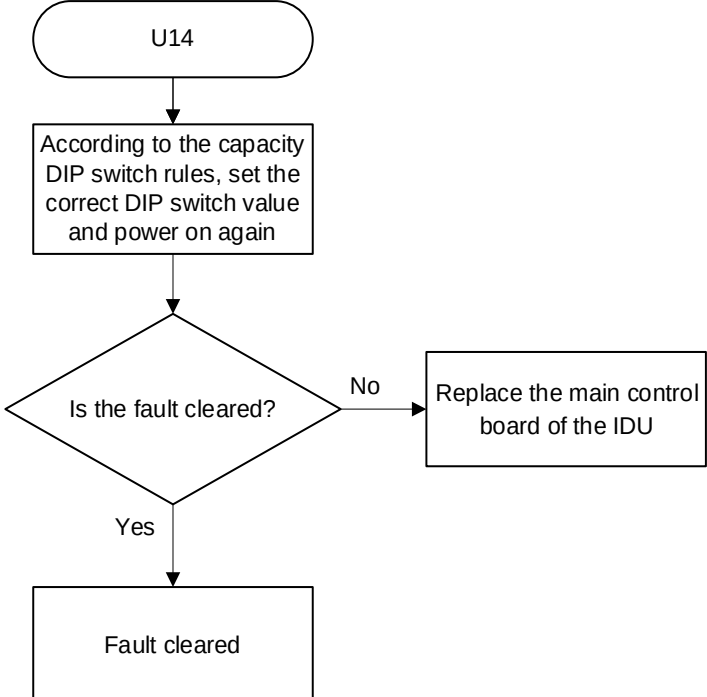
| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Display position                         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Panel, display box, and wired controller |
| Error impact    | 1) The faulty IDU stops running.<br>2) Other IDUs of the same system: <ul style="list-style-type: none"> <li>■ If the address for the faulty IDU has been set, other IDUs will operate normally.</li> <li>■ If the address of the faulty IDU was not set, other IDUs will display error code "A51"-ODU fault. (The indoor unit of V6 platform displays "Ed" code)</li> </ul>                                                                                                                                                                                                                                           |                                          |
|                 | ODU of the same system: <ul style="list-style-type: none"> <li>■ If the address for the faulty IDU has been set, the ODU will operate normally.</li> <li>■ If the address of the faulty IDU was not set, the ODU will display the error code "C26" -number of IDUs reduced. (The outdoor unit of V6 platform displays "H7" code.)</li> </ul>                                                                                                                                                                                                                                                                           |                                          |
| Error trigger   | When detecting that the unit model code for IDU main control board is not set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The unit model code has not been set after replacing the IDU main control board.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |
| Troubleshooting | <div>  <pre> graph TD     Start([U11]) --&gt; Step[Use the dedicated tooling (1) to set the model code for the main control board of IDU, and power on the unit again]     Step --&gt; Decision{Is the fault cleared?}     Decision -- Yes --&gt; End([Fault cleared])     Decision -- No --&gt; Replace[Replace the main control board of the IDU]           </pre> </div> <p>Note 1: For specialized tooling and instructions, please contact your local dealer or technical support personnel.</p> |                                          |

## V8 VRF Indoor Units

### 8.1.48 U12 - Capacity(HP) code not set

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Display position                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Panel, display box, and wired controller |
| Error impact    | 1) The faulty IDU stops running.<br>2) Other IDUs of the same system: <ul style="list-style-type: none"> <li>■ If the address for the faulty IDU has been set, other IDUs will operate normally.</li> <li>■ If the address of the faulty IDU was not set, other IDUs will display error code "A51"-ODU fault.</li> </ul>                                                                                                                                                                                                                                                                                                    |                                          |
|                 | ODU of the same system: <ul style="list-style-type: none"> <li>■ If the address for the faulty IDU has been set, the ODU will operate normally.</li> <li>■ If the address of the faulty IDU was not set, the ODU will display the error code "C26" -number of IDUs reduced.</li> </ul>                                                                                                                                                                                                                                                                                                                                      |                                          |
| Error trigger   | When detecting that the capacity(HP) code for IDU main control board has not been set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The capacity(HP) code has not been set after replacing the IDU main control board.</li> <li>■ The new IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
| Troubleshooting | <div>  <pre> graph TD     U12([U12]) --&gt; Step1[Use the dedicated tooling (1) to set the capacity(HP) code for the main control board of IDU, and power on the unit again]     Step1 --&gt; Decision{Is the fault cleared?}     Decision -- Yes --&gt; End([Fault cleared])     Decision -- No --&gt; Step2[Replace the main control board of the IDU]           </pre> </div> <p>Note 1: For specialized tooling and instructions, please contact your local dealer or technical support personnel.</p> |                                          |

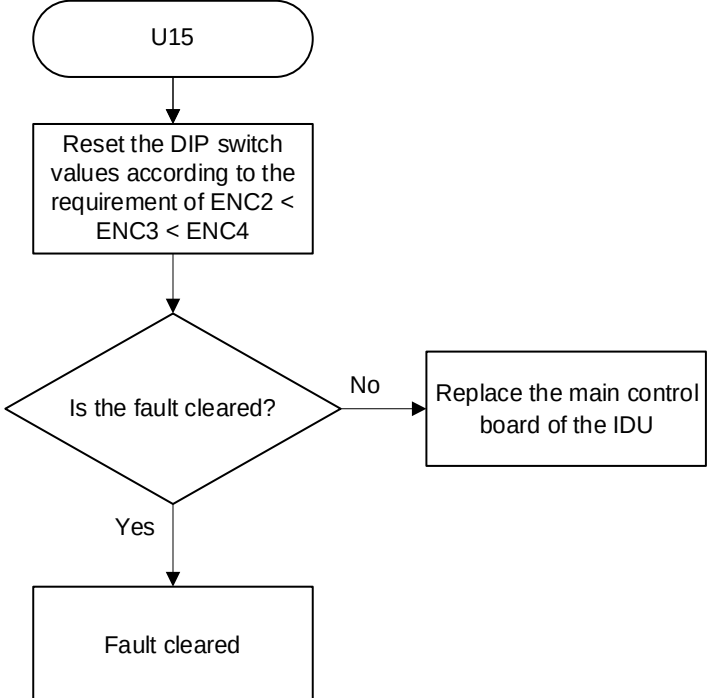
## 8.1.49 U14 - The capacity value of the AHU Kit DIP switch does not match the model

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                | Display position                         |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                               | Panel, display box, and wired controller |
| Error impact    | 1) The faulty IDU stops running.                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
|                 | 2) Other IDUs of the same system: operate normally                                                                                                                                                                                                                                                                                                                                                                             |                                          |
| Error trigger   | ODU of the same system: operate normally                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
| Error trigger   | The capacity value of the AHU Kit DIP switch is not within the capability segment corresponding to the current model                                                                                                                                                                                                                                                                                                           |                                          |
| Error recovery  | After setting the capacity value of the AHU Kit DIP switch correctly, power on again                                                                                                                                                                                                                                                                                                                                           |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The capacity value of the AHU Kit DIP switch is not within the capability segment corresponding to the current model</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                     |                                          |
| Troubleshooting |  <pre> graph TD     U14([U14]) --&gt; Step1[According to the capacity DIP switch rules, set the correct DIP switch value and power on again]     Step1 --&gt; Decision{Is the fault cleared?}     Decision -- Yes --&gt; End([Fault cleared])     Decision -- No --&gt; Step2[Replace the main control board of the IDU]             </pre> |                                          |

## V8 VRF Indoor Units



### 8.1.50 U15 - The DIP value of AHU Kit's fan speed output voltage is incorrect

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                       | Display position                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                      | Panel, display box, and wired controller |
| Error impact    | 1) The faulty IDU stops running.                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
|                 | 2) Other IDUs of the same system: operate normally                                                                                                                                                                                                                                                                                                                                                                    |                                          |
|                 | ODU of the same system: operate normally                                                                                                                                                                                                                                                                                                                                                                              |                                          |
| Error trigger   | The voltage values corresponding to the high/medium/low speed of the AHU kit do not meet the condition:<br>The voltage corresponding to the high fan speed > The voltage corresponding to the medium fan speed > The voltage corresponding to the medium low speed                                                                                                                                                    |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>The DIP switch values of ENC2/ENC3/ENC4 do not meet the requirement that <math>ENC2 &lt; ENC3 &lt; ENC4</math> (Note: The DIP switches of ENC2, ENC3, and ENC4 on the main control board correspond to the output voltage values of the low speed, medium speed, and high speed, respectively).</li> </ul>                                                                     |                                          |
|                 | <ul style="list-style-type: none"> <li>The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                              |                                          |
| Troubleshooting |  <pre> graph TD     U15([U15]) --&gt; Reset[Reset the DIP switch values according to the requirement of ENC2 &lt; ENC3 &lt; ENC4]     Reset --&gt; Decision{Is the fault cleared?}     Decision -- No --&gt; Replace[Replace the main control board of the IDU]     Decision -- Yes --&gt; Cleared[Fault cleared]           </pre> |                                          |

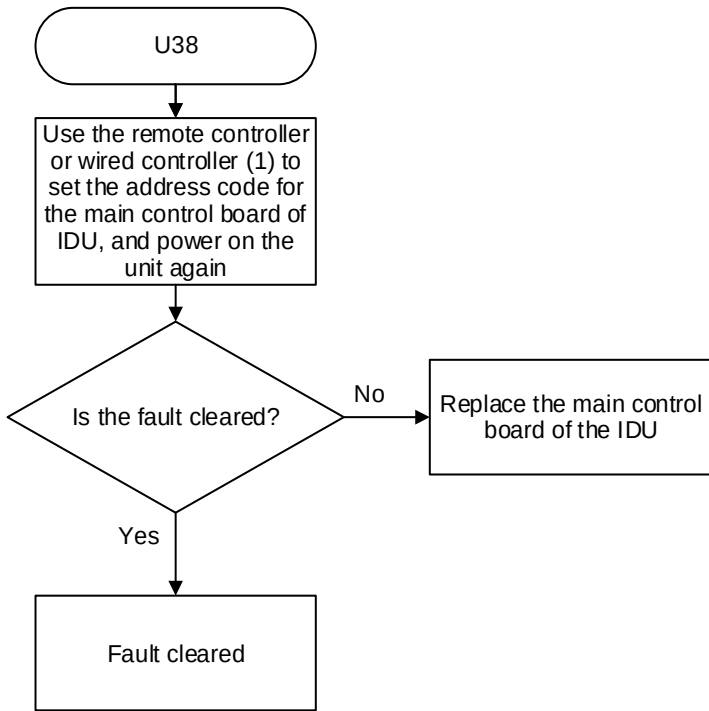
## 8.1.51 U26 - Mismatch between indoor unit model and outdoor unit model

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Display position                         |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Panel, display box, and wired controller |
| Error impact    | 1) The faulty IDU stops running.<br>2) Other IDUs of the same system will operate normally                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
|                 | ODU of the same system:<br><ul style="list-style-type: none"> <li>■ If there is one IDU in the system is operating normally, the ODU will operate normally.</li> <li>■ If all the IDUs in the system are display error code "U26", the ODU will operate normally.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                          |
| Error trigger   | <ul style="list-style-type: none"> <li>■ There is a conflict between the model series code of indoor unit and the model series code of outdoor unit</li> <li>■ The communication flag bit (Myhome identification flag bit) between indoor unit and outdoor unit has a matching conflict</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ Model series code setting error when replacing the main control board of indoor unit.</li> <li>■ Mismatch between indoor unit model and outdoor unit model in the same system.</li> <li>■ Myhome configuration code setting error when replacing the main control board of indoor unit</li> <li>■ Myhome configuration indoor unit and non-Myhome configuration outdoor unit are connected in one system</li> <li>■ Non-Myhome configured indoor unit and Myhome configured outdoor unit are connected in one system</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
| Troubleshooting | <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; margin-right: 20px;">U26</div> <div> <div style="margin-bottom: 10px;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Cause 1: Model series code setting error when replacing the main control board of indoor unit.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Cause 2: Myhome configuration code setting error when replacing the main control board of indoor unit</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Cause 3: Mismatch between indoor unit model and outdoor unit model in the same system.</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Cause 4: Myhome configuration indoor unit and non-Myhome configuration outdoor unit are connected in one system</div> <div style="border: 1px solid black; padding: 5px;">Cause 5: Non-Myhome configured indoor unit and Myhome configured outdoor unit are connected in one system</div> </div> <div style="display: flex; flex-direction: column; align-items: flex-end;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Use the dedicated tooling (1) to set the model code for the main control board of IDU, and power on the unit again</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Use the dedicated tooling (1) to set the Myhome code for the main control board of IDU, and power on the unit again</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Replace the outdoor unit or indoor unit(2)</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Replace the outdoor unit or indoor unit(2)</div> <div style="border: 1px solid black; padding: 5px;">Replace the outdoor unit or indoor unit(2)</div> </div> </div> </div> <div style="margin-top: 20px;"> <p>Note:</p> <p>1. For specialized tooling and instructions, please contact your local dealer or technical support personnel.</p> <p>2. Please contact your local dealer or technical support staff to confirm the detail.</p> </div> |                                          |

## V8 VRF Indoor Units



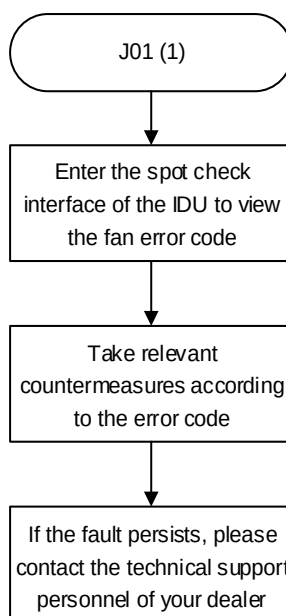
### 8.1.52 U38 - Address code not detected

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Display position                         |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Panel, display box, and wired controller |
| Error impact    | 1) The faulty IDU stops running.<br>2) Other IDUs of the same system: The fan continues running, the EEV is closed, and ODU error code "A51" is displayed (V6 platform IDU displays the code "Ed").                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |
|                 | ODU of the same system: Otherwise, the ODU will display the error code "C26" (number of IDUs reduced) (V6 platform ODU displays the code "H7")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |
| Error trigger   | When detecting that the address code for IDU main control board has not been set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The address code has not been set after replacing the IDU main control board.</li> <li>■ The new IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |
| Troubleshooting | <div>  <pre> graph TD     U38([U38]) --&gt; Step[Use the remote controller or wired controller (1) to set the address code for the main control board of IDU, and power on the unit again]     Step --&gt; Decision{Is the fault cleared?}     Decision -- Yes --&gt; End([Fault cleared])     Decision -- No --&gt; Replace[Replace the main control board of the IDU]                     </pre> </div> <p>Note 1: For instructions on how to set up addresses for a remote controller or a wired controller, please refer to relevant manuals.</p> |                                          |

## 8.1.53 J01 - Motor failed more than once

| Error display         | Digital display                                                                                                     | Display position                         |
|-----------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                       |                                    | Panel, display box, and wired controller |
| <b>Error impact</b>   | The faulty IDU stops. Other IDUs of the same system: operate normally.<br>ODU of the same system: operate normally. |                                          |
| <b>Error trigger</b>  | If fan control faults have occurred 10 times in 120 min (1)                                                         |                                          |
| <b>Error recovery</b> | After troubleshooting, power on again                                                                               |                                          |
| <b>Possible cause</b> | The fan drive faults have caused the motor to fail more than once.                                                  |                                          |

## Troubleshooting



Note:

1. Enter the spot check interface of the IDU to query fan drive fault code (see the table below). For specific troubleshooting methods, please refer to this document.

| No. | Error | Fan drive fault name                           |
|-----|-------|------------------------------------------------|
| 1   | J1E   | IPM (fan module) overcurrent protection        |
| 2   | J11   | Instantaneous overcurrent protection for phase |
| 3   | J3E   | Low bus voltage fault                          |
| 4   | J31   | High bus voltage fault                         |
| 5   | J43   | Phase current sample bias error                |
| 6   | J47   | IPM (fan module) and IDU unmatched             |
| 7   | J5E   | Motor startup failure                          |
| 8   | J52   | Motor blocking protection                      |
| 9   | J55   | Speed control mode setting error               |
| 10  | J6E   | Phase lack protection of motor                 |

## 8.1.54 J1E: IPM (fan module) overcurrent protection

| Fault Display | LED display                                                                         | Display position                         |
|---------------|-------------------------------------------------------------------------------------|------------------------------------------|
|               |  | Panel, display box, and wired controller |
|               | The faulty IDU stops. Other IDUs of the same system: operate normally.              |                                          |

## V8 VRF Indoor Units



|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fault Impact</b>    | ODU of the same system operates normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Fault Trigger</b>   | <p>The fault is triggered if one of the following conditions is met:</p> <p>1) The current value (AC) detected for any phase line of U/V/W on the IPM exceeds the set overcurrent protection value of the IPM.</p> <p>2) A fault signal output by the IPM protection circuit is detected.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Fault Recovery</b>  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Possible Cause</b>  | <ul style="list-style-type: none"> <li>■ There is no fan wheel installed on the motor.</li> <li>■ The motor insulation is damaged or motor coils are short-circuited.</li> <li>■ The fan drive board is damaged.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Troubleshooting</b> | <div style="text-align: center;"> <pre> graph LR     J1E[J1E] --&gt; C1[Cause 1: No fan wheel is installed on the motor. As a result, the motor load is too low and the current exceeds the protection value set by the driver]     J1E --&gt; C2[Cause 2: Measure the inter-turn winding resistance between the red, white, and black wires of the motor power cable. If there is a short circuit or an open circuit, the motor is damaged]     J1E --&gt; C3[Cause 3: Measure the resistance between any wire pin of the power cord plug of the motor and the metal housing of the motor. If the resistance is less than 1 MΩ, the motor is damaged]     J1E --&gt; C4[Cause 4: The fan drive board is damaged]     J1E --&gt; C5[Cause 5: If the error cannot be cleared after causes 1/2/3/4 have been eliminated, the IDU main control board is damaged]     C1 --&gt; A1[Assemble and fix the matched fan wheel and motor, and then start the unit.]     C2 --&gt; A2[Replace the motor]     C3 --&gt; A3[Replace the motor]     C4 --&gt; A4[Replace the fan drive board (1)]     C5 --&gt; A5[Replace the main control board of the IDU]                     </pre> </div> <p>Note 1: Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</p> |

### 8.1.55 J11: instantaneous overcurrent protection for phase current

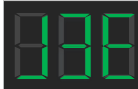
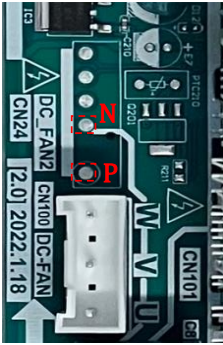
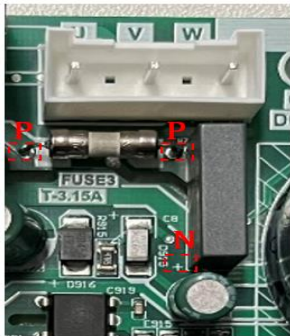
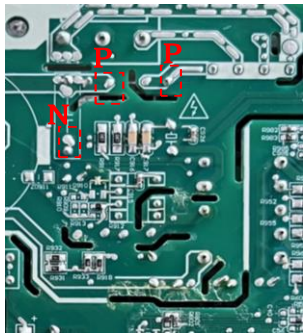
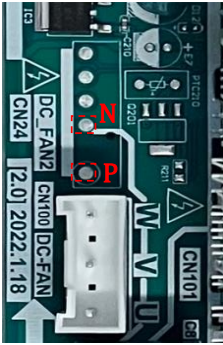
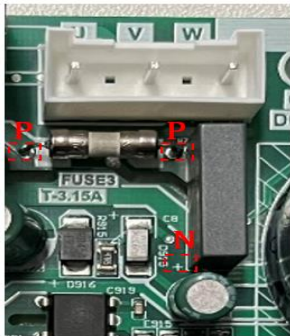
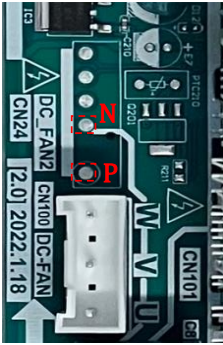
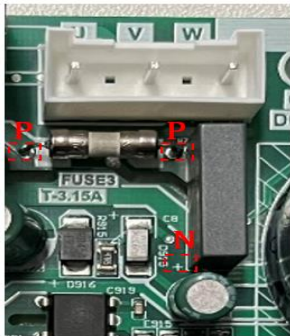
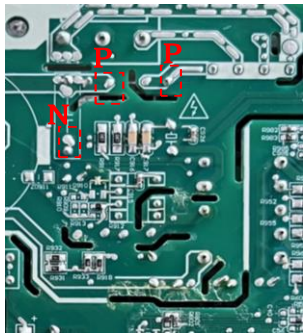
|                      |                                                                                                                                |                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                      | LED display                                                                                                                    | Display position                         |
| <b>Fault Display</b> |                                                                                                                                | Panel, display box, and wired controller |
| <b>Fault Impact</b>  | <p>The faulty IDU stops. Other IDUs of the same system: operate normally.</p> <p>ODU of the same system operates normally.</p> |                                          |



|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fault Trigger</b>   | The current value (AC) detected for any phase line of U/V/W on the IPM exceeds the set overcurrent protection value of the driver.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Fault Recovery</b>  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Possible Cause</b>  | <ul style="list-style-type: none"> <li>■ There is no fan wheel installed on the motor.</li> <li>■ Motor coils are short-circuited, or the motor bearing is worn, resulting in an abnormal increase of motor current.</li> <li>■ The fan drive board is damaged.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Troubleshooting</b> | <pre> graph LR     J11(J11) --&gt; C1[Cause 1: No fan wheel is installed on the motor. As a result, the motor load is too low and the current exceeds the protection value set by the driver]     J11 --&gt; C2[Cause 2: Measure the inter-turn winding resistance between the red, white, and black wires of the motor power cable. If there is a short circuit or an open circuit, the motor is damaged]     J11 --&gt; C3[Cause 3: The motor bearing is severely worn, resulting in overcurrent. It causes the motor to create noise when rotating and to over heat]     J11 --&gt; C4[Cause 4: The fan drive board is damaged]     J11 --&gt; C5[Cause 5: If the error cannot be cleared after causes 1/2/3/4 have been eliminated, the IDU main control board is damaged]     C1 --&gt; A1[Assemble and fix the matched fan wheel and motor, and then start the unit.]     C2 --&gt; A2[Replace the motor]     C3 --&gt; A3[Replace the motor]     C4 --&gt; A4[Replace the fan drive board (1)]     C5 --&gt; A5[Replace the main control board of the IDU]   </pre> <p>Note 1: Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</p> |

## V8 VRF Indoor Units

### 8.1.56 J3E - Low bus voltage fault

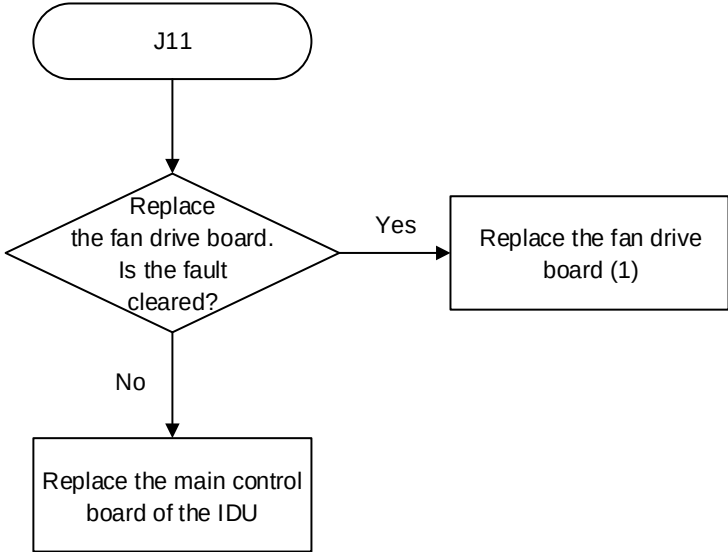
|                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|------------|------------|--|---------------------|------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Error display                                                                                                                                                                                                                                                              | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Display position                                                                      |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
|                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Panel or display box                                                                  | Wired controller            |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
|                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Spot check interface query                                                            | Error code is not displayed |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
| Error impact                                                                                                                                                                                                                                                               | The faulty IDU stops. Other IDUs of the same system: operate normally.<br>ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
| Error trigger                                                                                                                                                                                                                                                              | When the bus voltage (DC voltage) is below the threshold value of the driver (165 V)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
| Error recovery                                                                                                                                                                                                                                                             | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
| Possible cause                                                                                                                                                                                                                                                             | <div><div>■ The input voltage is too low, resulting in low bus voltage.</div><div>■ The input voltage encounters transient drop and interruption, resulting in too low transient bus voltage.</div><div>■ The fan drive board is damaged, so the bus voltage detection circuit becomes abnormal.</div><div>■ The IDU main control board is damaged.</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
| Troubleshooting                                                                                                                                                                                                                                                            | <div><div><div>J3E</div><div><div><div>Cause 1: Measure the input voltage of the IDU. If the voltage is significantly lower than the normal value (<math>\leq 140</math> V) or the voltage interrupts or drops instantaneously, the power supply is abnormal</div><div>Fix the power supply</div></div><div><div>Cause 2: If the input power supply is normal, and the voltage (DC) between P and N is normal (the normal voltage is about 310 V), it indicates that the voltage detection circuit for fan drive board is abnormal (1)</div><div>Replace the fan drive board (2)</div></div><div><div>Cause 3: If the error cannot be cleared after causes 1/2 have been eliminated, the main control board of the IDU is damaged</div><div>Replace the main control board of the IDU</div></div></div></div></div> |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
|                                                                                                                                                                                                                                                                            | <div>Note:</div> <div>1. Please refer to the figure below when measuring voltage between P and N. Make sure P/N measuring points are selected according to PCB type.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
|                                                                                                                                                                                                                                                                            | <table><tr><td>PCB type 1</td><td colspan="2">PCB type 2</td></tr><tr><td>P/N measuring point</td><td>P/N measuring point (front of PCB)</td><td>P/N measuring point (back of PCB)</td></tr><tr><td></td><td></td><td></td></tr></table>                                                                                                                                                                                                                                                                                                                |                                                                                       |                             | PCB type 1 | PCB type 2 |  | P/N measuring point | P/N measuring point (front of PCB) | P/N measuring point (back of PCB) |  |  |
| PCB type 1                                                                                                                                                                                                                                                                 | PCB type 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
| P/N measuring point                                                                                                                                                                                                                                                        | P/N measuring point (front of PCB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | P/N measuring point (back of PCB)                                                     |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
|                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |
| <div>2. Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                       |                             |            |            |  |                     |                                    |                                   |                                                                                     |                                                                                      |

## 8.1.57 J31 - High bus voltage fault

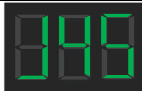
| Error display       | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Display position                       |            |            |  |                     |                                    |                                   |  |  |  |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------|------------|--|---------------------|------------------------------------|-----------------------------------|--|--|--|
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Panel, display box<br>Wired controller |            |            |  |                     |                                    |                                   |  |  |  |
| Error impact        | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |            |            |  |                     |                                    |                                   |  |  |  |
|                     | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                        |            |            |  |                     |                                    |                                   |  |  |  |
| Error trigger       | When the bus voltage (DC voltage) is greater than the threshold value of the driver (450V)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                        |            |            |  |                     |                                    |                                   |  |  |  |
| Error recovery      | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |            |            |  |                     |                                    |                                   |  |  |  |
| Possible cause      | <ul style="list-style-type: none"> <li>■ The input voltage is too high, resulting in high bus voltage.</li> <li>■ Instantaneous high input voltage.</li> <li>■ The fan drive board is damaged, so the bus voltage detection circuit becomes abnormal.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |            |            |  |                     |                                    |                                   |  |  |  |
| Troubleshooting     | <div style="text-align: center;"> </div> <p>Note:</p> <p>1. Please refer to the figure below when measuring voltage between P and N. Make sure P/N measuring points are selected according to PCB type.</p> <table border="1"> <thead> <tr> <th>PCB type 1</th><th colspan="2">PCB type 2</th></tr> <tr> <th>P/N measuring point</th><th>P/N measuring point (front of PCB)</th><th>P/N measuring point (back of PCB)</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td></tr> </tbody> </table> <p>2. Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</p> |                                        | PCB type 1 | PCB type 2 |  | P/N measuring point | P/N measuring point (front of PCB) | P/N measuring point (back of PCB) |  |  |  |
| PCB type 1          | PCB type 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                        |            |            |  |                     |                                    |                                   |  |  |  |
| P/N measuring point | P/N measuring point (front of PCB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | P/N measuring point (back of PCB)      |            |            |  |                     |                                    |                                   |  |  |  |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                        |            |            |  |                     |                                    |                                   |  |  |  |

## V8 VRF Indoor Units

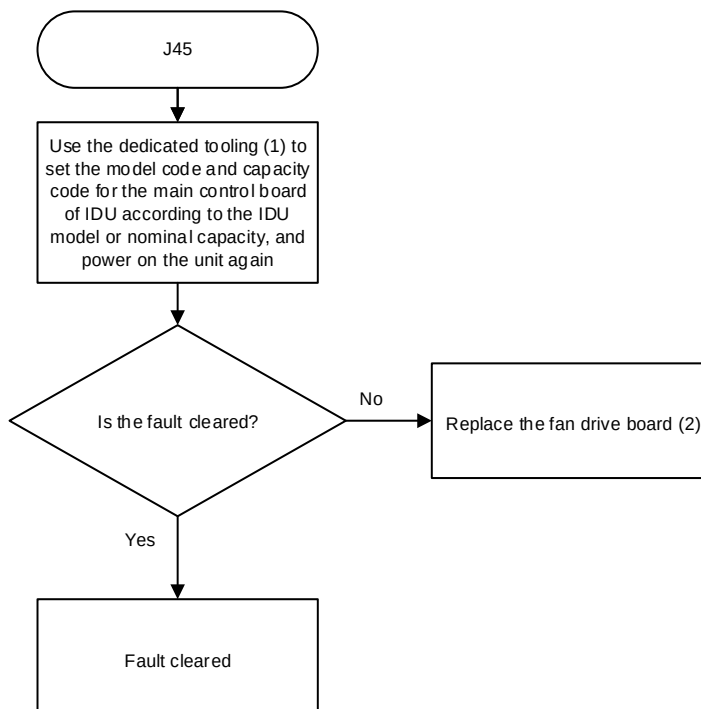
### 8.1.58 J43 - Phase current sample bias error

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Display position                       |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Panel, display box<br>Wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |
| Error trigger   | When detecting that the current sample is 50% greater than 2.5 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                        |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                        |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The current sampling circuit of the fan drive board is damaged.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |
| Troubleshooting | <div>  <pre> graph TD     J11([J11]) --&gt; Decision{Replace the fan drive board.<br/>Is the fault cleared?}     Decision -- Yes --&gt; Action1[Replace the fan drive board (1)]     Decision -- No --&gt; Action2[Replace the main control board of the IDU]           </pre> </div> <p>Note 1: Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</p> |                                        |

## 8.1.59 J45 - Motor and IDU unmatched

| Error display  | Digital display                                                                                                                                              | Display position                         |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                |                                                                             | Panel, display box, and wired controller |
| Error impact   | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                       |                                          |
|                | ODU of the same system: operate normally.                                                                                                                    |                                          |
| Error trigger  | If the motor code sent by the IDU main control board is not found in the fan driver                                                                          |                                          |
| Error recovery | Automatic recovery                                                                                                                                           |                                          |
| Possible cause | <ul style="list-style-type: none"> <li>■ Unit model code or capacity code is incorrectly set.</li> <li>■ The fan drive board is wrong or damaged.</li> </ul> |                                          |

### Troubleshooting



#### Note:

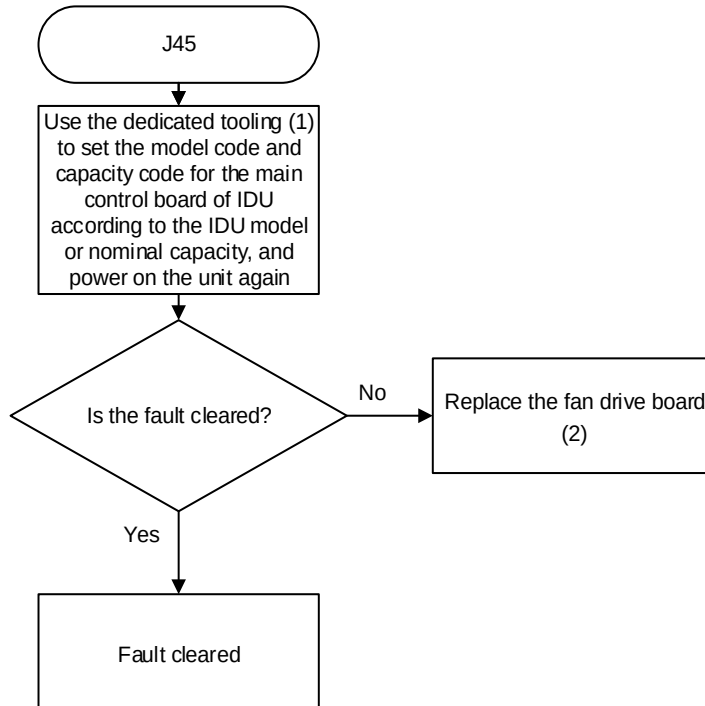
1. For specialized tooling and instructions, please contact your local dealer or technical support personnel.
2. Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.

## V8 VRF Indoor Units

### 8.1.60 J47 - IPM (fan module) and IDU unmatched

| Error display  | Digital display                                                                                            | Display position                         |
|----------------|------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                |                           | Panel, display box, and wired controller |
| Error impact   | The faulty IDU stops. Other IDUs of the same system: operate normally.                                     |                                          |
|                | ODU of the same system: operate normally.                                                                  |                                          |
| Error trigger  | When detecting that the fan drive board does not match the set value of the driver                         |                                          |
| Error recovery | Automatic recovery                                                                                         |                                          |
| Possible cause | <ul style="list-style-type: none"> <li>Unit model code or capacity(HP) code is incorrectly set.</li> </ul> |                                          |
|                | <ul style="list-style-type: none"> <li>The fan drive board is wrong or damaged.</li> </ul>                 |                                          |

#### Troubleshooting



#### Note:

- For specialized tooling and instructions, please contact your local dealer or technical support personnel.
- Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.

**8.1.61 J5E - Motor startup failure**

| Error display          | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Display position                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Panel, display box<br>Wired controller |
| <b>Error impact</b>    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |
|                        | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                        |
| <b>Error trigger</b>   | Motor startup failure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |
| <b>Error recovery</b>  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |
| <b>Possible cause</b>  | <ul style="list-style-type: none"> <li>■ Motor winding short-circuits or cuts off</li> <li>■ The fan is blocked by foreign material or the motor is damaged and cannot rotate.</li> <li>■ The unit's model code or capacity code are set incorrectly</li> <li>■ Fan blade is not installed</li> <li>■ The fan drive module is damaged.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                        |
| <b>Troubleshooting</b> | <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin-right: 10px;">J5E</div> <div> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="width: 100%; height: 1px; background-color: black; margin-bottom: 5px;"></div> <div style="width: 100%; height: 1px; background-color: black; margin-bottom: 5px;"></div> <div style="width: 100%; height: 1px; background-color: black; margin-bottom: 5px;"></div> <div style="width: 100%; height: 1px; background-color: black; margin-bottom: 5px;"></div> <div style="width: 100%; height: 1px; background-color: black; margin-bottom: 5px;"></div> <div style="width: 100%; height: 1px; background-color: black;"></div> </div> <div style="display: flex; flex-direction: column; gap: 10px;"> <div> <div style="border: 1px solid black; padding: 5px; width: 60%;">Cause 1: Measure the inter-turn winding resistance between the red, white, and black wires of the motor power cable. If there is a short circuit or an open circuit, the motor is damaged</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Replace the motor</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 60%;">Cause 2: The fan is blocked by foreign matters and cannot rotate</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Remove foreign matter.</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 60%;">Cause 3: The unit's model code or capacity code are set incorrectly</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Reset the code</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 60%;">Cause 4: The fan blades are not installed</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Install the fan blade</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 60%;">Cause 5: The fan drive board is damaged</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Replace the fan drive board (1)</div> </div> <div> <div style="border: 1px solid black; padding: 5px; width: 60%;">Cause 6: If the error cannot be cleared after all other causes have been eliminated, the main control board of the IDU is damaged</div> <div style="border: 1px solid black; padding: 5px; width: 30%;">Replace the main control board of the IDU</div> </div> </div> </div> </div> |                                        |
|                        | <p>Note 1: Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |

**8.1.62 J52: motor blocking protection**

| Fault Display | LED display | Display position |
|---------------|-------------|------------------|
|---------------|-------------|------------------|

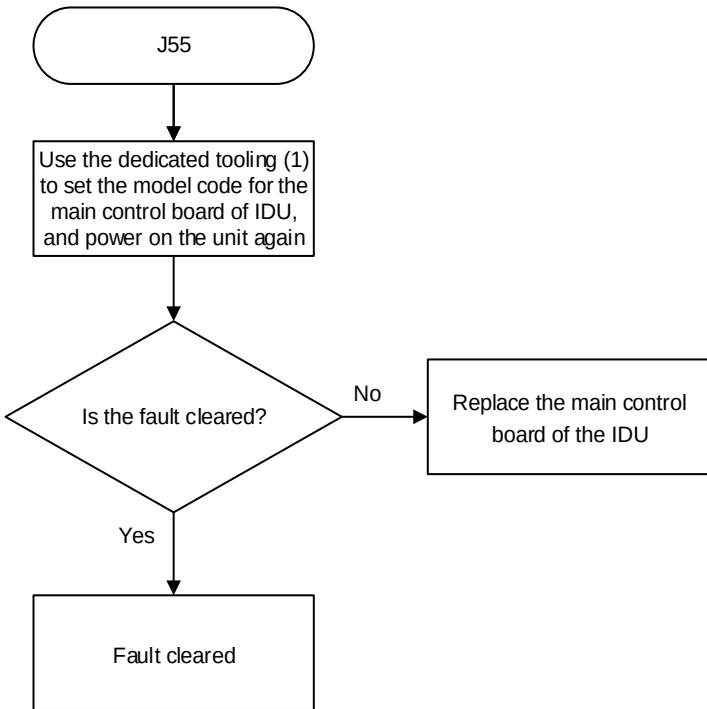
# V8 VRF Indoor Units



|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Panel, display box, and wired controller |
| <b>Fault Impact</b>    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |
|                        | ODU of the same system operates normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                          |
| <b>Fault Trigger</b>   | The motor is blocked.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
| <b>Fault Recovery</b>  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |
| <b>Possible Cause</b>  | <ul style="list-style-type: none"> <li>■ There is no fan wheel installed on the motor.</li> <li>■ The motor shaft gets stuck.</li> <li>■ The fan drive board is damaged.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |
|                        | <div> <div> <div>J52</div> <div> <div> Cause 1: No fan wheel is installed on the motor. As a result, the motor load is too low and the current exceeds the protection value set by the driver </div> <div> Assemble and fix the matched fan wheel and motor, and then start the unit. </div> </div> <div> <div> Cause 2: The motor shaft is clogged by foreign material </div> <div> Replace the motor </div> </div> <div> <div> Cause 3: The fan drive board is damaged </div> <div> Replace the fan drive board (1) </div> </div> <div> <div> Cause 4: If the error cannot be cleared after causes 1/2/3/4 have been eliminated, the IDU main control board is damaged </div> <div> Replace the main control board of the IDU </div> </div> </div> </div> |                                          |
| <b>Troubleshooting</b> | <p>Note 1: Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |

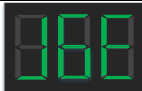
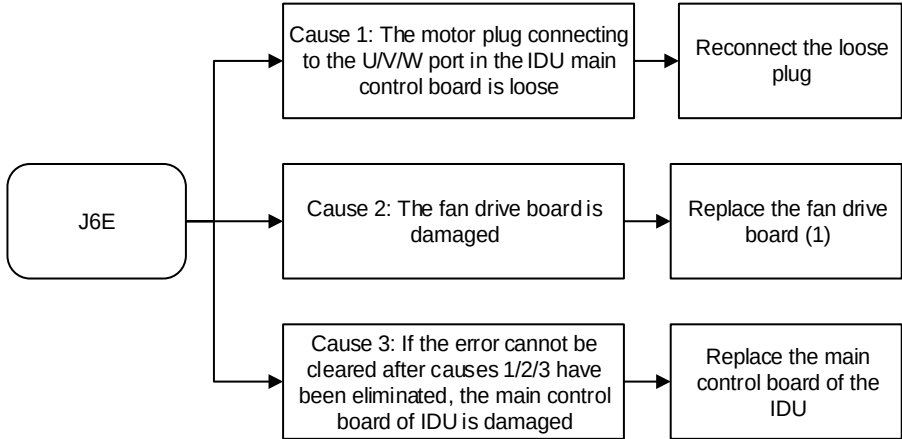


**8.1.63 J55 - Speed control mode setting error**

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                        |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <b>Error display</b>  | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Display position                       |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Panel, display box<br>Wired controller |
| <b>Error impact</b>   | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |
|                       | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                        |
| <b>Error trigger</b>  | The IDU is non constant air flow control, but its main control program sets the fan speed according to the constant air flow control mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |
| <b>Error recovery</b> | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |
| <b>Possible cause</b> | <ul style="list-style-type: none"> <li>■ The IDU model is set incorrectly.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |
|                       | <div> <div> <div>Troubleshooting</div> <div>  <pre> graph TD     Start([J55]) --&gt; Process1[Use the dedicated tooling (1) to set the model code for the main control board of IDU, and power on the unit again]     Process1 --&gt; Decision{Is the fault cleared?}     Decision -- No --&gt; Process2[Replace the main control board of the IDU]     Decision -- Yes --&gt; Process3[Fault cleared]                     </pre> </div> </div> <p>Note 1: For specialized tooling and instructions, please contact your local dealer or technical support personnel.</p> </div> |                                        |

## V8 VRF Indoor Units

### 8.1.64 J6E - Phase lack protection of motor

| Error display   | Digital display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Display position                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Panel, display box<br>Wired controller |
| Error impact    | The faulty IDU stops. Other IDUs of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                        |
|                 | ODU of the same system: operate normally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                        |
| Error trigger   | When the motor phase lacks protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |
| Error recovery  | Automatic recovery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                        |
| Possible cause  | <ul style="list-style-type: none"> <li>■ The motor plug connecting to the U/V/W port in the IDU main control board is loose.</li> <li>■ The fan drive board is damaged.</li> <li>■ The IDU main control board is damaged.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |
| Troubleshooting | <div style="text-align: center;">  <pre> graph LR     J6E(J6E) --&gt; C1[Cause 1: The motor plug connecting to the U/V/W port in the IDU main control board is loose]     J6E --&gt; C2[Cause 2: The fan drive board is damaged]     J6E --&gt; C3[Cause 3: If the error cannot be cleared after causes 1/2/3 have been eliminated, the main control board of IDU is damaged]     C1 --&gt; R1[Reconnect the loose plug]     C2 --&gt; R2[Replace the fan drive board (1)]     C3 --&gt; R3[Replace the main control board of the IDU]           </pre> </div> <p>Note 1: Please observe the following rule when replacing the fan drive board: For units whose fan drive board is welded onto the main control board, if either the fan drive board or main control board becomes faulty, the whole control board has to be replaced.</p> |                                        |

## 9 Appendix

### 9.1 Temperature Sensor Resistance Characteristics

Table 9.1: Indoor temperature sensors resistance characteristics

R25=10K  $\Omega$   $\pm$  3%    B25/50=4100K  $\pm$  3%

| Temperature<br>(°C) | Resistance<br>min(k $\Omega$ ) | Resistance<br>Normal(k $\Omega$ ) | Resistance<br>max(k $\Omega$ ) | Temperature<br>(°C) | Resistance<br>min(k $\Omega$ ) | Resistance<br>Normal(k $\Omega$ ) | Resistance<br>max(k $\Omega$ ) |
|---------------------|--------------------------------|-----------------------------------|--------------------------------|---------------------|--------------------------------|-----------------------------------|--------------------------------|
| -40                 | 337.762                        | 388.619                           | 446.732                        | 0                   | 32.140                         | 34.385                            | 36.753                         |
| -39                 | 315.441                        | 362.171                           | 415.450                        | 1                   | 30.532                         | 32.613                            | 34.803                         |
| -38                 | 294.802                        | 337.767                           | 386.646                        | 2                   | 29.013                         | 30.941                            | 32.968                         |
| -37                 | 275.699                        | 315.226                           | 360.096                        | 3                   | 27.578                         | 29.364                            | 31.238                         |
| -36                 | 258.001                        | 294.386                           | 335.600                        | 4                   | 26.221                         | 27.876                            | 29.609                         |
| -35                 | 241.589                        | 275.100                           | 312.977                        | 5                   | 24.938                         | 26.471                            | 28.074                         |
| -34                 | 226.358                        | 257.238                           | 292.067                        | 6                   | 23.725                         | 25.145                            | 26.626                         |
| -33                 | 212.210                        | 240.679                           | 272.721                        | 7                   | 22.578                         | 23.892                            | 25.260                         |
| -32                 | 199.059                        | 225.317                           | 254.809                        | 8                   | 21.492                         | 22.708                            | 23.972                         |
| -31                 | 186.823                        | 211.053                           | 238.210                        | 9                   | 20.464                         | 21.590                            | 22.757                         |
| -30                 | 175.432                        | 197.799                           | 222.817                        | 10                  | 19.491                         | 20.532                            | 21.609                         |
| -29                 | 164.820                        | 185.475                           | 208.531                        | 11                  | 18.569                         | 19.532                            | 20.526                         |
| -28                 | 154.925                        | 174.007                           | 195.264                        | 12                  | 17.696                         | 18.586                            | 19.502                         |
| -27                 | 145.695                        | 163.330                           | 182.934                        | 13                  | 16.868                         | 17.690                            | 18.536                         |
| -26                 | 137.078                        | 153.381                           | 171.467                        | 14                  | 16.084                         | 16.843                            | 17.622                         |
| -25                 | 129.030                        | 144.105                           | 160.797                        | 15                  | 15.341                         | 16.041                            | 16.758                         |
| -24                 | 121.508                        | 135.452                           | 150.861                        | 16                  | 14.635                         | 15.281                            | 15.941                         |
| -23                 | 114.473                        | 127.375                           | 141.604                        | 17                  | 13.966                         | 14.562                            | 15.169                         |
| -22                 | 107.892                        | 119.832                           | 132.974                        | 18                  | 13.332                         | 13.880                            | 14.438                         |
| -21                 | 101.730                        | 112.783                           | 124.925                        | 19                  | 12.729                         | 13.234                            | 13.746                         |
| -20                 | 95.959                         | 106.193                           | 117.413                        | 20                  | 12.157                         | 12.621                            | 13.091                         |
| -19                 | 90.551                         | 100.028                           | 110.399                        | 21                  | 11.614                         | 12.041                            | 12.471                         |
| -18                 | 85.480                         | 94.259                            | 103.846                        | 22                  | 11.099                         | 11.490                            | 11.884                         |
| -17                 | 80.724                         | 88.857                            | 97.721                         | 23                  | 10.608                         | 10.967                            | 11.327                         |
| -16                 | 76.260                         | 83.796                            | 91.994                         | 24                  | 10.143                         | 10.471                            | 10.800                         |
| -15                 | 72.070                         | 79.054                            | 86.636                         | 25                  | 9.700                          | 10.000                            | 10.300                         |
| -14                 | 68.134                         | 74.607                            | 81.620                         | 26                  | 9.254                          | 9.553                             | 9.853                          |
| -13                 | 64.436                         | 70.436                            | 76.924                         | 27                  | 8.830                          | 9.128                             | 9.428                          |
| -12                 | 60.960                         | 66.521                            | 72.525                         | 28                  | 8.429                          | 8.725                             | 9.024                          |
| -11                 | 57.691                         | 62.847                            | 68.402                         | 29                  | 8.048                          | 8.342                             | 8.639                          |
| -10                 | 54.615                         | 59.396                            | 64.536                         | 30                  | 7.686                          | 7.977                             | 8.273                          |
| -9                  | 51.721                         | 56.153                            | 60.911                         | 31                  | 7.342                          | 7.631                             | 7.924                          |
| -8                  | 48.996                         | 53.106                            | 57.509                         | 32                  | 7.016                          | 7.302                             | 7.592                          |
| -7                  | 46.430                         | 50.241                            | 54.315                         | 33                  | 6.706                          | 6.988                             | 7.276                          |
| -6                  | 44.012                         | 47.546                            | 51.317                         | 34                  | 6.412                          | 6.690                             | 6.975                          |
| -5                  | 41.733                         | 45.010                            | 48.500                         | 35                  | 6.132                          | 6.407                             | 6.688                          |
| -4                  | 39.585                         | 42.623                            | 45.853                         | 36                  | 5.866                          | 6.137                             | 6.414                          |
| -3                  | 37.558                         | 40.376                            | 43.365                         | 37                  | 5.613                          | 5.880                             | 6.153                          |
| -2                  | 35.647                         | 38.259                            | 41.025                         | 38                  | 5.373                          | 5.635                             | 5.905                          |
| -1                  | 33.843                         | 36.264                            | 38.824                         | 39                  | 5.144                          | 5.402                             | 5.667                          |

Table 9.1: Indoor temperature sensors resistance characteristics(continues)

| Temperature<br>(°C) | Resistance<br>min(kΩ) | Resistance<br>Normal(kΩ) | Resistance<br>max(kΩ) | Temperature<br>(°C) | Resistance<br>min(kΩ) | Resistance<br>Normal(kΩ) | Resistance<br>max(kΩ) |
|---------------------|-----------------------|--------------------------|-----------------------|---------------------|-----------------------|--------------------------|-----------------------|
| 40                  | 4.926                 | 5.179                    | 5.441                 | 80                  | 1.060                 | 1.166                    | 1.281                 |
| 41                  | 4.718                 | 4.968                    | 5.225                 | 81                  | 1.025                 | 1.128                    | 1.240                 |
| 42                  | 4.521                 | 4.766                    | 5.019                 | 82                  | 0.990                 | 1.091                    | 1.201                 |
| 43                  | 4.333                 | 4.573                    | 4.822                 | 83                  | 0.958                 | 1.056                    | 1.164                 |
| 44                  | 4.154                 | 4.390                    | 4.634                 | 84                  | 0.926                 | 1.022                    | 1.127                 |
| 45                  | 3.983                 | 4.215                    | 4.455                 | 85                  | 0.895                 | 0.990                    | 1.092                 |
| 46                  | 3.821                 | 4.047                    | 4.283                 | 86                  | 0.866                 | 0.958                    | 1.059                 |
| 47                  | 3.666                 | 3.888                    | 4.120                 | 87                  | 0.838                 | 0.928                    | 1.026                 |
| 48                  | 3.518                 | 3.736                    | 3.963                 | 88                  | 0.811                 | 0.899                    | 0.995                 |
| 49                  | 3.377                 | 3.590                    | 3.813                 | 89                  | 0.785                 | 0.870                    | 0.965                 |
| 50                  | 3.243                 | 3.451                    | 3.670                 | 90                  | 0.760                 | 0.843                    | 0.935                 |
| 51                  | 3.114                 | 3.318                    | 3.533                 | 91                  | 0.735                 | 0.817                    | 0.907                 |
| 52                  | 2.991                 | 3.192                    | 3.402                 | 92                  | 0.712                 | 0.792                    | 0.880                 |
| 53                  | 2.874                 | 3.070                    | 3.276                 | 93                  | 0.689                 | 0.768                    | 0.854                 |
| 54                  | 2.762                 | 2.954                    | 3.156                 | 94                  | 0.668                 | 0.744                    | 0.829                 |
| 55                  | 2.656                 | 2.843                    | 3.041                 | 95                  | 0.647                 | 0.722                    | 0.804                 |
| 56                  | 2.553                 | 2.737                    | 2.931                 | 96                  | 0.627                 | 0.700                    | 0.781                 |
| 57                  | 2.456                 | 2.635                    | 2.825                 | 97                  | 0.607                 | 0.679                    | 0.758                 |
| 58                  | 2.362                 | 2.538                    | 2.723                 | 98                  | 0.589                 | 0.659                    | 0.736                 |
| 59                  | 2.273                 | 2.444                    | 2.626                 | 99                  | 0.571                 | 0.639                    | 0.715                 |
| 60                  | 2.187                 | 2.355                    | 2.533                 | 100                 | 0.553                 | 0.620                    | 0.694                 |
| 61                  | 2.105                 | 2.269                    | 2.444                 | 101                 | 0.537                 | 0.602                    | 0.674                 |
| 62                  | 2.027                 | 2.187                    | 2.358                 | 102                 | 0.520                 | 0.584                    | 0.655                 |
| 63                  | 1.952                 | 2.109                    | 2.276                 | 103                 | 0.505                 | 0.567                    | 0.637                 |
| 64                  | 1.880                 | 2.033                    | 2.197                 | 104                 | 0.490                 | 0.551                    | 0.619                 |
| 65                  | 1.811                 | 1.961                    | 2.121                 | 105                 | 0.475                 | 0.535                    | 0.602                 |
| 66                  | 1.745                 | 1.892                    | 2.048                 | 106                 | 0.461                 | 0.520                    | 0.585                 |
| 67                  | 1.682                 | 1.825                    | 1.978                 | 107                 | 0.448                 | 0.505                    | 0.569                 |
| 68                  | 1.622                 | 1.761                    | 1.911                 | 108                 | 0.434                 | 0.490                    | 0.553                 |
| 69                  | 1.564                 | 1.700                    | 1.847                 | 109                 | 0.422                 | 0.477                    | 0.538                 |
| 70                  | 1.508                 | 1.641                    | 1.785                 | 110                 | 0.410                 | 0.463                    | 0.523                 |
| 71                  | 1.455                 | 1.585                    | 1.725                 | 111                 | 0.398                 | 0.450                    | 0.509                 |
| 72                  | 1.403                 | 1.530                    | 1.668                 | 112                 | 0.386                 | 0.438                    | 0.495                 |
| 73                  | 1.354                 | 1.478                    | 1.613                 | 113                 | 0.375                 | 0.425                    | 0.482                 |
| 74                  | 1.307                 | 1.428                    | 1.559                 | 114                 | 0.365                 | 0.414                    | 0.469                 |
| 75                  | 1.261                 | 1.380                    | 1.509                 | 115                 | 0.354                 | 0.402                    | 0.456                 |
| 76                  | 1.218                 | 1.334                    | 1.460                 | 116                 | 0.344                 | 0.391                    | 0.444                 |
| 77                  | 1.176                 | 1.289                    | 1.412                 | 117                 | 0.335                 | 0.381                    | 0.433                 |
| 78                  | 1.136                 | 1.247                    | 1.367                 | 118                 | 0.325                 | 0.370                    | 0.421                 |
| 79                  | 1.098                 | 1.206                    | 1.323                 | 119                 | 0.317                 | 0.361                    | 0.410                 |

Table 9.1: Indoor temperature sensors resistance characteristics(continues)

| Temperature<br>(°C) | Resistance<br>min(kΩ) | Resistance<br>Normal(kΩ) | Resistance<br>max(kΩ) | Temperature<br>(°C) | Resistance<br>min(kΩ) | Resistance<br>Normal(kΩ) | Resistance<br>max(kΩ) |
|---------------------|-----------------------|--------------------------|-----------------------|---------------------|-----------------------|--------------------------|-----------------------|
| 120                 | 0.308                 | 0.351                    | 0.400                 |                     |                       |                          |                       |
| 121                 | 0.299                 | 0.342                    | 0.389                 |                     |                       |                          |                       |
| 122                 | 0.291                 | 0.332                    | 0.379                 |                     |                       |                          |                       |
| 123                 | 0.283                 | 0.324                    | 0.370                 |                     |                       |                          |                       |
| 124                 | 0.276                 | 0.315                    | 0.360                 |                     |                       |                          |                       |
| 125                 | 0.268                 | 0.307                    | 0.351                 |                     |                       |                          |                       |
| 126                 | 0.261                 | 0.299                    | 0.342                 |                     |                       |                          |                       |
| 127                 | 0.254                 | 0.291                    | 0.334                 |                     |                       |                          |                       |
| 128                 | 0.247                 | 0.284                    | 0.325                 |                     |                       |                          |                       |
| 129                 | 0.241                 | 0.277                    | 0.317                 |                     |                       |                          |                       |
| 130                 | 0.234                 | 0.269                    | 0.309                 |                     |                       |                          |                       |
| 131                 | 0.228                 | 0.263                    | 0.302                 |                     |                       |                          |                       |
| 132                 | 0.222                 | 0.256                    | 0.294                 |                     |                       |                          |                       |
| 133                 | 0.217                 | 0.250                    | 0.287                 |                     |                       |                          |                       |
| 134                 | 0.211                 | 0.243                    | 0.280                 |                     |                       |                          |                       |
| 135                 | 0.206                 | 0.237                    | 0.273                 |                     |                       |                          |                       |
| 136                 | 0.200                 | 0.231                    | 0.267                 |                     |                       |                          |                       |
| 137                 | 0.195                 | 0.226                    | 0.260                 |                     |                       |                          |                       |
| 138                 | 0.190                 | 0.220                    | 0.254                 |                     |                       |                          |                       |
| 139                 | 0.186                 | 0.215                    | 0.248                 |                     |                       |                          |                       |
| 140                 | 0.181                 | 0.210                    | 0.242                 |                     |                       |                          |                       |
| 141                 | 0.177                 | 0.205                    | 0.237                 |                     |                       |                          |                       |
| 142                 | 0.172                 | 0.200                    | 0.231                 |                     |                       |                          |                       |
| 143                 | 0.168                 | 0.195                    | 0.226                 |                     |                       |                          |                       |
| 144                 | 0.164                 | 0.190                    | 0.221                 |                     |                       |                          |                       |
| 145                 | 0.160                 | 0.186                    | 0.216                 |                     |                       |                          |                       |
| 146                 | 0.156                 | 0.181                    | 0.211                 |                     |                       |                          |                       |
| 147                 | 0.152                 | 0.177                    | 0.206                 |                     |                       |                          |                       |
| 148                 | 0.148                 | 0.173                    | 0.201                 |                     |                       |                          |                       |
| 149                 | 0.145                 | 0.169                    | 0.197                 |                     |                       |                          |                       |
| 150                 | 0.142                 | 0.165                    | 0.192                 |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |
|                     |                       |                          |                       |                     |                       |                          |                       |

## V8 VRF Indoor Units



### 9.2 Ambient Temperature and Standard Saturation Pressure of R410A

Table 9.2: Ambient Temperature and Standard Saturation Pressure of R410A (saturated vapor state)

| Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) | Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) | Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) |
|--------------------------|--------------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------------|
| -70                      | -65.879                        | -9.5549                        | -30                      | 168.02                         | 24.37                          | 10                       | 983.49                         | 142.64                         |
| -69                      | -63.608                        | -9.2256                        | -29                      | 179.3                          | 26.005                         | 11                       | 1015.9                         | 147.35                         |
| -68                      | -61.22                         | -8.8793                        | -28                      | 190.93                         | 27.693                         | 12                       | 1049.1                         | 152.15                         |
| -67                      | -58.711                        | -8.5154                        | -27                      | 202.94                         | 29.434                         | 13                       | 1083                           | 157.07                         |
| -66                      | -56.077                        | -8.1332                        | -26                      | 215.32                         | 31.23                          | 14                       | 1117.6                         | 162.09                         |
| -65                      | -53.312                        | -7.7322                        | -25                      | 228.09                         | 33.081                         | 15                       | 1153                           | 167.22                         |
| -64                      | -50.411                        | -7.3115                        | -24                      | 241.25                         | 34.99                          | 16                       | 1189.1                         | 172.47                         |
| -63                      | -47.371                        | -6.8706                        | -23                      | 254.81                         | 36.957                         | 17                       | 1226                           | 177.82                         |
| -62                      | -44.186                        | -6.4087                        | -22                      | 268.78                         | 38.983                         | 18                       | 1263.8                         | 183.29                         |
| -61                      | -40.852                        | -5.925                         | -21                      | 283.17                         | 41.07                          | 19                       | 1302.3                         | 188.88                         |
| -60                      | -37.362                        | -5.4189                        | -20                      | 297.98                         | 43.218                         | 20                       | 1341.6                         | 194.58                         |
| -59                      | -33.713                        | -4.8896                        | -19                      | 313.23                         | 45.43                          | 21                       | 1381.8                         | 200.41                         |
| -58                      | -29.898                        | -4.3363                        | -18                      | 328.91                         | 47.705                         | 22                       | 1422.7                         | 206.35                         |
| -57                      | -25.913                        | -3.7583                        | -17                      | 345.05                         | 50.046                         | 23                       | 1464.6                         | 212.42                         |
| -56                      | -21.752                        | -3.1548                        | -16                      | 361.65                         | 52.453                         | 24                       | 1507.3                         | 218.61                         |
| -55                      | -17.409                        | -2.525                         | -15                      | 378.71                         | 54.928                         | 25                       | 1550.8                         | 224.93                         |
| -54                      | -12.88                         | -1.868                         | -14                      | 396.26                         | 57.472                         | 26                       | 1595.3                         | 231.37                         |
| -53                      | -8.1571                        | -1.1831                        | -13                      | 414.28                         | 60.086                         | 27                       | 1640.6                         | 237.95                         |
| -52                      | -3.2361                        | -0.46936                       | -12                      | 432.8                          | 62.772                         | 28                       | 1686.8                         | 244.65                         |
| -51                      | 1.8893                         | 0.27402                        | -11                      | 451.82                         | 65.531                         | 29                       | 1734                           | 251.49                         |
| -50                      | 7.2252                         | 1.0479                         | -10                      | 471.35                         | 68.364                         | 30                       | 1782.1                         | 258.47                         |
| -49                      | 12.777                         | 1.8532                         | -9                       | 491.4                          | 71.272                         | 31                       | 1831.1                         | 265.58                         |
| -48                      | 18.552                         | 2.6908                         | -8                       | 511.98                         | 74.257                         | 32                       | 1881.1                         | 272.83                         |
| -47                      | 24.556                         | 3.5615                         | -7                       | 533.1                          | 77.32                          | 33                       | 1932.1                         | 280.23                         |
| -46                      | 30.794                         | 4.4663                         | -6                       | 554.76                         | 80.462                         | 34                       | 1984                           | 287.76                         |
| -45                      | 37.274                         | 5.4062                         | -5                       | 576.99                         | 83.685                         | 35                       | 2037                           | 295.44                         |
| -44                      | 44.002                         | 6.382                          | -4                       | 599.77                         | 86.99                          | 36                       | 2091                           | 303.27                         |
| -43                      | 50.985                         | 7.3947                         | -3                       | 623.13                         | 90.378                         | 37                       | 2146                           | 311.25                         |
| -42                      | 58.228                         | 8.4453                         | -2                       | 647.08                         | 93.851                         | 38                       | 2202                           | 319.37                         |
| -41                      | 65.739                         | 9.5347                         | -1                       | 671.62                         | 97.41                          | 39                       | 2259.1                         | 327.66                         |
| -40                      | 73.525                         | 10.664                         | 0                        | 696.76                         | 101.06                         | 40                       | 2317.3                         | 336.09                         |
| -39                      | 81.592                         | 11.834                         | 1                        | 722.51                         | 104.79                         | 41                       | 2376.5                         | 344.69                         |
| -38                      | 89.947                         | 13.046                         | 2                        | 748.89                         | 108.62                         | 42                       | 2436.9                         | 353.44                         |
| -37                      | 98.598                         | 14.3                           | 3                        | 775.9                          | 112.53                         | 43                       | 2498.4                         | 362.36                         |
| -36                      | 107.55                         | 15.599                         | 4                        | 803.55                         | 116.54                         | 44                       | 2561                           | 371.45                         |
| -35                      | 116.81                         | 16.942                         | 5                        | 831.85                         | 120.65                         | 45                       | 2624.8                         | 380.7                          |
| -34                      | 126.39                         | 18.332                         | 6                        | 860.82                         | 124.85                         | 46                       | 2689.8                         | 390.12                         |
| -33                      | 136.3                          | 19.768                         | 7                        | 890.45                         | 129.15                         | 47                       | 2755.9                         | 399.71                         |
| -32                      | 146.53                         | 21.252                         | 8                        | 920.77                         | 133.55                         | 48                       | 2823.3                         | 409.48                         |
| -31                      | 157.1                          | 22.786                         | 9                        | 951.78                         | 138.04                         | 49                       | 2891.8                         | 419.43                         |

Table 9.2: Ambient Temperature and Standard Saturation Pressure of R410A (saturated vapor state)-continue

|    |        |        |    |        |        |    |        |        |
|----|--------|--------|----|--------|--------|----|--------|--------|
| 50 | 2961.7 | 429.55 | 57 | 3487.2 | 505.78 | 64 | 4083.4 | 592.25 |
| 51 | 3032.8 | 439.87 | 58 | 3567.8 | 517.47 | 65 | 4175   | 605.54 |
| 52 | 3105.2 | 450.36 | 59 | 3649.9 | 529.38 | 66 | 4268.3 | 619.07 |
| 53 | 3178.9 | 461.05 | 60 | 3733.5 | 541.5  | 67 | 4363.5 | 632.87 |
| 54 | 3253.9 | 471.94 | 61 | 3818.6 | 553.84 | 68 | 4460.5 | 646.93 |
| 55 | 3330.3 | 483.02 | 62 | 3905.3 | 566.41 | 69 | 4559.4 | 661.28 |
| 56 | 3408   | 494.3  | 63 | 3993.5 | 579.21 | 70 | 4660.4 | 675.93 |

Table 9.3: Ambient Temperature and Standard Saturation Pressure of R410A (Saturated liquid state)

| Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) | Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) | Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) |
|--------------------------|--------------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------------|
| -70                      | -65.704                        | -9.5296                        | -37                      | 99.329                         | 14.407                         | -4                       | 602.1                          | 87.327                         |
| -69                      | -63.425                        | -9.1991                        | -36                      | 108.31                         | 15.709                         | -3                       | 625.53                         | 90.725                         |
| -68                      | -61.029                        | -8.8515                        | -35                      | 117.6                          | 17.057                         | -2                       | 649.55                         | 94.209                         |
| -67                      | -58.511                        | -8.4863                        | -34                      | 127.22                         | 18.451                         | -1                       | 674.16                         | 97.779                         |
| -66                      | -55.867                        | -8.1028                        | -33                      | 137.15                         | 19.892                         | 0                        | 699.38                         | 101.44                         |
| -65                      | -53.092                        | -7.7004                        | -32                      | 147.42                         | 21.381                         | 1                        | 725.21                         | 105.18                         |
| -64                      | -50.182                        | -7.2782                        | -31                      | 158.03                         | 22.92                          | 2                        | 751.67                         | 109.02                         |
| -63                      | -47.131                        | -6.8358                        | -30                      | 168.98                         | 24.509                         | 3                        | 778.76                         | 112.95                         |
| -62                      | -43.935                        | -6.3722                        | -29                      | 180.29                         | 26.15                          | 4                        | 806.49                         | 116.97                         |
| -61                      | -40.589                        | -5.8869                        | -28                      | 191.97                         | 27.843                         | 5                        | 834.88                         | 121.09                         |
| -60                      | -37.087                        | -5.379                         | -27                      | 204.01                         | 29.59                          | 6                        | 863.93                         | 125.3                          |
| -59                      | -33.425                        | -4.8479                        | -26                      | 216.44                         | 31.391                         | 7                        | 893.66                         | 129.61                         |
| -58                      | -29.597                        | -4.2927                        | -25                      | 229.24                         | 33.249                         | 8                        | 924.07                         | 134.02                         |
| -57                      | -25.599                        | -3.7128                        | -24                      | 242.45                         | 35.164                         | 9                        | 955.17                         | 138.54                         |
| -56                      | -21.423                        | -3.1072                        | -23                      | 256.05                         | 37.137                         | 10                       | 986.98                         | 143.15                         |
| -55                      | -17.066                        | -2.4752                        | -22                      | 270.07                         | 39.17                          | 11                       | 1019.5                         | 147.87                         |
| -54                      | -12.521                        | -1.816                         | -21                      | 284.5                          | 41.263                         | 12                       | 1052.7                         | 152.69                         |
| -53                      | -7.7823                        | -1.1287                        | -20                      | 299.36                         | 43.419                         | 13                       | 1086.7                         | 157.62                         |
| -52                      | -2.8446                        | -0.41258                       | -19                      | 314.66                         | 45.637                         | 14                       | 1121.5                         | 162.65                         |
| -51                      | 2.2981                         | 0.33331                        | -18                      | 330.39                         | 47.92                          | 15                       | 1156.9                         | 167.8                          |
| -50                      | 7.6519                         | 1.1098                         | -17                      | 346.58                         | 50.268                         | 16                       | 1193.2                         | 173.06                         |
| -49                      | 13.223                         | 1.9178                         | -16                      | 363.23                         | 52.683                         | 17                       | 1230.2                         | 178.43                         |
| -48                      | 19.017                         | 2.7582                         | -15                      | 380.35                         | 55.165                         | 18                       | 1268.1                         | 183.92                         |
| -47                      | 25.041                         | 3.6319                         | -14                      | 397.95                         | 57.717                         | 19                       | 1306.7                         | 189.52                         |
| -46                      | 31.3                           | 4.5397                         | -13                      | 416.03                         | 60.34                          | 20                       | 1346.1                         | 195.24                         |
| -45                      | 37.802                         | 5.4827                         | -12                      | 434.61                         | 63.034                         | 21                       | 1386.4                         | 201.08                         |
| -44                      | 44.553                         | 6.4618                         | -11                      | 453.69                         | 65.802                         | 22                       | 1427.5                         | 207.04                         |
| -43                      | 51.558                         | 7.4779                         | -10                      | 473.28                         | 68.643                         | 23                       | 1469.4                         | 213.12                         |
| -42                      | 58.826                         | 8.5319                         | -9                       | 493.39                         | 71.561                         | 24                       | 1512.2                         | 219.33                         |
| -41                      | 66.362                         | 9.625                          | -8                       | 514.04                         | 74.555                         | 25                       | 1555.9                         | 225.67                         |
| -40                      | 74.173                         | 10.758                         | -7                       | 535.22                         | 77.627                         | 26                       | 1600.5                         | 232.13                         |
| -39                      | 82.267                         | 11.932                         | -6                       | 556.95                         | 80.779                         | 27                       | 1645.9                         | 238.72                         |
| -38                      | 90.65                          | 13.148                         | -5                       | 579.24                         | 84.012                         | 28                       | 1692.3                         | 245.45                         |

## V8 VRF Indoor Units



Table 9.3: Ambient Temperature and Standard Saturation Pressure of R410A (Saturated liquid state) -continue

|    |        |        |    |        |        |    |        |        |
|----|--------|--------|----|--------|--------|----|--------|--------|
| 29 | 1739.6 | 252.31 | 43 | 2505.8 | 363.44 | 57 | 3495.4 | 506.96 |
| 30 | 1787.8 | 259.3  | 44 | 2568.5 | 372.54 | 58 | 3575.9 | 518.64 |
| 31 | 1837   | 266.43 | 45 | 2632.4 | 381.8  | 59 | 3657.9 | 530.53 |
| 32 | 1887.1 | 273.7  | 46 | 2697.5 | 391.24 | 60 | 3741.3 | 542.63 |
| 33 | 1938.2 | 281.11 | 47 | 2763.7 | 400.85 | 61 | 3826.2 | 554.95 |
| 34 | 1990.3 | 288.67 | 48 | 2831.2 | 410.63 | 62 | 3912.7 | 567.48 |
| 35 | 2043.4 | 296.37 | 49 | 2899.8 | 420.59 | 63 | 4000.6 | 580.24 |
| 36 | 2097.5 | 304.22 | 50 | 2969.7 | 430.73 | 64 | 4090.2 | 593.23 |
| 37 | 2152.6 | 312.21 | 51 | 3040.9 | 441.05 | 65 | 4181.3 | 606.45 |
| 38 | 2208.8 | 320.36 | 52 | 3113.3 | 451.55 | 66 | 4274.1 | 619.9  |
| 39 | 2266   | 328.66 | 53 | 3187.1 | 462.25 | 67 | 4368.6 | 633.61 |
| 40 | 2324.3 | 337.11 | 54 | 3262.1 | 473.13 | 68 | 4464.8 | 647.56 |
| 41 | 2383.7 | 345.73 | 55 | 3338.5 | 484.21 | 69 | 4562.8 | 661.77 |
| 42 | 2444.2 | 354.5  | 56 | 3416.3 | 495.49 | 70 | 4662.6 | 676.25 |



## 9.3 Ambient Temperature and Standard Saturation Pressure of R32

Table 9.4: Ambient Temperature and Standard Saturation Pressure of R32

| Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) | Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) | Ambient Temperature (°C) | Saturated gauge pressure (kPa) | Saturated gauge pressure (psi) |
|--------------------------|--------------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------------|--------------------------|--------------------------------|--------------------------------|
| -70                      | -65.258                        | -9.4649                        | -29                      | 183.58                         | 26.627                         | 12                       | 1072.9                         | 155.6                          |
| -69                      | -62.958                        | -9.1312                        | -28                      | 195.42                         | 28.344                         | 13                       | 1107.6                         | 160.65                         |
| -68                      | -60.539                        | -8.7804                        | -27                      | 207.64                         | 30.115                         | 14                       | 1143.2                         | 165.8                          |
| -67                      | -57.997                        | -8.4118                        | -26                      | 220.24                         | 31.943                         | 15                       | 1179.5                         | 171.07                         |
| -66                      | -55.328                        | -8.0247                        | -25                      | 233.24                         | 33.828                         | 16                       | 1216.6                         | 176.45                         |
| -65                      | -52.527                        | -7.6184                        | -24                      | 246.64                         | 35.772                         | 17                       | 1254.5                         | 181.95                         |
| -64                      | -49.589                        | -7.1923                        | -23                      | 260.45                         | 37.775                         | 18                       | 1293.3                         | 187.57                         |
| -63                      | -46.509                        | -6.7456                        | -22                      | 274.68                         | 39.838                         | 19                       | 1332.8                         | 193.31                         |
| -62                      | -43.283                        | -6.2777                        | -21                      | 289.33                         | 41.964                         | 20                       | 1373.2                         | 199.17                         |
| -61                      | -39.905                        | -5.7877                        | -20                      | 304.43                         | 44.153                         | 21                       | 1414.5                         | 205.16                         |
| -60                      | -36.37                         | -5.275                         | -19                      | 319.97                         | 46.407                         | 22                       | 1456.6                         | 211.27                         |
| -59                      | -32.673                        | -4.7388                        | -18                      | 335.96                         | 48.727                         | 23                       | 1499.6                         | 217.5                          |
| -58                      | -28.808                        | -4.1782                        | -17                      | 352.42                         | 51.114                         | 24                       | 1543.5                         | 223.87                         |
| -57                      | -24.77                         | -3.5926                        | -16                      | 369.34                         | 53.569                         | 25                       | 1588.3                         | 230.36                         |
| -56                      | -20.553                        | -2.981                         | -15                      | 386.75                         | 56.093                         | 26                       | 1634                           | 236.99                         |
| -55                      | -16.153                        | -2.3428                        | -14                      | 404.65                         | 58.689                         | 27                       | 1680.6                         | 243.75                         |
| -54                      | -11.562                        | -1.677                         | -13                      | 423.04                         | 61.357                         | 28                       | 1728.2                         | 250.65                         |
| -53                      | -6.7758                        | -0.98275                       | -12                      | 441.94                         | 64.098                         | 29                       | 1776.7                         | 257.69                         |
| -52                      | -1.7877                        | -0.25928                       | -11                      | 461.36                         | 66.915                         | 30                       | 1826.2                         | 264.87                         |
| -51                      | 3.4082                         | 0.49432                        | -10                      | 481.31                         | 69.808                         | 31                       | 1876.6                         | 272.18                         |
| -50                      | 8.8179                         | 1.2789                         | -9                       | 501.79                         | 72.778                         | 32                       | 1928.1                         | 279.65                         |
| -49                      | 14.448                         | 2.0955                         | -8                       | 522.81                         | 75.828                         | 33                       | 1980.5                         | 287.25                         |
| -48                      | 20.304                         | 2.9448                         | -7                       | 544.39                         | 78.957                         | 34                       | 2034                           | 295.01                         |
| -47                      | 26.393                         | 3.8279                         | -6                       | 566.53                         | 82.169                         | 35                       | 2088.5                         | 302.91                         |
| -46                      | 32.721                         | 4.7457                         | -5                       | 589.25                         | 85.464                         | 36                       | 2144.1                         | 310.97                         |
| -45                      | 39.295                         | 5.6992                         | -4                       | 612.55                         | 88.843                         | 37                       | 2200.7                         | 319.18                         |
| -44                      | 46.121                         | 6.6893                         | -3                       | 636.44                         | 92.308                         | 38                       | 2258.3                         | 327.55                         |
| -43                      | 53.206                         | 7.7169                         | -2                       | 660.94                         | 95.861                         | 39                       | 2317.1                         | 336.07                         |
| -42                      | 60.558                         | 8.7831                         | -1                       | 686.05                         | 99.503                         | 40                       | 2377                           | 344.75                         |
| -41                      | 68.182                         | 9.8889                         | 0                        | 711.78                         | 103.23                         | 41                       | 2438                           | 353.6                          |
| -40                      | 76.086                         | 11.035                         | 1                        | 738.14                         | 107.06                         | 42                       | 2500.1                         | 362.61                         |
| -39                      | 84.277                         | 12.223                         | 2                        | 765.15                         | 110.97                         | 43                       | 2563.4                         | 371.79                         |
| -38                      | 92.762                         | 13.454                         | 3                        | 792.8                          | 114.99                         | 44                       | 2627.8                         | 381.13                         |
| -37                      | 101.55                         | 14.728                         | 4                        | 821.13                         | 119.09                         | 45                       | 2693.5                         | 390.65                         |
| -36                      | 110.64                         | 16.048                         | 5                        | 850.12                         | 123.3                          | 46                       | 2760.3                         | 400.34                         |
| -35                      | 120.05                         | 17.413                         | 6                        | 879.8                          | 127.6                          | 47                       | 2828.3                         | 410.21                         |
| -34                      | 129.79                         | 18.824                         | 7                        | 910.18                         | 132.01                         | 48                       | 2897.6                         | 420.26                         |
| -33                      | 139.86                         | 20.284                         | 8                        | 941.26                         | 136.52                         | 49                       | 2968.1                         | 430.49                         |
| -32                      | 150.26                         | 21.793                         | 9                        | 973.06                         | 141.13                         | 50                       | 3039.9                         | 440.9                          |
| -31                      | 161.01                         | 23.353                         | 10                       | 1005.6                         | 145.85                         | 51                       | 3113                           | 451.5                          |
| -30                      | 172.12                         | 24.963                         | 11                       | 1038.8                         | 150.67                         | 52                       | 3187.4                         | 462.29                         |

## V8 VRF Indoor Units



Table 9.4: Ambient Temperature and Standard Saturation Pressure of R32 (continue)

|           |        |        |           |        |        |           |        |        |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| <b>53</b> | 3263.1 | 473.27 | <b>59</b> | 3746.3 | 543.36 | <b>65</b> | 4282.9 | 621.19 |
| <b>54</b> | 3340.1 | 484.45 | <b>60</b> | 3831.9 | 555.77 | <b>66</b> | 4378   | 634.97 |
| <b>55</b> | 3418.6 | 495.82 | <b>61</b> | 3919   | 568.4  | <b>67</b> | 4474.7 | 649    |
| <b>56</b> | 3498.4 | 507.39 | <b>62</b> | 4007.6 | 581.25 | <b>68</b> | 4573.2 | 663.29 |
| <b>57</b> | 3579.6 | 519.17 | <b>63</b> | 4097.8 | 594.33 | <b>69</b> | 4673.4 | 677.82 |
| <b>58</b> | 3662.2 | 531.16 | <b>64</b> | 4189.6 | 607.64 | <b>70</b> | 4775.5 | 692.63 |

### 9.4 Sensor codes and definitions applicable to the table

Table 9.5: Sensor codes and definitions

| Sensor code | definition                  | Sensor code | definition               |
|-------------|-----------------------------|-------------|--------------------------|
| <b>T1</b>   | Inlet Air Temp. Sensor      | <b>T2A</b>  | Liquid Pipe Temp. Sensor |
| <b>T0</b>   | Outdoor Air Temp. Sensor*   | <b>T2</b>   | Middle Pipe Temp. Sensor |
| <b>TA</b>   | Discharge Air Temp. Sensor* | <b>T2B</b>  | Gas Pipe Temp. Sensor    |

\* Indicates that this sensor is only available for Fresh Air Processing Unit

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