AUX
Stable Solutions

Technical Manual

(DC Inverter Free Match R410A)

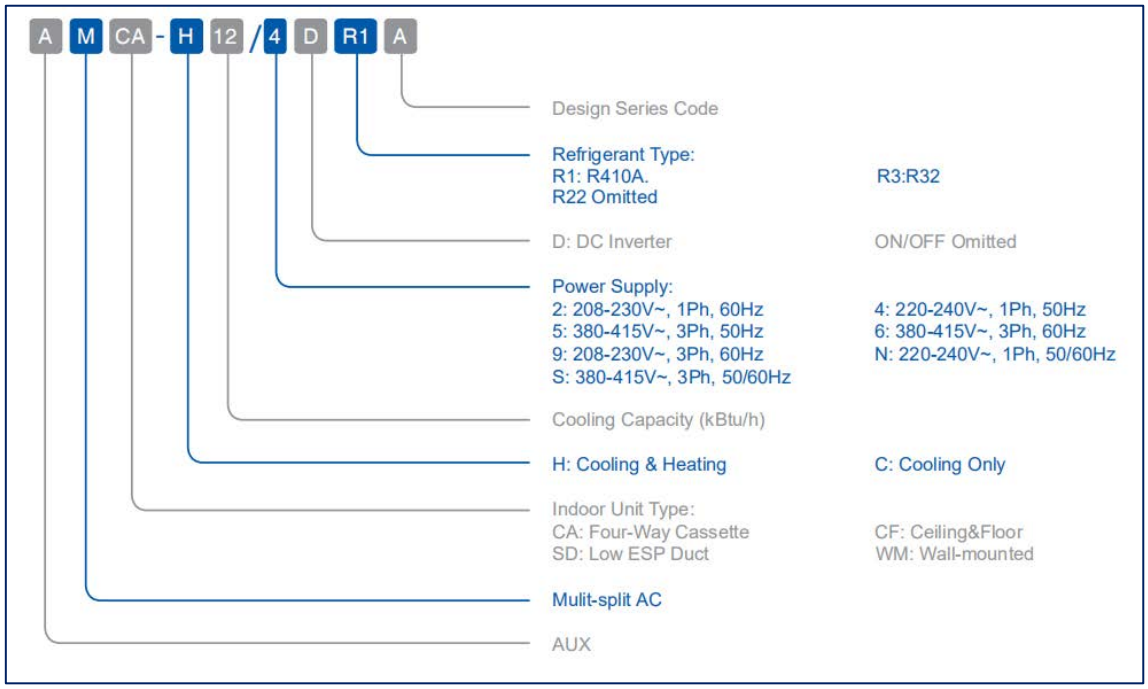
2020.04

CONTENTS

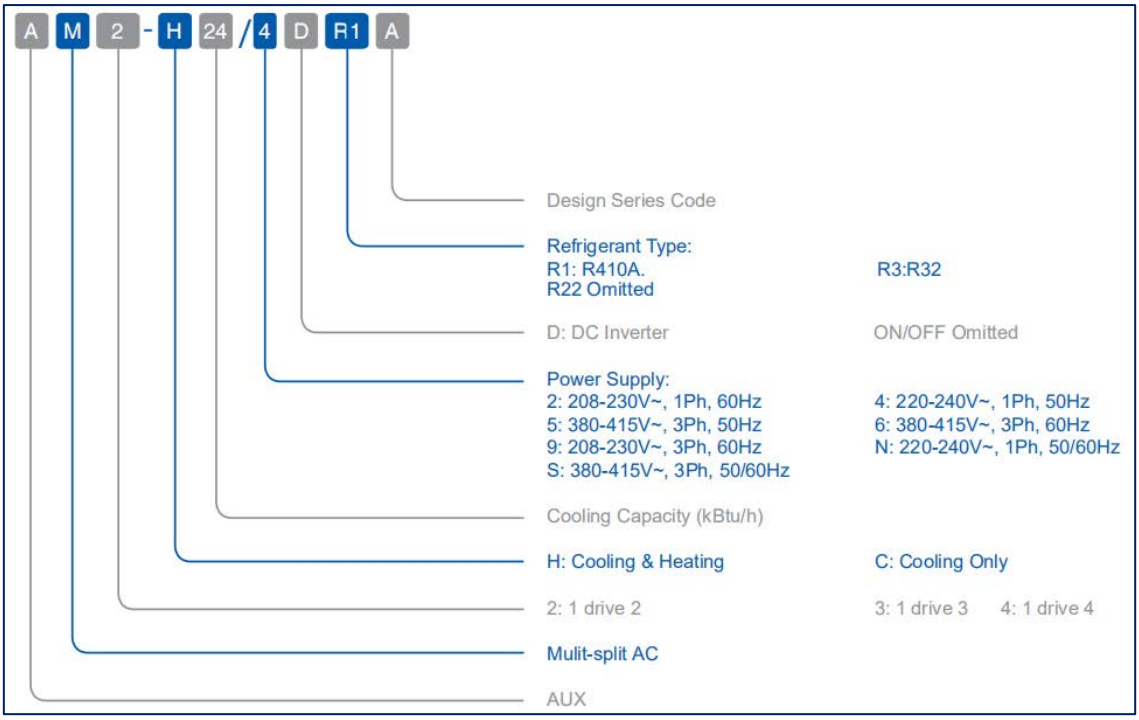
Part1 General Information

1. Nomenclature

Indoor Unit



Outdoor Unit



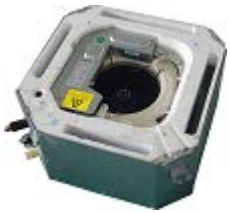
2. Unit appearance

2.1 Wall - Mounted

/	Picture	Capacity Range / Mode	
L Series		07 K Btu/h	AMWM-H07/4R1(LK)
		09 K Btu/h	AMWM-H09/4R1(LK)
		12 K Btu/h	AMWM-H12/4R1(LK)
		18 K Btu/h	AMWM-H18/4R1(LK)
F Series		07 K Btu/h	AMWM-H07/4R1(FA)
		09 K Btu/h	AMWM-H09/4R1(FA)
		12 K Btu/h	AMWM-H12/4R1(FA)

		18 K Btu/h	AMWM-H18/4R1(FA)

2.2 Cassette

/	Picture	Capacity Range / Mode	
Four-way cassette		09 K Btu/h	AMCA-H09/4R1A
		12 K Btu/h	AMCA-H12/4R1A
		18 K Btu/h	AMCA-H18/4R1A

	MB13A-I	MB13B-I
Standard Panel		
Optional Panel	MB09A	MB09B

2.3 Ceiling Floor

/	Picture	Capacity Range / Mode	
Ceiling Floor		09 K Btu/h	AMCF-H09/4R1
		12 K Btu/h	AMCF-H12/4R1
		18 K Btu/h	AMCF-H18/4R1

2.4 Duct

/	Picture	Capacity Range / Mode	
DUCT		07 K Btu/h	AMSD-H07/4R1
		09 K Btu/h	AMSD-H09/4R1
		12 K Btu/h	AMSD-H12/4R1
		18 K Btu/h	AMSD-H18/4R1

2.5 Outdoor Unit

Capacity(Btu)	1 drive 2 14k/18k	1 drive 3 21k/27k
	(AM2-H14/4DR1) (AM2-H18/4DR1B)	(AM3-H21/4DR1) (AM3-H27/4DR1B)
Picture		
Capacity(Btu)	1 drive 4 36k	1 drive 5 42k
	(AM4-H36/4DR1B)	(AM5-H42/4DR1B)
Picture		

3. Combination Table

14K

AM2-H14/4DR1	Suggested Combination		
1 drive 2	One Unit	Two Units	
	7	7+7	—
	9	7+9	—
	12	9+9	—
	18	—	—

18K

AM2-H18/4DR1B	Suggested Combination		
1 drive 2	One Unit	Two Units	
	9	7+7	9+9
	12	7+9	9+12
	18	7+12	—
		—	—

21K

AM3-H21/4DR1	Suggested Combination				
1 drive 3	One Unit	Two Units		Three Units	
	—	7+7	9+12	7+7+7	
	—	7+9	9+18	7+7+9	—
	—	7+12	12+12	7+7+12	—
	18	7+18	—	7+9+9	—
	24	9+9	—	9+9+9	—

27K

AM3-H27/4DR1B	Suggested Combination				
1 drive 3	One Unit	Two Units		Three Units	
	18	7+12	9+24	7+7+7	7+9+18
	24	7+18	12+12	7+7+9	7+12+12
	—	7+24	12+24	7+7+12	9+9+9
	—	9+9	18+18	7+7+18	9+9+12
	—	9+12	18+24	7+9+9	9+12+12
	—	9+18	—	7+9+12	

36K

AM4-H36/4DR1B	Suggested Combination						
1 drive4	One Unit	Two Units		Three Units			
	18	7+12	12+12	7+7+7	7+9+18	9+9+12	12+12+12
	24	7+18	12+18	7+7+9	7+9+24	9+9+18	12+12+18
	—	7+24	12+24	7+7+12	7+12+12	9+9+24	
	—	9+9	18+18	7+7+18	7+12+18	9+12+12	
		9+12	18+24	7+7+24	7+12+24	9+12+18	
	—	9+18	—	7+9+9	7+18+18	9+12+24	
	—	9+24	—	7+9+12	9+9+9	9+18+18	

AM4-H36/4DR1B	Suggested Combination		
1 drive4	Four Units		
	7+7+7+7	7+7+9+18	7+9+12+18
	7+7+7+9	7+7+12+12	7+12+12+12
	7+7+7+12	7+7+12+18	9+9+9+9
	7+7+7+18	7+9+9+9	9+9+9+12

	7+7+7+24	7+9+9+12	9+9+9+18
	7+7+9+9	7+9+9+18	9+9+12+12
	7+7+9+12	7+9+12+12	9+12+12+12

42K

AM5-H42/4DR1B	Suggested Combination		
1 drive5	One Unit	Two Units	
	18	7+18	18+18
	24	7+24	18+24
	—	9+12	24+24
	—	9+18	—
	—	9+24	—
	—	12+12	—
	—	12+18	—
	—	12+24	—

AM5-H42/4DR1B	Suggested Combination			
1 drive5	Three Units			
	7+7+7	7+9+24	9+9+18	12+12+18
	7+7+9	7+12+12	9+9+24	12+12+24
	7+7+12	7+12+18	9+12+12	12+18+18
	7+7+18	7+12+24	9+12+18	12+18+24
	7+7+24	7+18+18	9+12+24	18+18+18
	7+9+9	7+18+24	9+18+18	—
	7+9+12	9+9+9	9+18+24	—

	7+9+18	9+9+12	12+12+12	—

AM5-H42/4DR1B	Suggested Combination			
1 drive5	Four Units			
	7+7+7+7	7+7+12+12	7+9+12+24	12+12+12+12
	7+7+7+9	7+7+12+18	7+12+12+12	12+12+12+18
	7+7+7+12	7+7+12+24	9+9+9+9	—
	7+7+7+18	7+9+9+9	9+9+9+12	—
	7+7+7+24	7+9+9+12	9+9+9+18	—
	7+7+9+9	7+9+9+18	9+9+12+12	—
	7+7+9+12	7+9+12+12	9+12+12+12	—
	7+7+9+18	7+9+12+18	9+12+12+18	—

AM5-H42/4DR1B	Suggested Combination			
1 drive5	Five Units			
	7+7+7+7+7	7+7+7+9+24	7+7+12+12+12	9+9+9+9+18
	7+7+7+7+9	7+7+7+12+12	7+9+9+9+9	9+9+9+12+12
	7+7+7+7+12	7+7+7+12+18	7+9+9+9+12	9+9+12+12+12
	7+7+7+7+18	7+7+9+9+9	7+9+9+9+18	—
	7+7+7+7+24	7+7+9+9+12	7+9+9+12+12	—
	7+7+7+9+9	7+7+9+9+18	7+9+12+12+12	—

	7+7+7+9+12	7+7+9+12+12	9+9+9+9+9	—
	7+7+7+9+18	7+7+9+12+18	9+9+9+9+12	—

Note：

All of the above indoor unit can be freely matched and combined, but must be installed strictly according to the above table or the cooling capacity and stability would be decreased.

4. Accessories Included

4.1 Outdoor Units

N°	Name	QUANTITY					
		AM2-H14/ 4DR1	AM2-H18/ 4DR1B	AM2-H21/ 4DR1	AM3-H27/ 4DR1B	AM4-H36/ 4DR1B	AM5-H42/ 4DR1B
1	Installer manual	1	1	1	1	1	1
2	Drainage connector	1	1	1	1	1	1
3	Pipe adaptor	0	0	0	0	0	0
4	copper nuts	8	8	12	12	16	20

4.2 Indoor Units

N°	Name	QUANTITY			
		Wall Mounted	Duct	Cassette	Ceiling & Floor
1	User manual	1	1	1	1
2	Remote control	1	0	1	1
3	Batteries for Remote Control	2	0	2	2
4	Touch screen wired Control	0	1	0	0
5	Panel screw	0	0	4	0
6	Drainage tube	0	1	1	1
7	Pipe adaptor	0	1	1	1
8	Thermal insulation pipe	0	2	2	2

Part2 Features

1. Outdoor Units

Environmental-friendly Refrigerant R410A

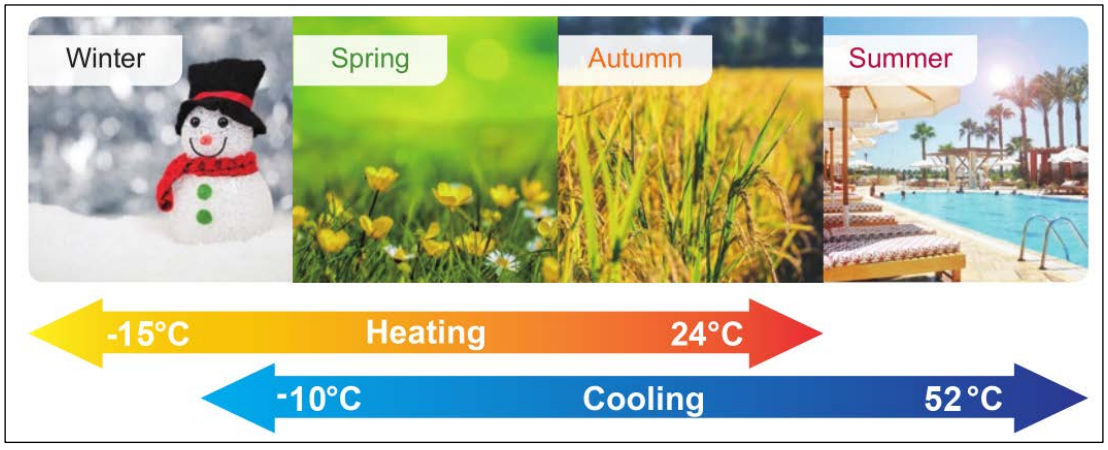
The GWP value of R410A is smaller, so the effect on the greenhouse effect is smaller. The ODP value of R410A is 0, so it's no harm to our planet's ozone layer.

High Efficiency

Equipped with high efficiency DC Inverter compressor, adjustable fan motor and advanced 180° sine wave vector driver, the system can be higher than 6.1 in SEER and 4.0 in SCOP so as to meet the European and Australian new energy efficiency standards.

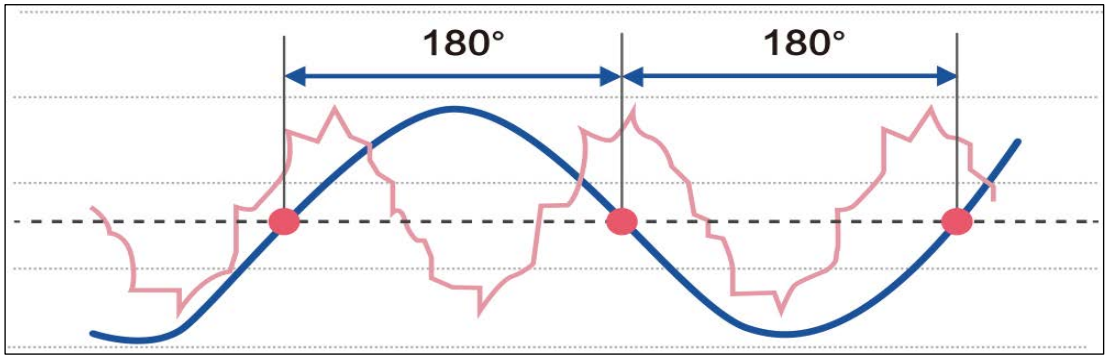
Reliability

Stable cooling under -10°C and heating under -15°C outdoor environment temperature.



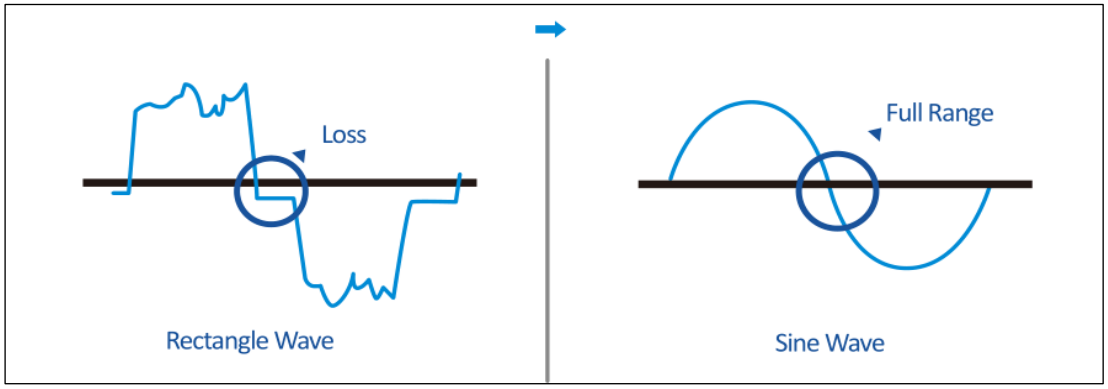
180°Sine Wave Control

DC inverter compressor uses 180°sine wave vector control technique, make compressor motor operates smoothly and efficiency increases significantly.



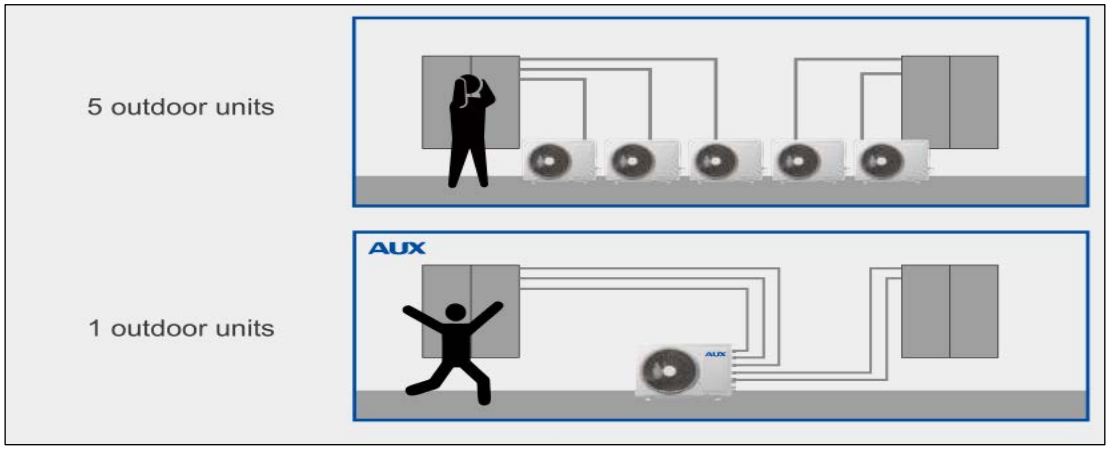
Energy Saving

Cutting-edge DC inverter of sine wave control and active PFC technology realize low noise and economical operation.



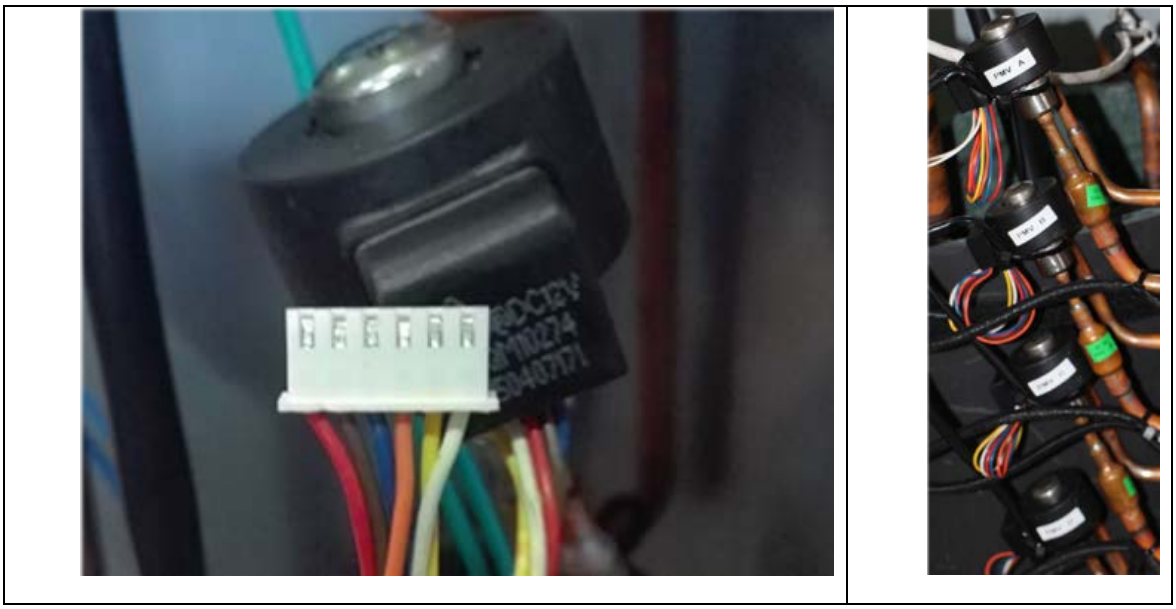
Space-Saving Installation

Up to 5 indoor units can be connected to a single outdoor unit, which reduces the number of outdoor units required so as to save installation space. Besides, each indoor unit can controlled individually and they even needn’t to be installed at the same time.



EXV Regulation

Each Indoor Unit adjusted by a EXV, whole unit could achieve quick cooling/heating, and decrease throttling noise in indoor units.



Electrical heater （Optional）

Heater code: 11330029000010 220V 50W

The electrical heater is used to melt ice on the chassis, make sure good heat exchange performance for condenser, powerful heating performance in very cold condition and create comfortable environment.

Heating only function (Optional)

Cooling & heating is standard , heating only is optional.Pls refer to Part9 2.2 Parameter setting.

Note: Wall mounted unit no heating only function.

2. Wall Mounted

Wall Mounted type A/C is installed by the wall, compared with Floor & Standing type A/C, it has following advantages: Wall mounting installation combining with the decoration, makes the room more elegant; Flexible installation in anywhere in the wall and swing blowing, makes you feel more comfortable.

2 Ways Draining Connection

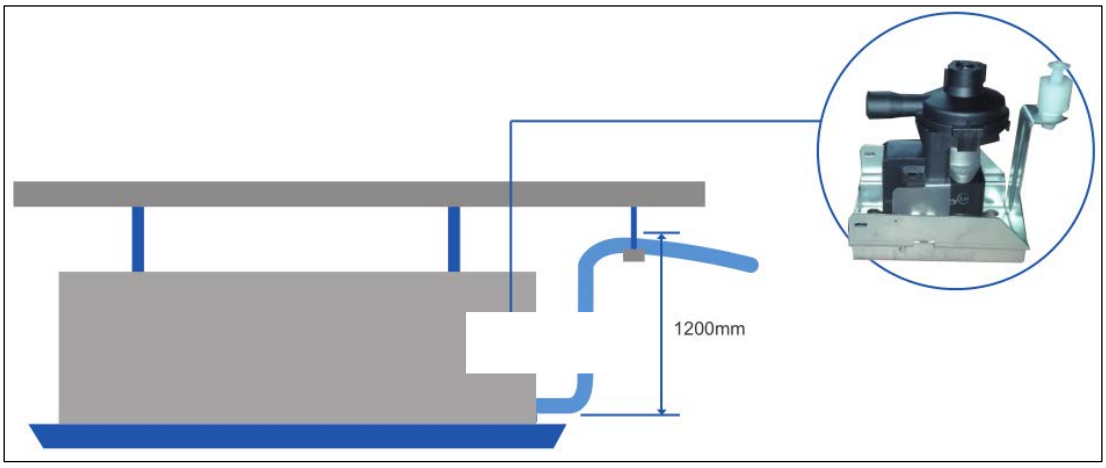
Both left and right sides of unit are possible for drainage pipe connection, easy for installation.

3. Four-way Cassette

Four-way cassette type A/C is installed under the ceiling, compared with Floor &Standing type A/C, it has following advantages: Ceiling installation combining with the decoration, makes the room more elegant; Flexible installation in anywhere in the ceiling and 4-direction blowing, makes you feel more comfortable.

Built-in Drain Pump

The built-in drain pump can lift condensing water up to 700mm high from the drainage pan.



4. Ceiling Floor

Ceiling& Floor type A/C can be installed under the ceiling and also on the floor. Compared with normal Floor &Standing type A/C, it can be hoisted under the ceiling, saving room space; it is also the updating Product for Floor & Standing type A/C.

3D Air Swing

Vertical and horizontal swing makes air below to every corner of the room.

Innovative Centrifugal Fan

Innovative centrifugal fan provides larger air volume but lower noise, making the air supply more quietly and smoothly.

Flexible Installation

Can be vertically installed against the wall or horizontally installed under the ceiling.

AUX DC Inverter Free Match 50HZ R410A

5. Duct

Duct type A/C can be installed under the ceiling and also on the floor. Compared with normal Floor &Standing type A/C, it can be hoisted under the ceiling, saving room space, it is also the updating Product for Floor & Standing type A/C.

Flexible Air Intake Options

Air intake from rear as standard, from bottom is optional. The size of the plate from bottom is the same as the flange from back, which makes it convenient to change installation style due to different decoration requirements

Ultra Slim Design

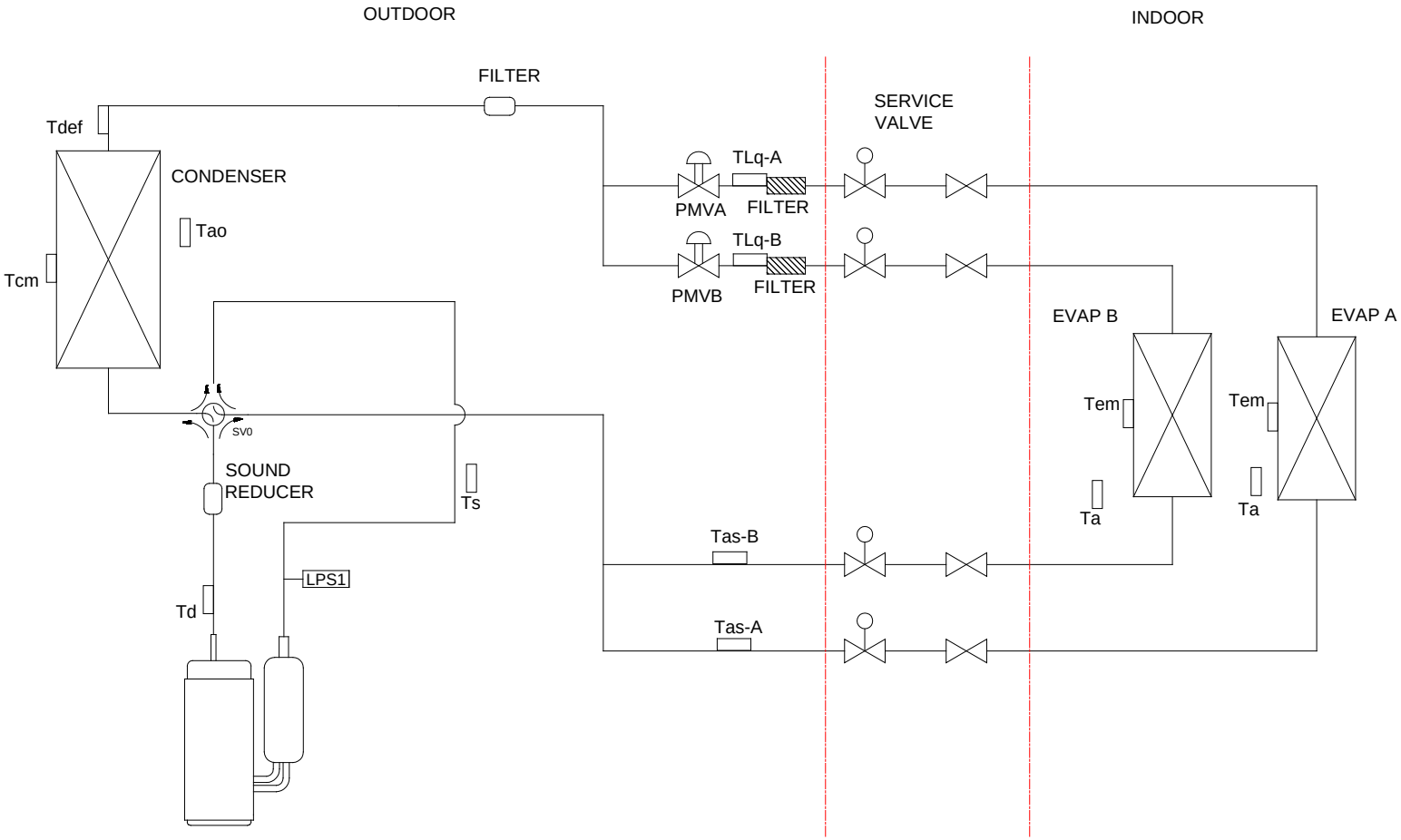
The thickness is only 200mm, save installation space.

6.WIFI Control

	The optional WiFi modular makes it possible to monitor and control your AC while on the road through APP on your mobile phone or pad.

Part3 Piping System

1. 14K, 18K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VALVE
Tdef
CONDENSER
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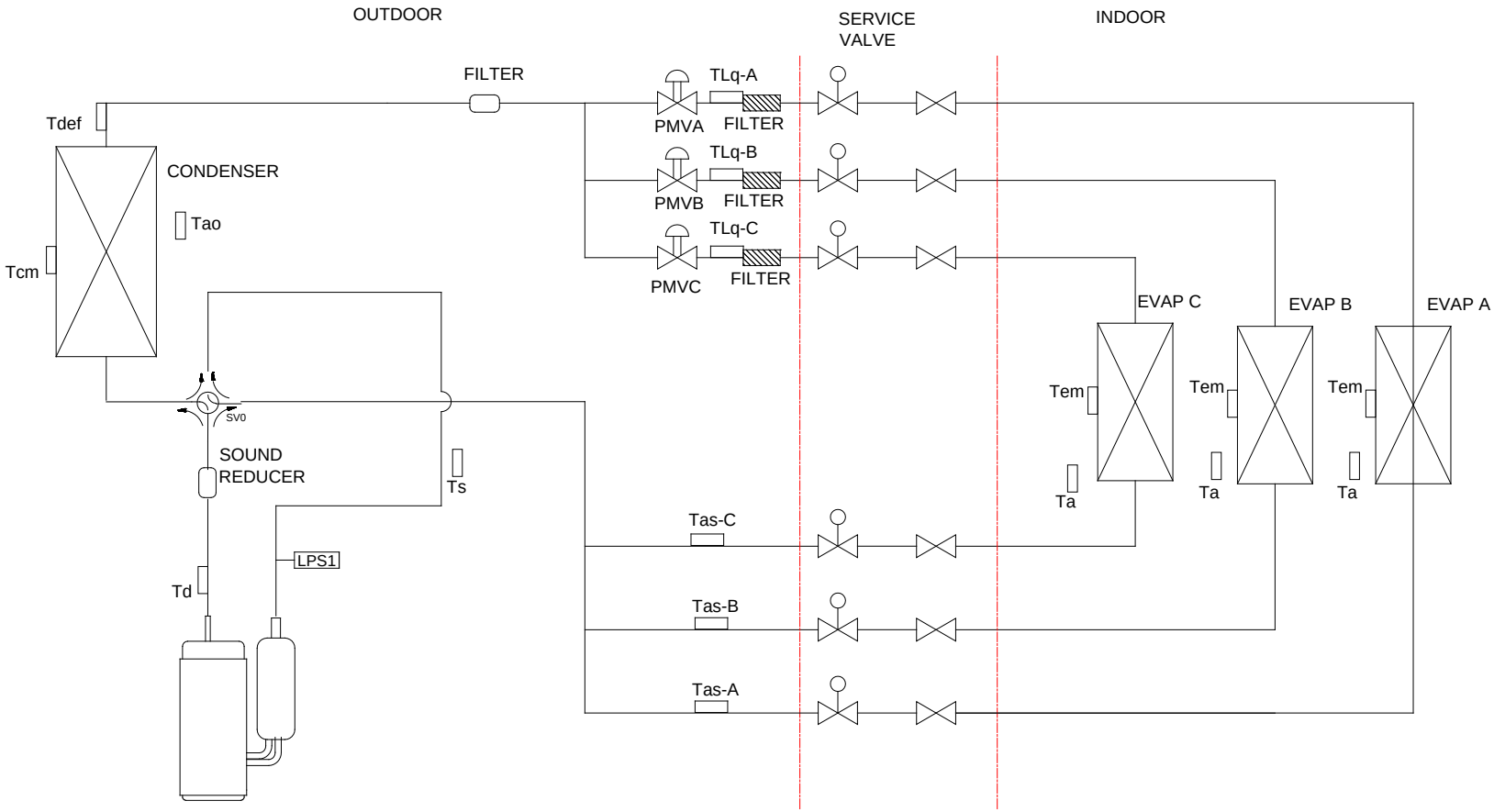
Tcm
TLq-A
PMVA
FILTER
TLq-B
PMVB
FILTER
EVAP B
EVAP A
Tem
Ta
Tem
Ta
SV0
SOUND
REDUCER
Ts
Tas-B
LPS1
Td
Tas-A

2. 21K, 27K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SERVICE VALVE
INDOOR
FILTER
TLq-A
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TLq-B
PMVB
FILTER
TLq-C
PMVC
FILTER
Tdef
CONDENSER
Tao
Tcm
SV0
SOUND REDUCER
Ts
LPS1
Td
Tas-C
Tas-B
Tas-A
EVAP C
EVAP B
EVAP A
Tem
Ta
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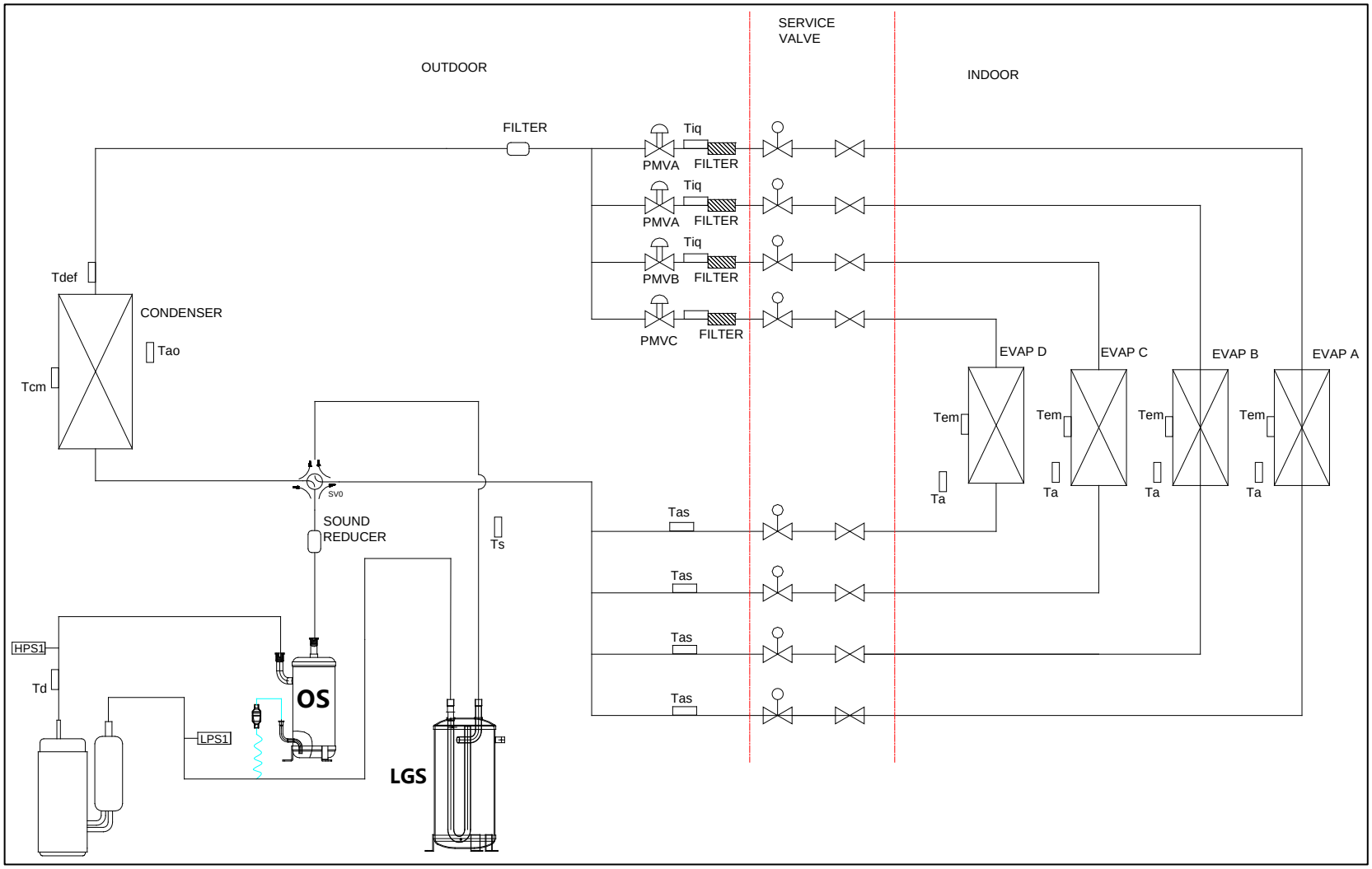
Ta
Tem
Ta

3. 36K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VALVE
OUTDOOR
INDOOR
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PMVA
FILTER
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PMVA
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Tdef
CONDENSER
Tao
Tcm
EVAP D
EVAP C
EVAP B
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SV0
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REDUCER
Ts
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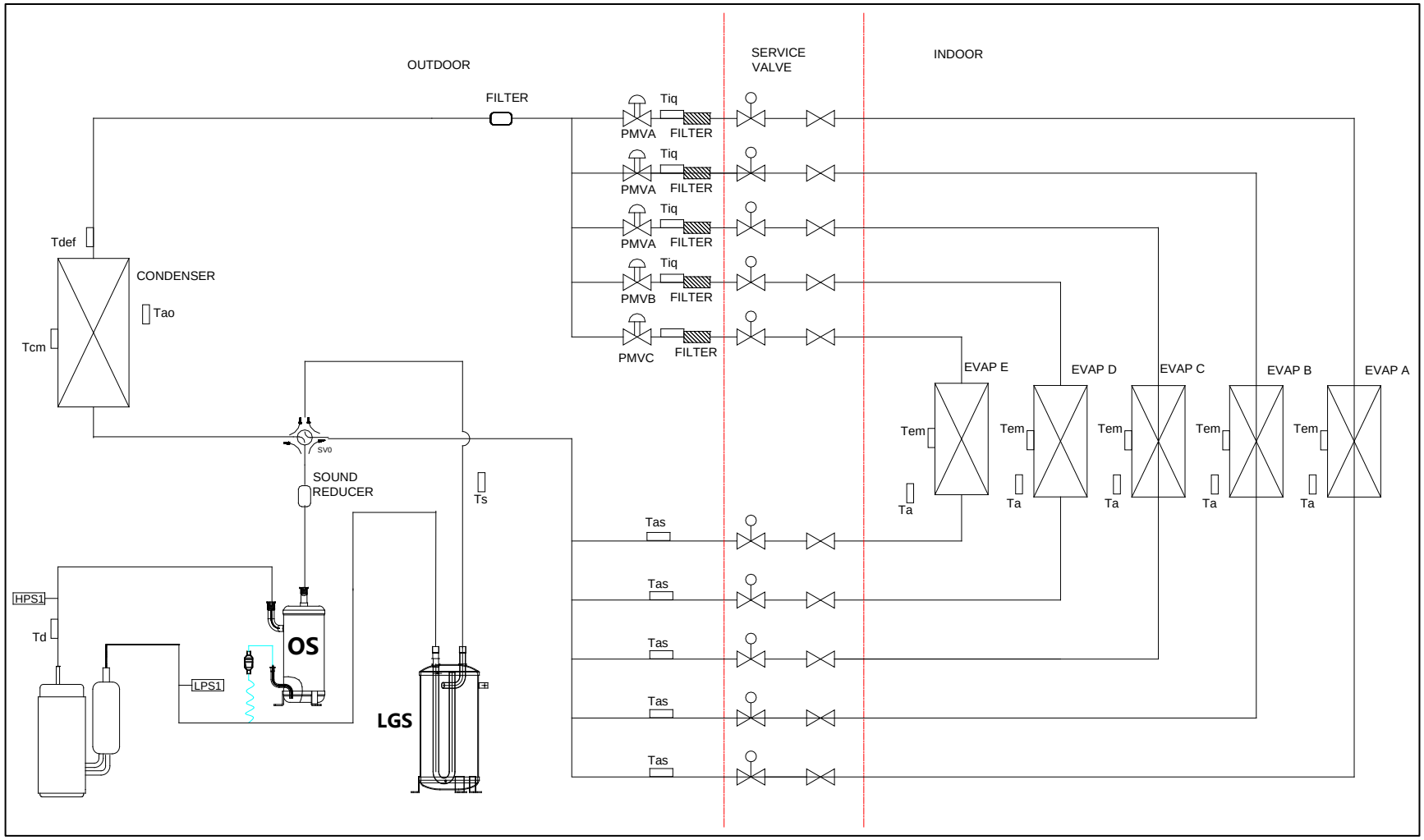
HPS1
Td
LPS1
OS
LGS

4. 42K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INDOOR
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Tdef
CONDENSER
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Tcm
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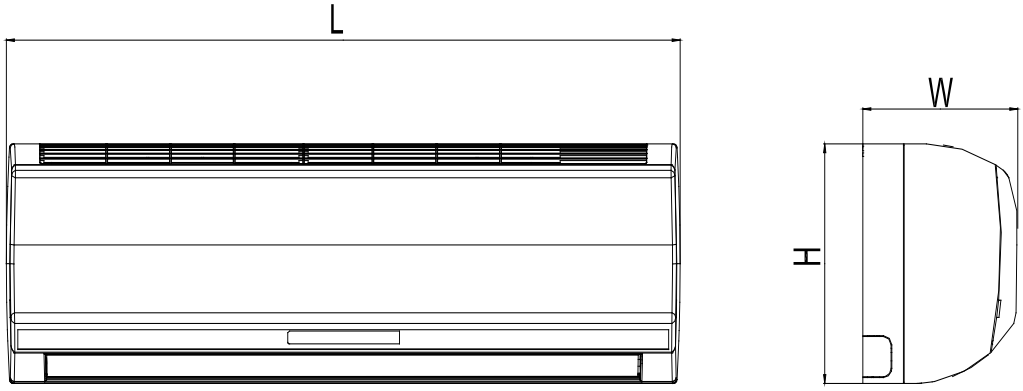
SOUND REDUCER
Ts
Tas
HPS1
Td
OS
LPS1
LGS
EVAP E
EVAP D
EVAP C
EVAP B
EVAP A
Tem
Ta

Part4 Dimension

1. Wall Mounted

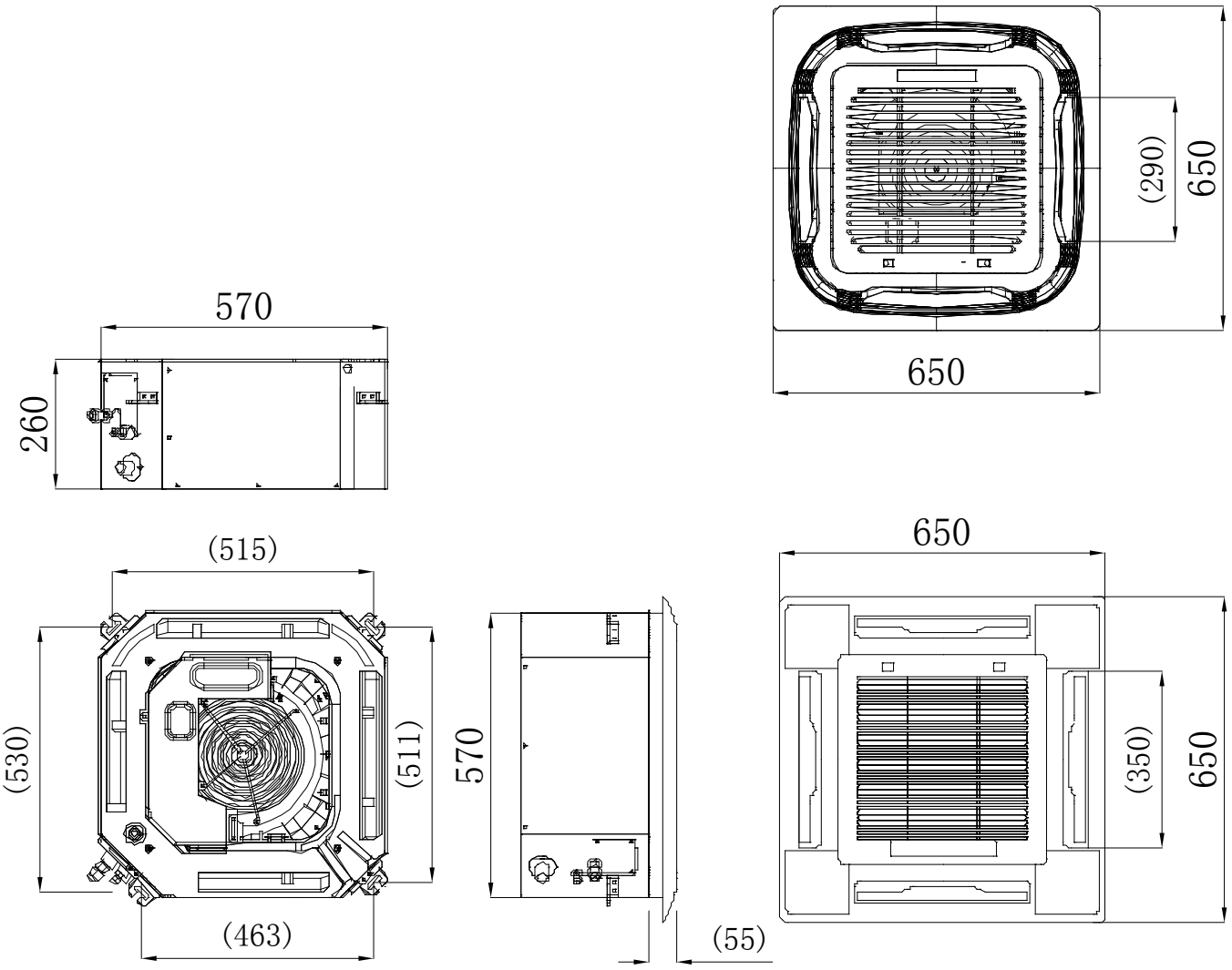


Physical Dimension		AMWM-H07 /4R1(L)	AMWM-H09 /4R1 (L)	AMWM-H12 /4R1(L)	AMWM-H18 /4R1(L)
Length	mm	800	800	800	970
Height	mm	300	300	300	315
Width	mm	198	198	198	235

Physical Dimension		AMWM-H07/4R1 (F)	AMWM-H09/4R 1(F)	AMWM-H12/4R 1(F)	AMWM-H18/4R 1(F)
Length	mm	750	750	750	900
Height	mm	285	285	285	310
Width	mm	200	200	200	225

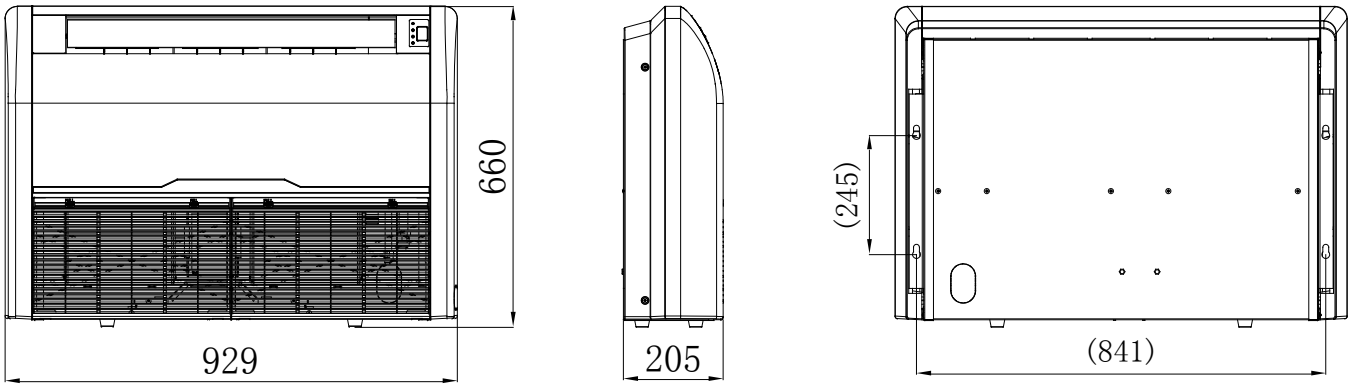
2. Cassette

09K,12K,18K



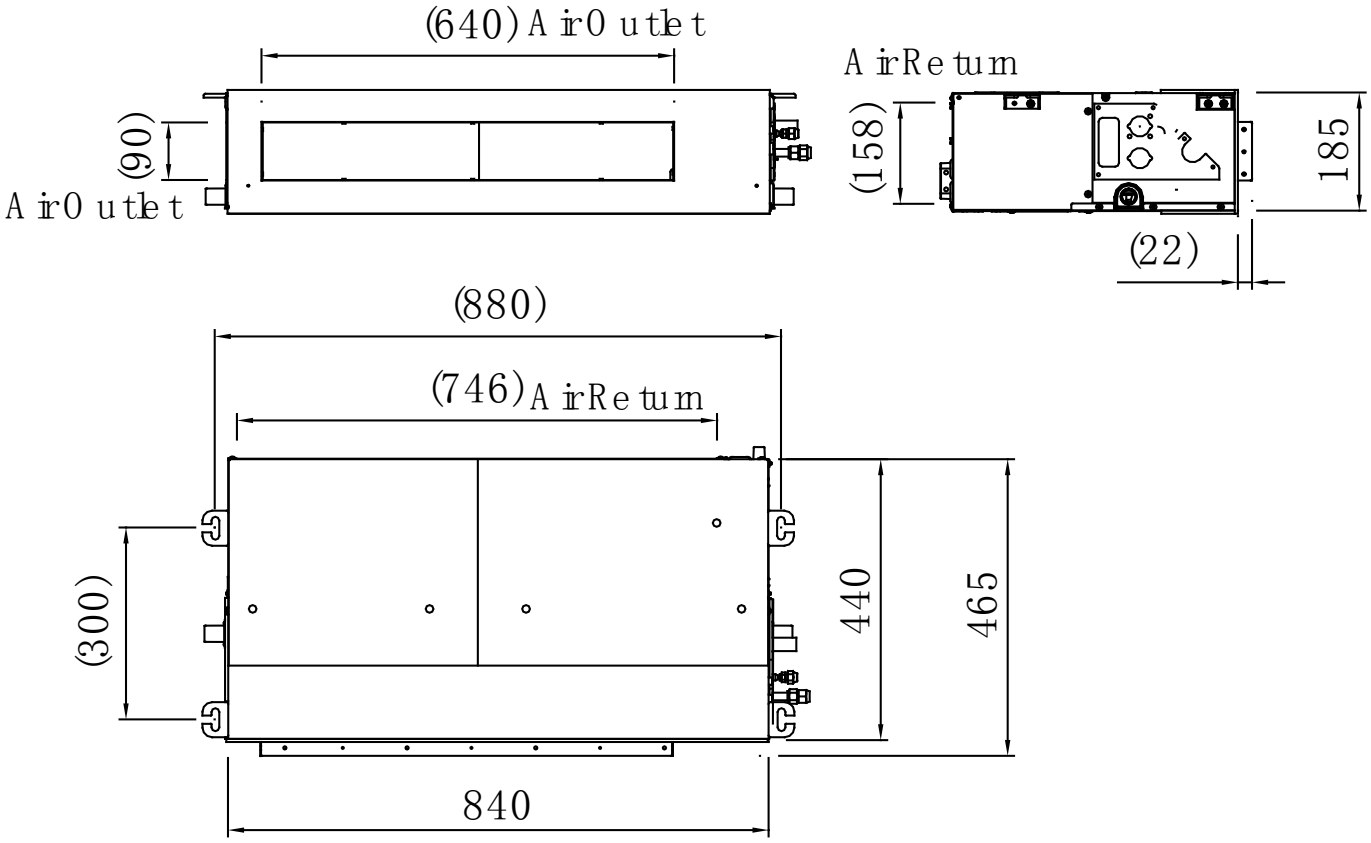
1. Ceiling Floor

09K, 12K, 18K

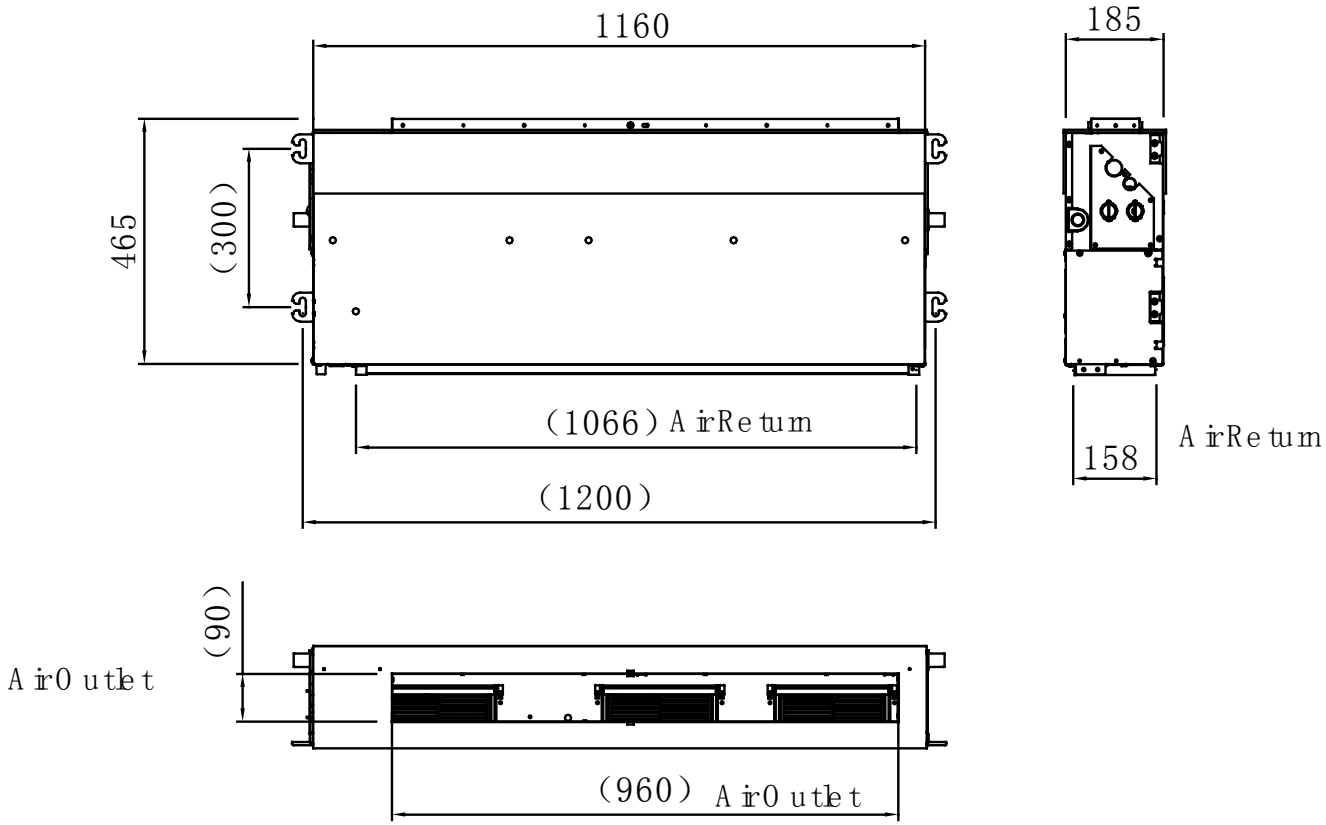


4. Duct

4.1 07K 09K 12K

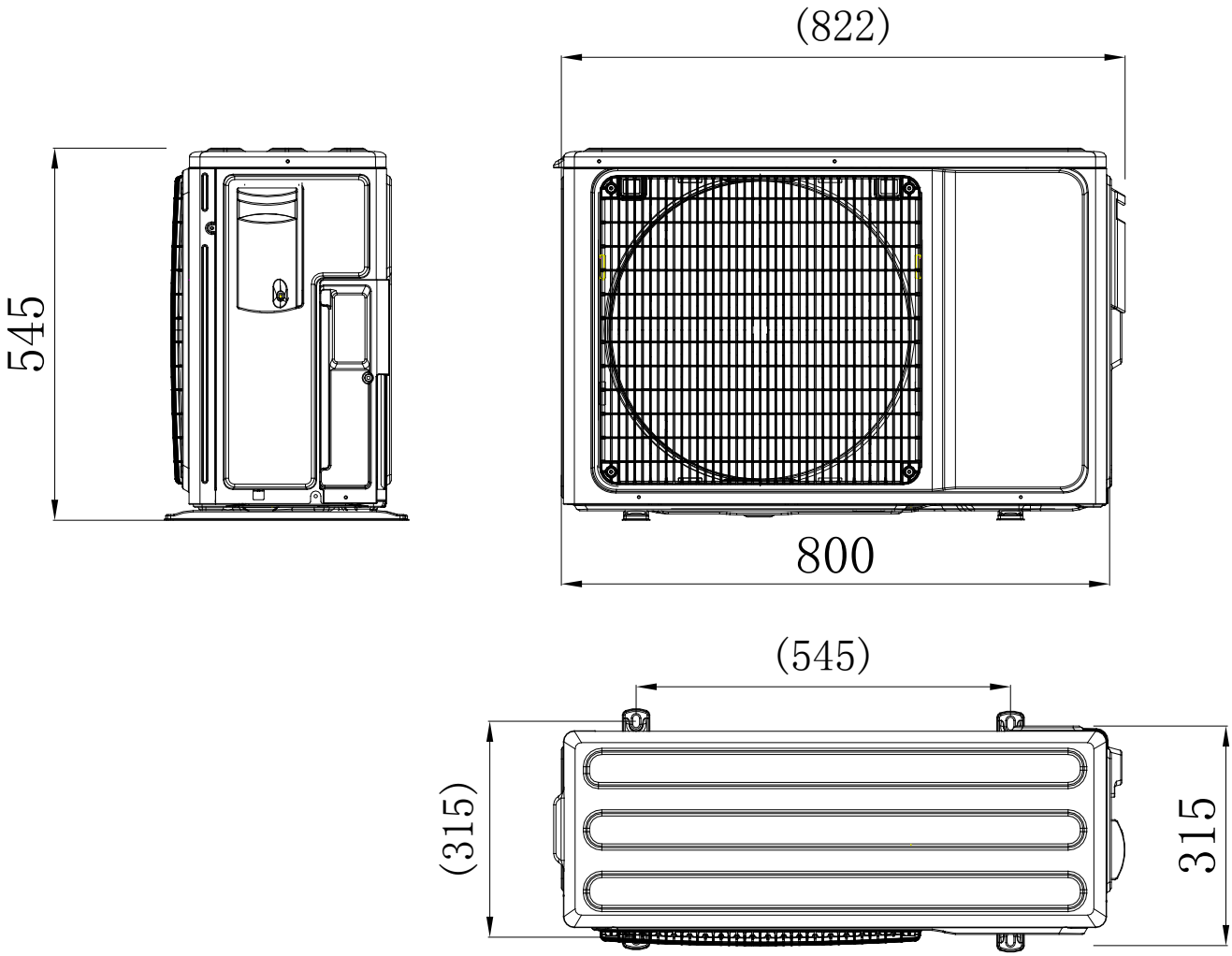


4.2 18K

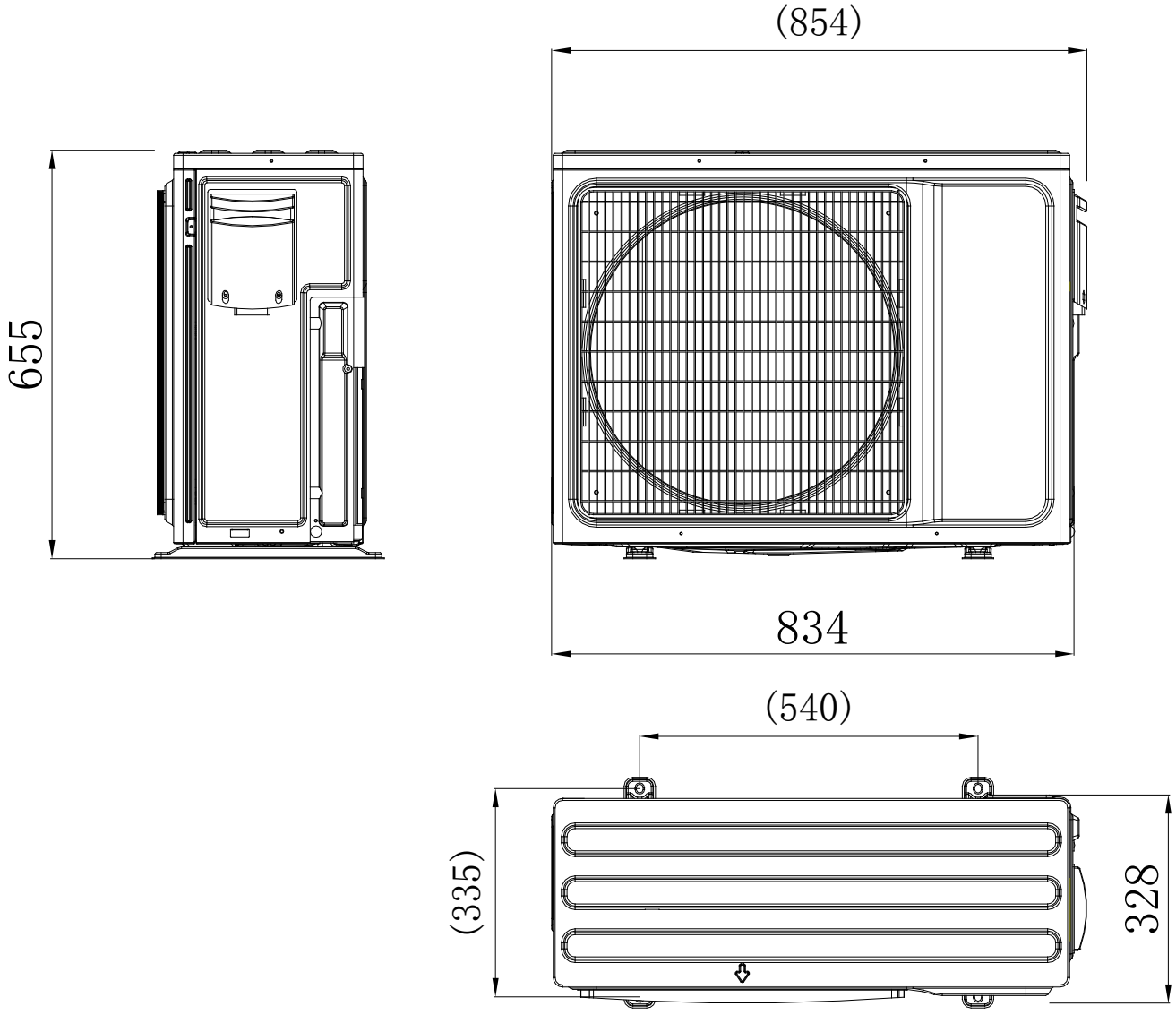

1160
185
465
(300)
(1066) Air Return
(1200)
158
Air Return
(90)
Air Outlet
(960) Air Outlet

5. Outdoor Unit

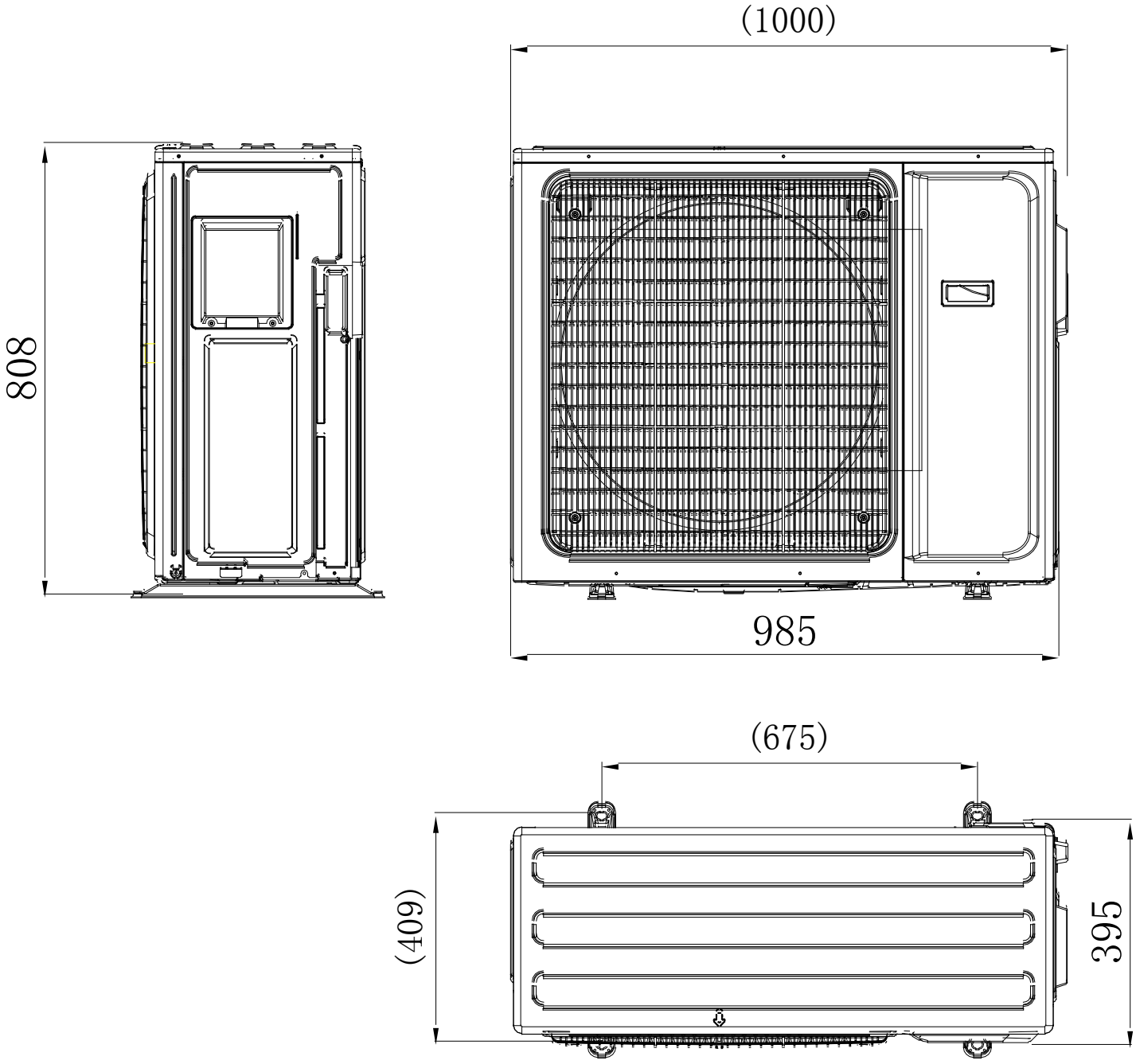
5.1 14K, 18K



5.2 21K, 27K



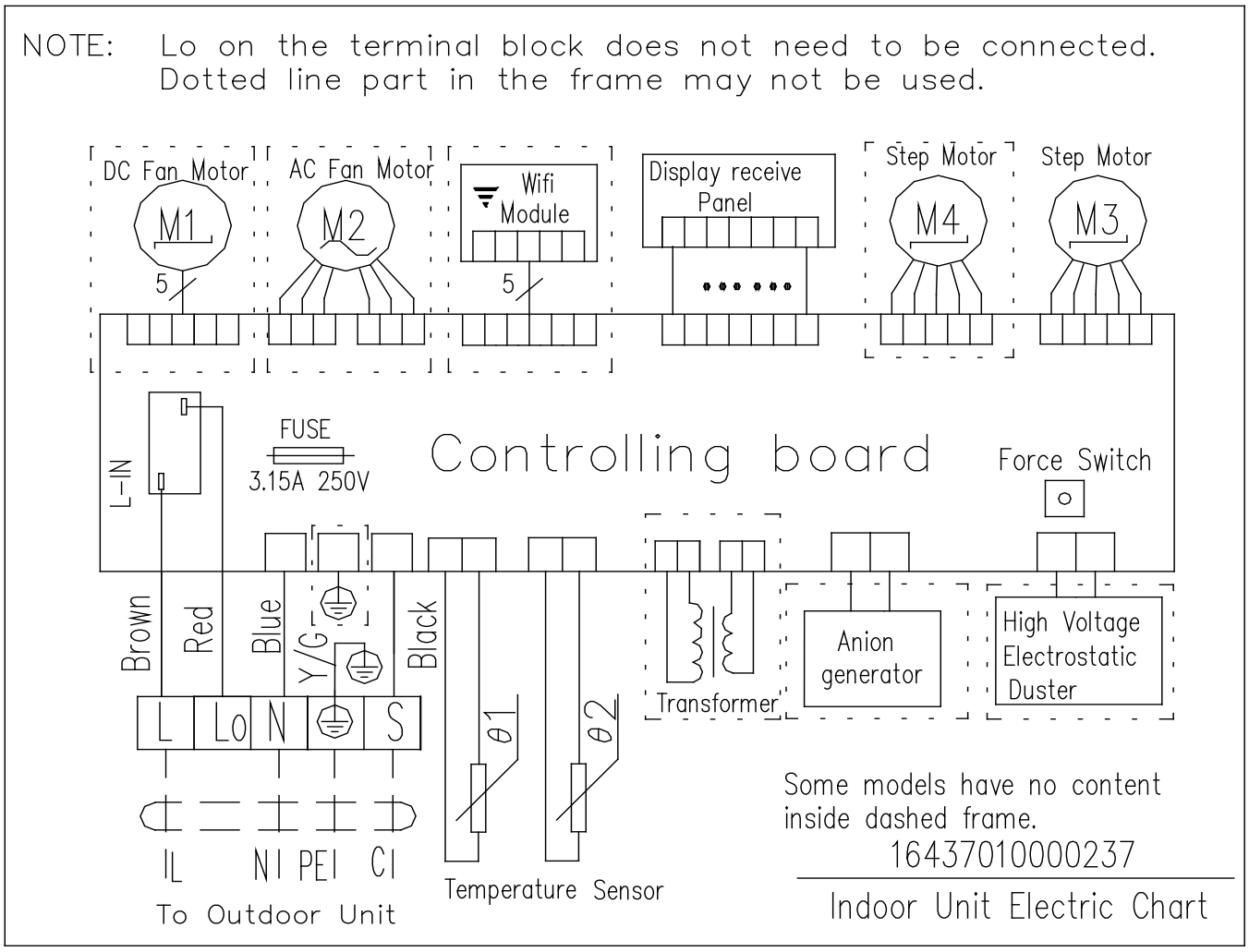
5.3 36K, 42K



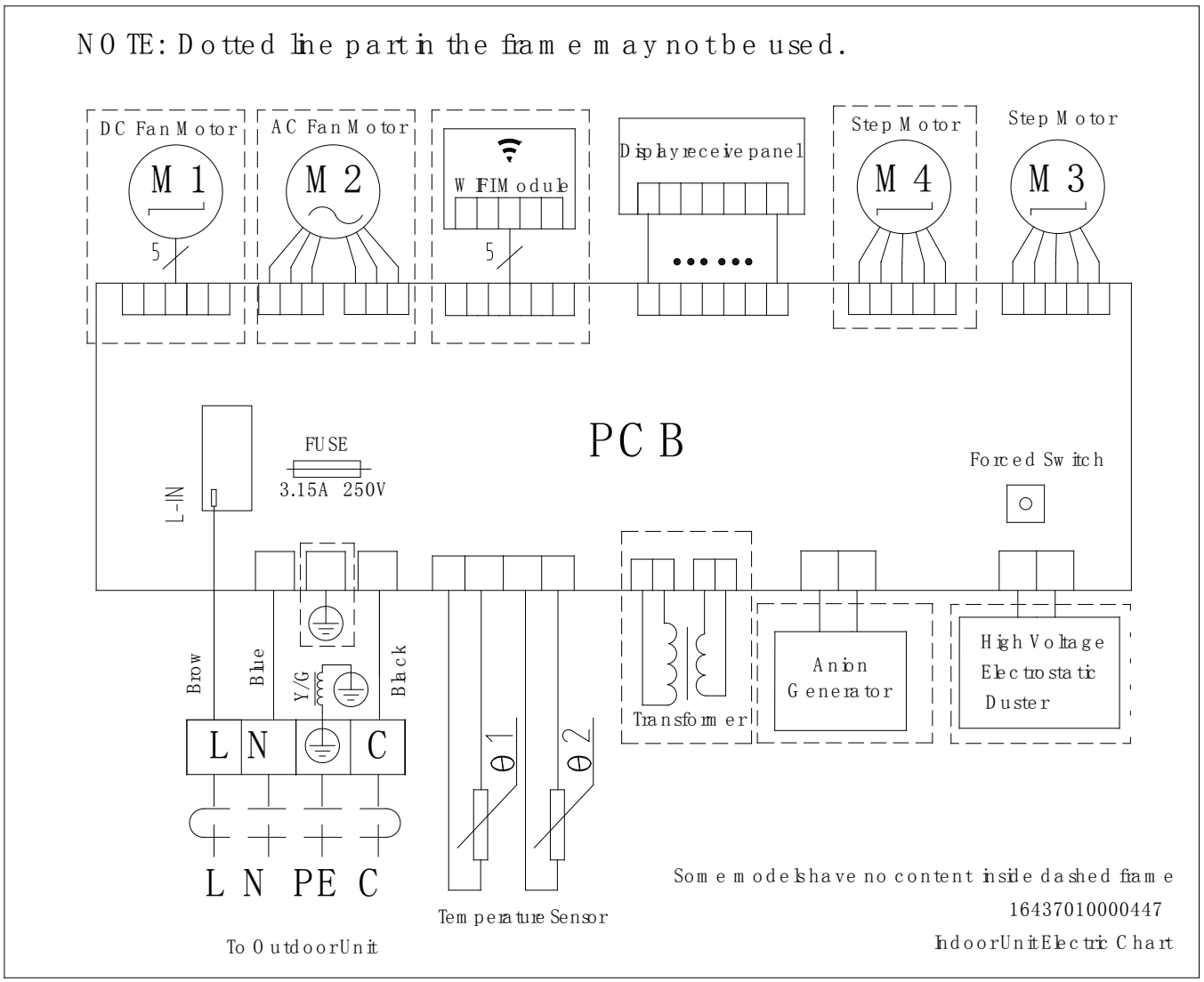
Part5 Electrical Principle Diagram

1. Wall Mounted

1.1 L Type (07K, 09K, 12K, 18K)

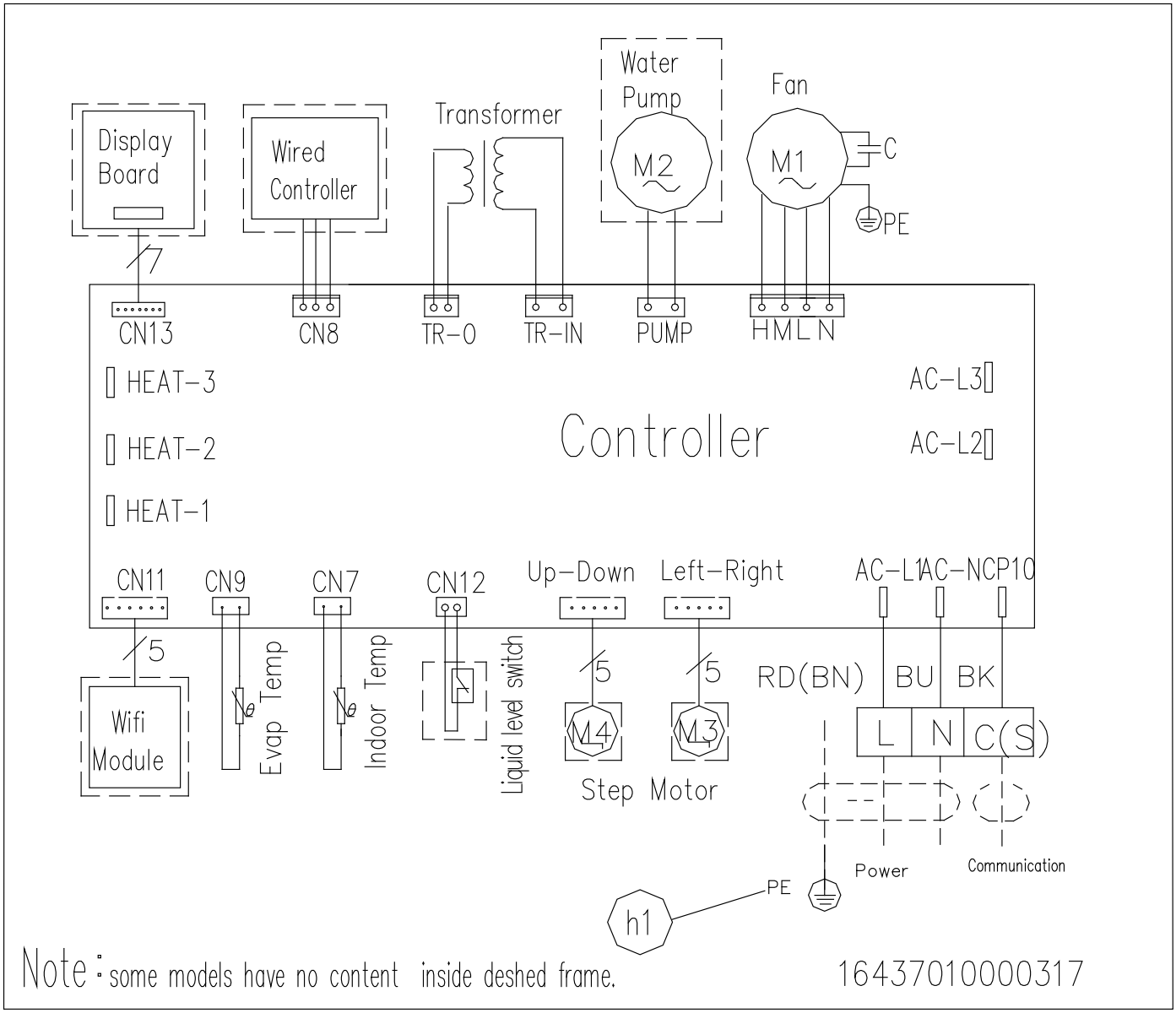


1.2 F Type (07K,09K,12K,18K)



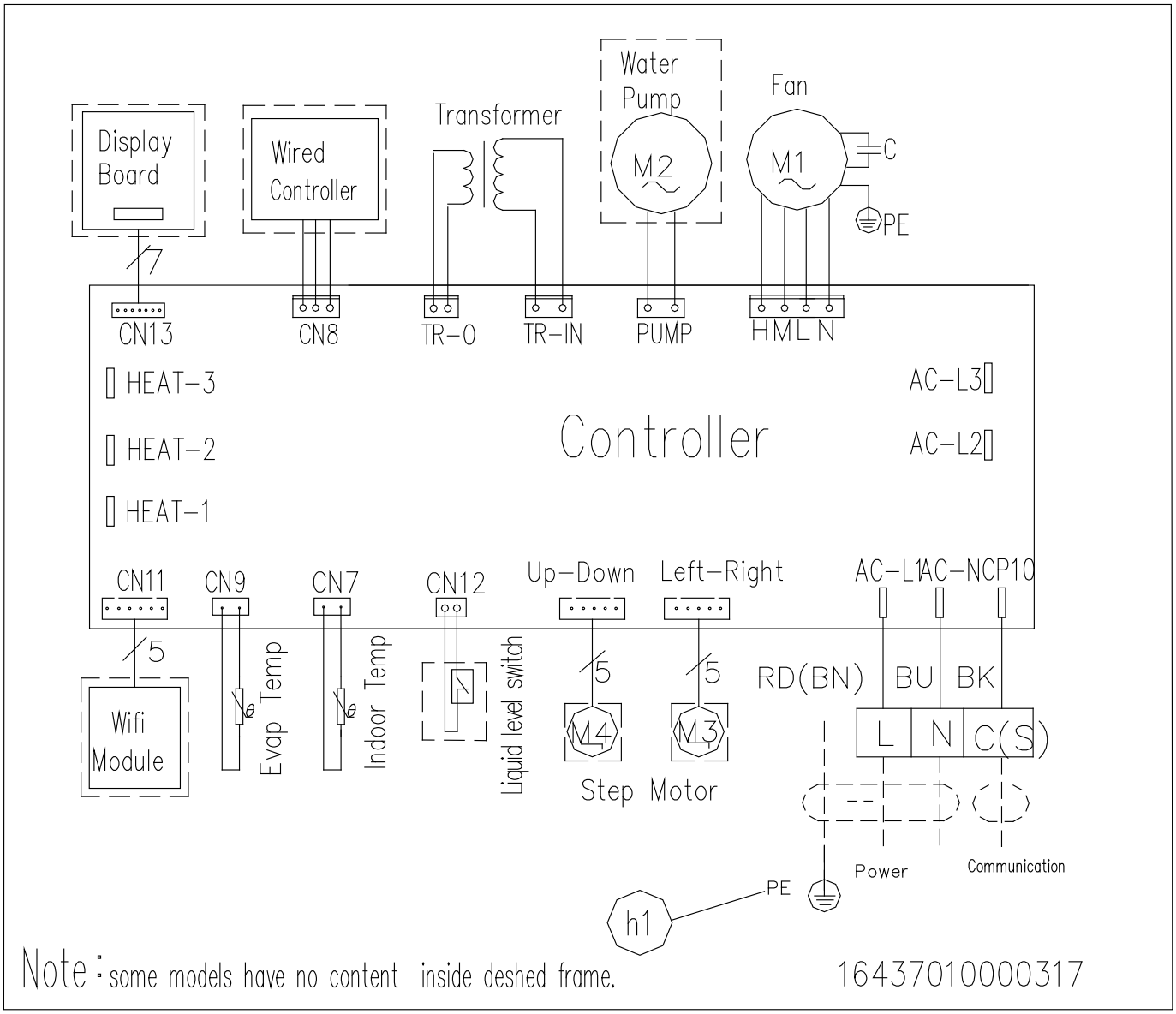
2. Cassette

2.1 E Type (09K,12K,18K)



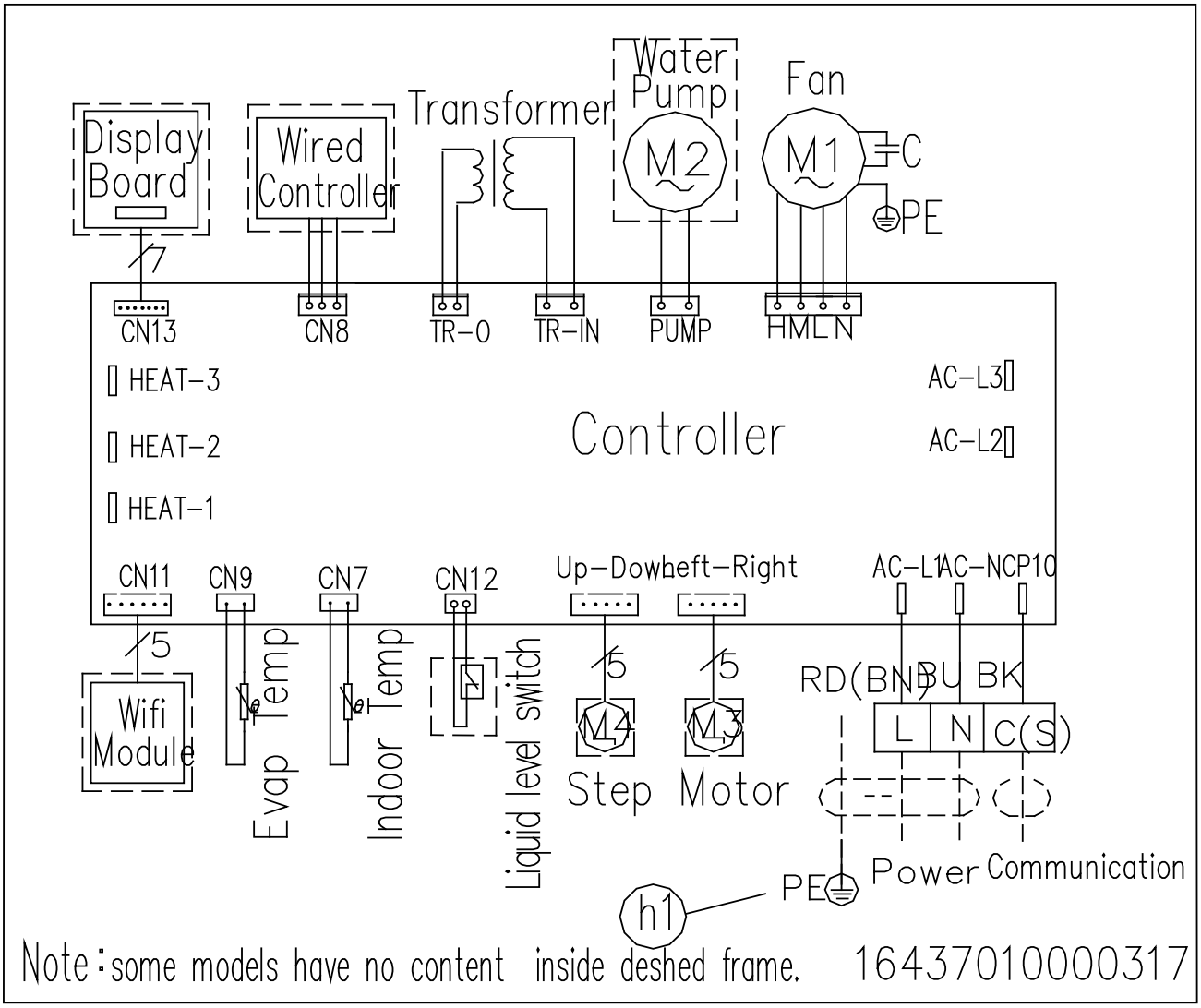
3. Ceiling Floor

09k, 12k, 18k



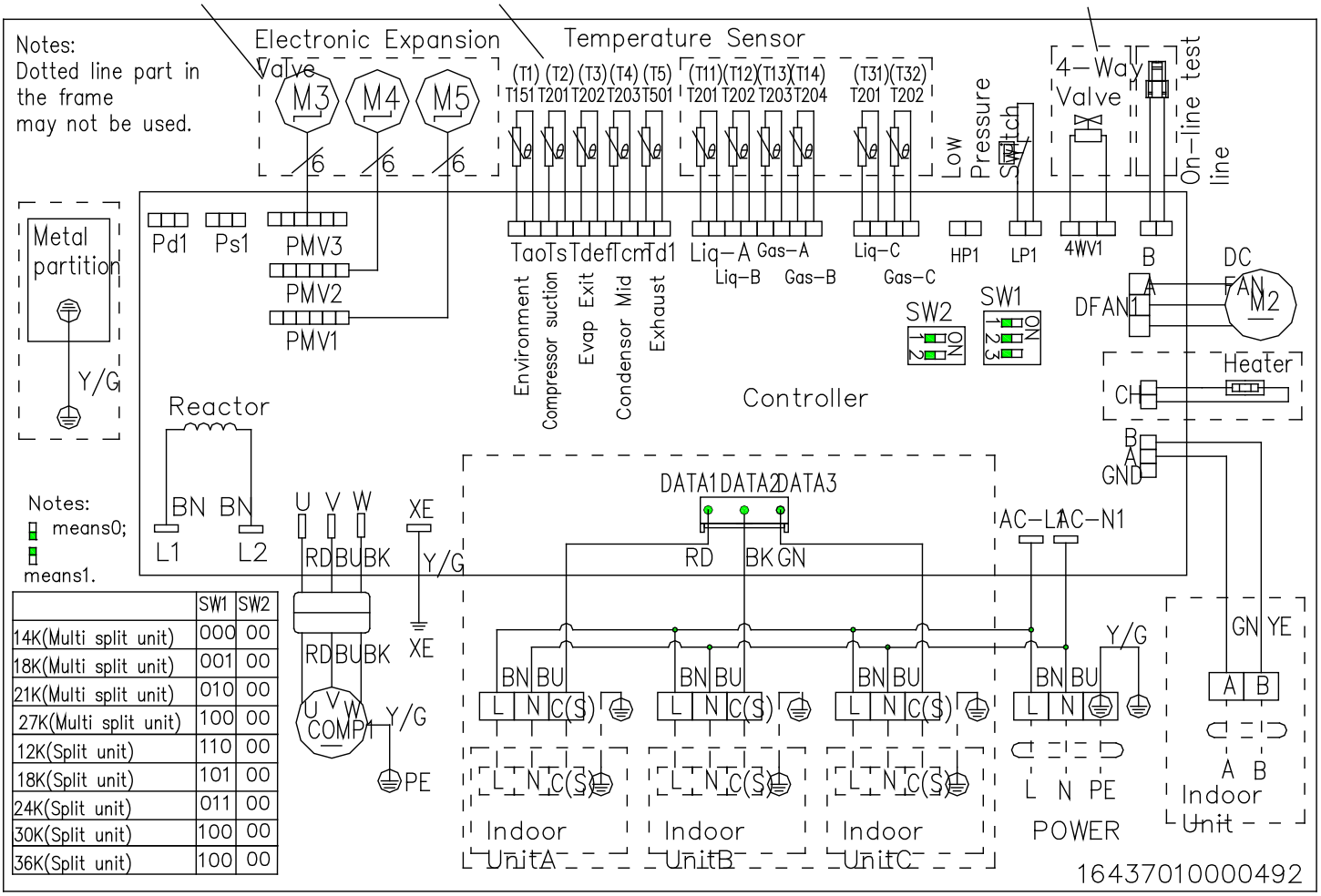
4. Duct

07K, 09K, 12K, 18K



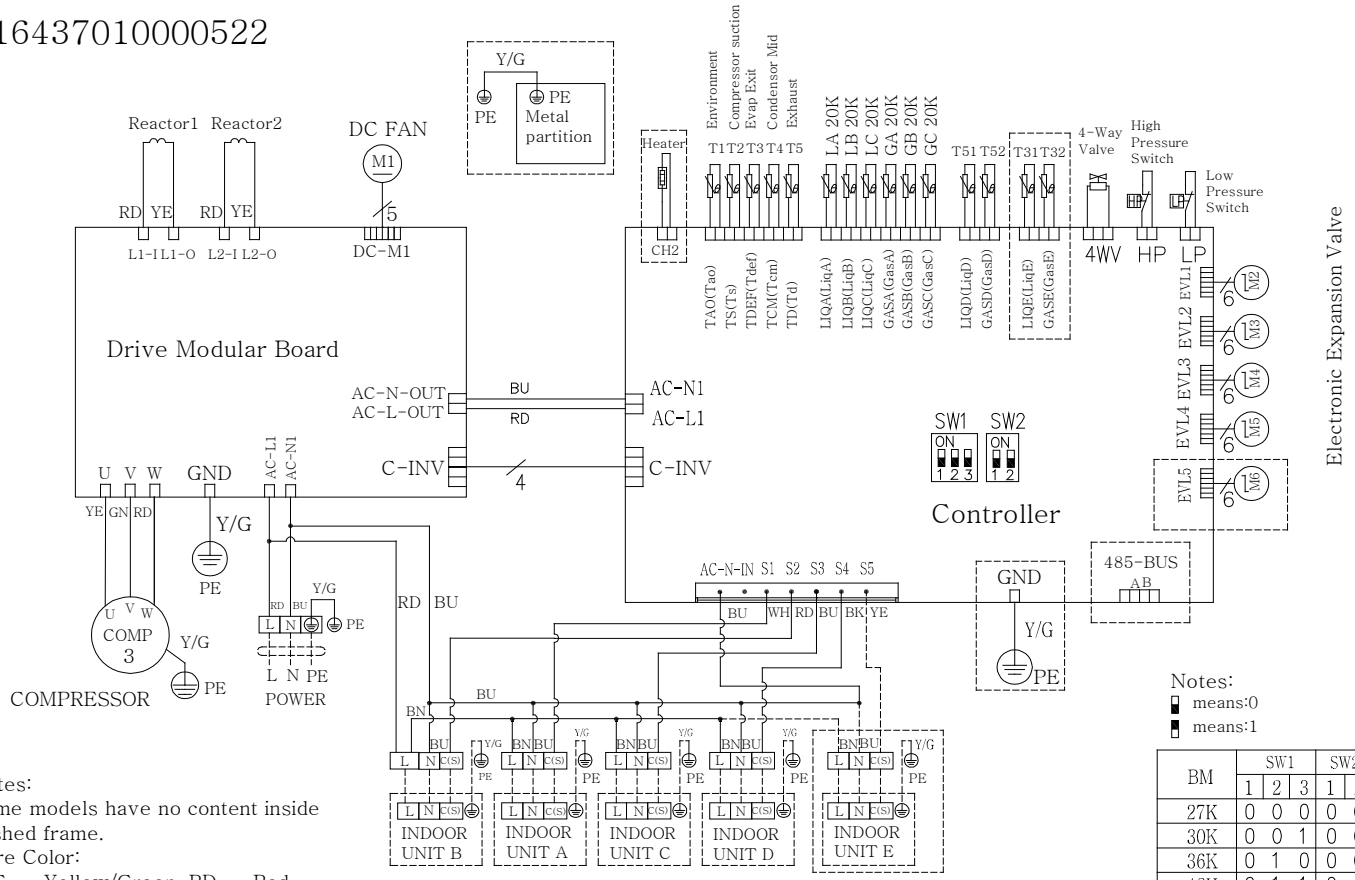
5. Outdoor Unit

5.1 14K, 18K, 21K, 27K



5.1 36K, 42K

16437010000522



Notes:
Some models have no content inside dashed frame.
Wire Color:
Y/G---Yellow/Green RD---Red
BU---Blue BK---Black
YE---Yellow
WH---White BN---Brown
GN--Green

Notes:
means:0
means:1

BM	SW1			SW2	
	1	2	3	1	2
27K	0	0	0	0	0
30K	0	0	1	0	0
36K	0	1	0	0	0
42K	0	1	1	0	0
48K	1	0	0	0	0
60K	1	0	1	0	0

Part6 Capacity Amendment

1. Operation range

Cooling capacity (KBtu/h)		12K	18K	24K	30K	36K	42K
Power supply		220-240V~/50Hz					
Voltage		187~242V					
Ambient temperature	Cooling	-15~52℃					
	Heating	-15~24℃					

2. Capacity amendment of different ambient temperature

2.1 Amendment coefficient of Cooling capacity under different indoor/outdoor DB/WB temperature K1

IDU temp.℃		Outdoor air inlet DB temperature℃											
DB	WB	-15	-10	0	10	16	25	30	35	40	43	48	52
23	16	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87	0.85	0.82	0.77
25	18	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87	0.85	0.82
27	19	1.30	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87	0.85
28	20	1.33	1.30	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87
30	22	1.5	1.33	1.30	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90
32	24	1.7	1.5	1.33	1.30	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95

Actual cooling capacity calculation:

Actual cooling capacity=amendment coefficient of cooling capacity × nominal cooling capacity

——Rated cooling capacity could be found from【Part 4 Specification】

——Amendment coefficient of cooling capacity could be found from table above.

2.2 Amendment coefficient of heating capacity under different indoor/outdoor DB/WB temperature K2

IDU temp.℃	Outdoor air inlet DB temperature℃								
DB	-15	-10	-5	0	7	10	15	20	24
16	0.93	0.97	1	1.06	1.08	1.1	1.14	1.2	1.25
18	0.87	0.93	0.97	1	1.06	1.08	1.1	1.14	1.2
20	0.8	0.87	0.93	0.97	1	1.06	1.08	1.1	1.14
22	0.71	0.8	0.87	0.93	0.97	1	1.06	1.08	1.1
24	0.62	0.71	0.8	0.87	0.93	0.97	1	1.06	1.08

Actual heating capacity calculation:

Actual heating capacity=amendment coefficient of heating capacity × nominal heating capacity

——Rated heating capacity could be found from【Part 4 Specification】

——amendment coefficient of heating capacity could be found from table above.

3. Long piping length

Cooling capacity (Btu/h)		14K	18K	21K	27K	36K	42K
Connection Pipe(mm)	Liquid pipe	Φ6.35*2		Φ9.52*3		Φ9.52*4	Φ9.52*5
	Gas pipe	Φ9.52*2		Φ15.88*3		Φ15.88*4	Φ15.88*5
Max. length for all rooms (m)		40		60		80	
Max. length for one IU (m)		25		30		35	
Max. height difference between IU and OU (m)		15					
Max. height difference between IUs (m)		10					

Caution:

1. The standard Pipe length is 7.5m, if the pipe length is less than this then no additional charging is necessary. If the pipe length is more than this then you should charge more refrigerant into the system according to the above Charging Data

2. The thickness of the pipe is 0.6-1.0, bearing pressure is 4.2MPa;

3. If the connection pipe is too long, the cooling capacity and stability would be decreased. And the more bend quantity, the resistance in the piping system would be bigger, then the cooling and heating capacity would be decreased even lead to compressor broken. We suggest you to use the shortest connection pipe according to the pipe length parameter in this manual. If the height difference between outdoor and indoor unit is more than 5m, an oil trap should be installed

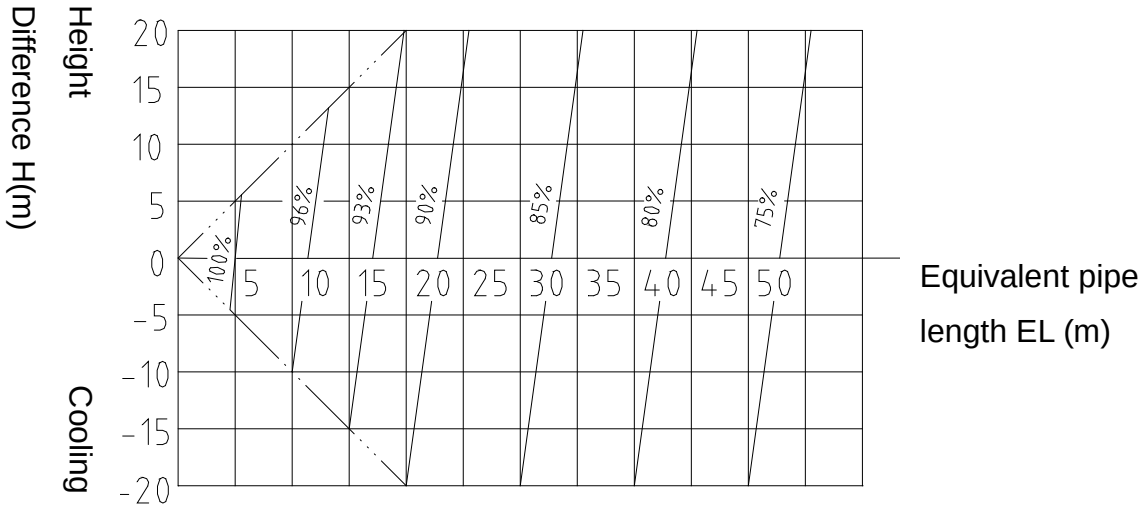
in the gas pipe for every 10 meters.

4. Capacity amendment of different piping length

4.1 Amendment coefficients of heating and cooling capacity under different height drop

K3

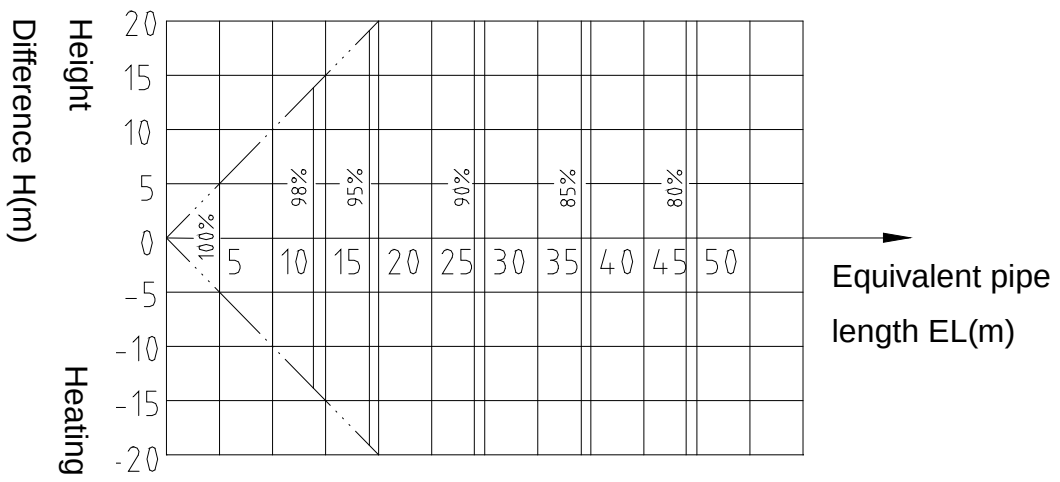
Different Cooling Capacity modified coefficients at different height:



Note:

H = Height of Outdoor Unit - Height of Indoor Unit

Different Heating Capacity modified coefficients at different height:



Note:

H = Height of Outdoor Unit - Height of Indoor Unit

4.2 Correction capability

Cooling capacity = Rated cooling capacity xK1xK3

Heating capacity = Rated heating capacity xK2xK3

5. Equivalent Pipe length conversion

Equivalent pipe length means converting pipe elbow to straight pipe length after considerate the pressure loss.

Bend and Oil Loop Conversion tablet

Type / Pipe Dia.(mm)	Bend (m)	Oil Loop(m)
6.35	0.10	0.7
9.52	0.18	1.3
12.70	0.20	1.5

15.88	0.25	2.0
19.05	0.35	2.4
22.02	0.40	3.0

Equivalent Pipe length L = Actual Pipe length L+ Bend Qty× Equivalent pipe bend length+ Oil Loop Qty × Equivalent Oil Loop length

Sample:

ALCA-H42/5 Actual Pipe length is 25 meters , Gas pipe diameter is 15.88mm. If there's 5 bends and 2 oil loops during the installation, then the equivalent pipe length should be:

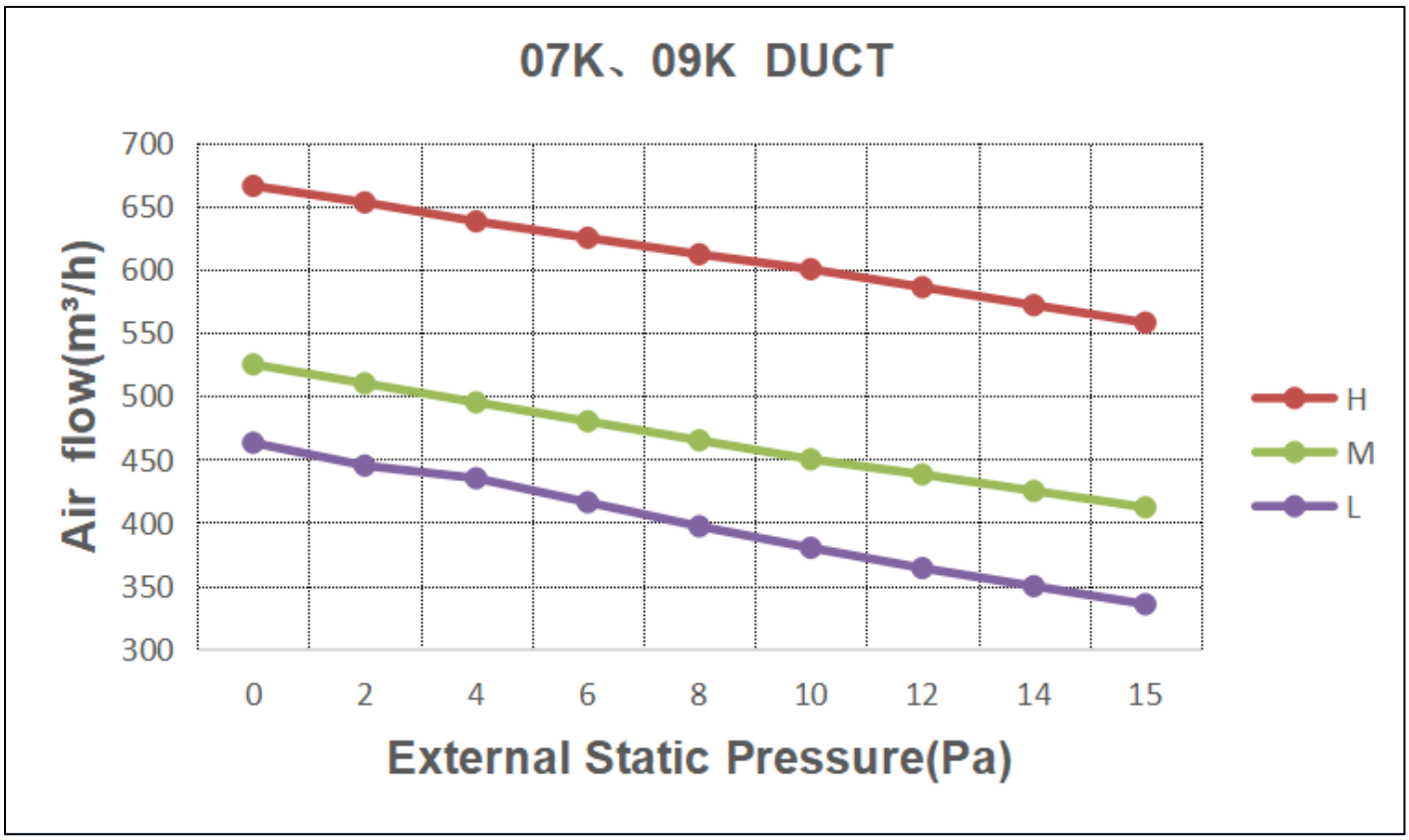
L=25+0.25×5+2.0×2=30.25(m)

Note:

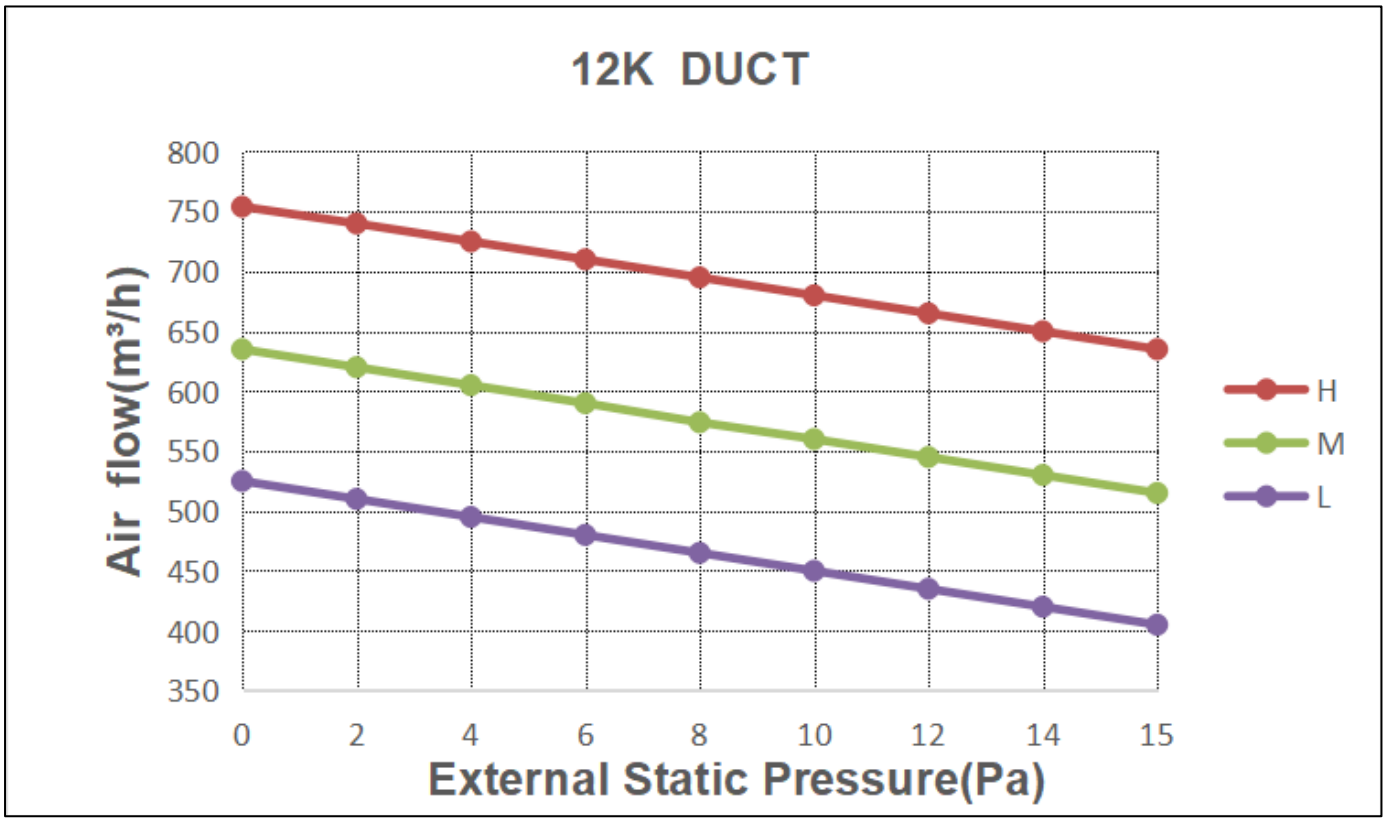
If there is relatively level difference of indoor and outdoor unit, S-shaped oil trap must be installed every 8~10m for vertical pipe.

Part7 Static pressure curve

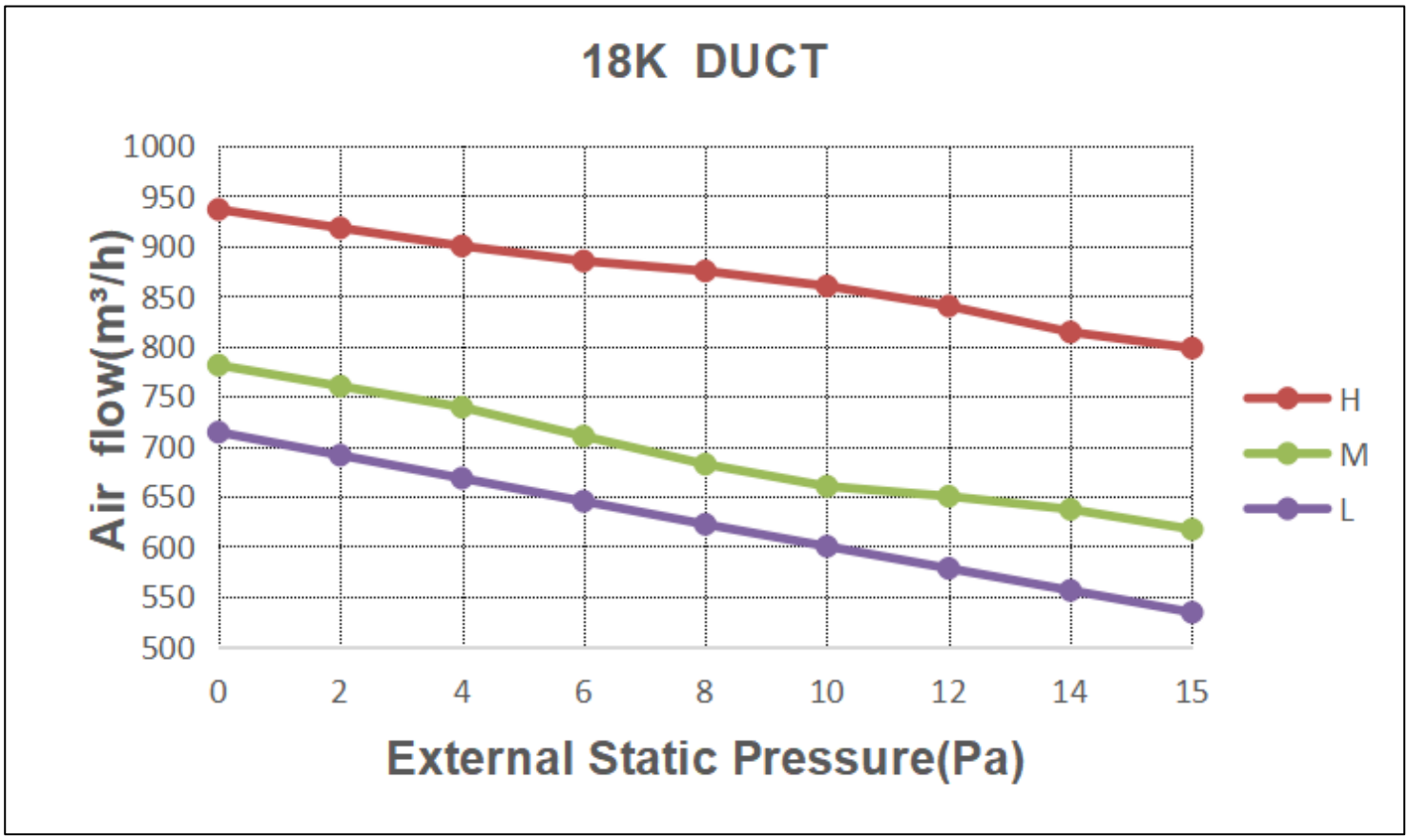
1. 07K、09K Duct



2. 12K Duct


12K DUCT
Air flow(m³/h)
800
750
700
650
600
550
500
450
400
350
0
2
4
6
8
10
12
14
15
External Static Pressure(Pa)
H
M
L

3. 18K Duct


18K DUCT
Air flow(m³/h)
1000
950
900
850
800
750
700
650
600
550
500
0
2
4
6
8
10
12
14
15
External Static Pressure(Pa)
H
M
L

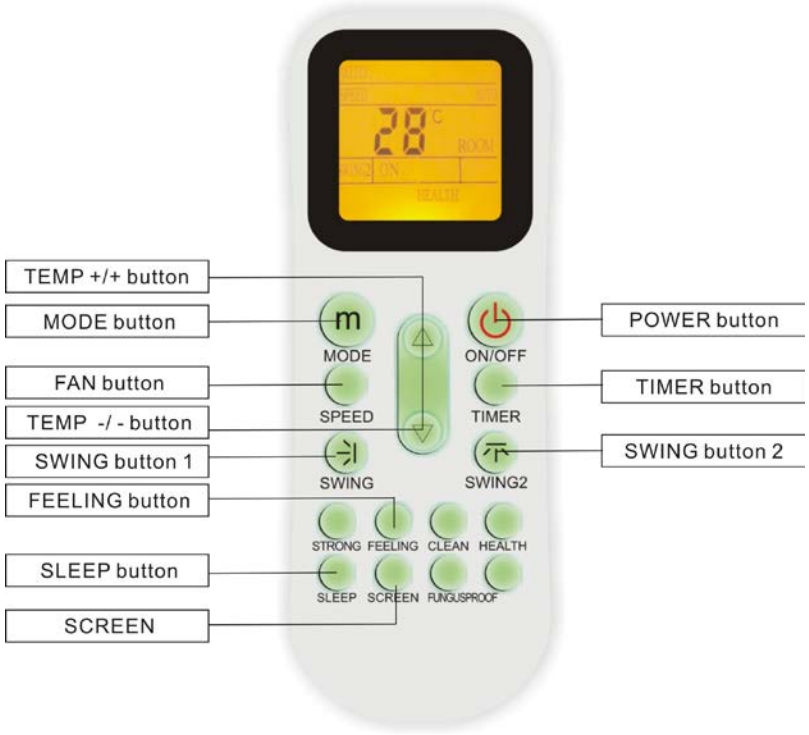
Part8 Controller

1. Controller

IDU type	Controller	
	Standard	Optional
Wall Mounted		  
	YK-K(**AUX**)	YK-H YK-L YK-P
Cassette		   
	YK-K(**AUX**)	YK-H YK-L YK-P XK-04
Ceiling & Floor		   
	YK-K(**AUX**)	YK-H YK-L YK-P XK-04
Duct		   

	XK04-DY	YK-K YK-H YK-L YK-P

1.1 K series



POWER button: Switch the unit ON/OFF.

MODE button: Select mode, press the button one time, then the operation modes will change in turn as Auto-Cooling-Dehumidify-Heating

TEMP + button and **TEMP - button**: Temperature adjustment range: 16~32

FAN button: Change the fan speed; press the button one time then the fan speed will change in turn as: Low-Medium-High-Auto

SWING button 1: Press this button for the first time when operation, it will start the up and down swing function. Press the button for the second time, cancel the swing function.

SWING button 2: Press this button for the first time when operation, it will start the right and

left swing function. Press the button for the second time, cancel the swing function.

Feeing button: Press this button for setting the feeling function. The LCD shows the actual room temperature when the function is set and it shows the setting temperature when the function is cancelled. The function is invalid in the fan mode.

TIMER/CLOCK button:

Clock Setting: Normally display the clock set currently (display 12:00 for the first electrifying or resetting). When press the button for 5 seconds, the time display zone will flicker, then press【+】and 【-】 button to adjust hour that uses 12-hour clock including “A.M.” and “P.M.” time; press the button again to complete the setting.

Timer setting: Press the button to set TIMER ON/OFF, press the button then “ON” will flicker on the display screen. then press【+】 and 【-】 button to adjust timing time; Press the button again to complete the setting. The “OFF” setting is the same methods.

Remark: When setting functions such as mode, temperature, fan speed, display screen displays all presetting parameters and remains constant; after reaching presetting time, air conditioner will automatically start as per presetting state.

After setting timing ON and OFF function, pressing button of 【Timer/Clock】can cancel timing setting.

SLEEP button:

1. Press the button to the sleeping indicator light of indoor unit flashes on;
2. In sleeping mode, the cooling operation enables the set temperature to increase 1℃ after 1 hour and another 1℃ automatically after 1hour.
3. In sleeping mode, the heating operation enables the set temperature to drop 2℃ after 1 hour

and another 2℃ automatically after 1hour.

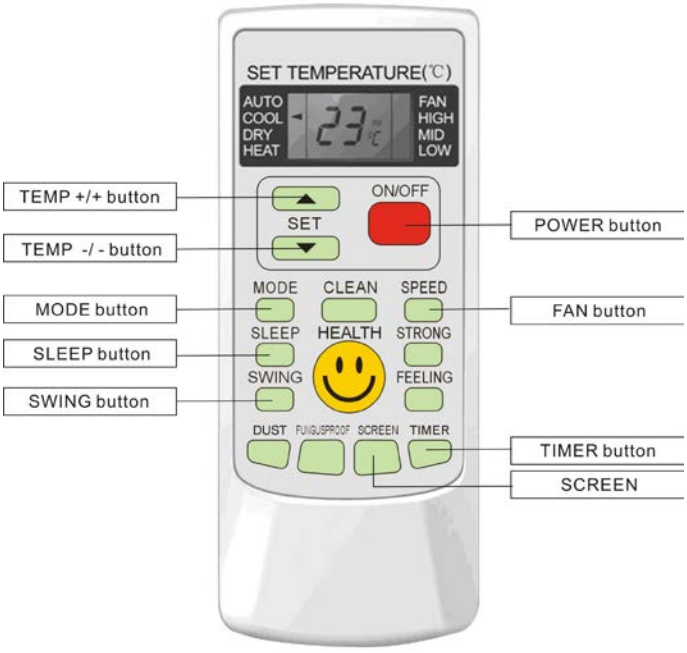
The air conditioner will cancel sleeping mode automatically after running in this mode for 7 hours.

4. **Remark:**

Press the mode or ON/OFF button, the remote controller will cancel sleeping mode.

SCREEN button: Press the button to let the LCD display working or not.

1.2 H series



POWER button: Switch the unit ON/OFF.

MODE button: Select mode, push the button one time, then the operation modes will change in turn as Auto-Cooling-Dehumidify-Heating 

TEMP + button and **TEMP - button**: Temperature adjustment range: 16~32

FAN button: Change the fan speed will change in turn as: Low-Medium-High-Auto

SWING button: Press this button for the first time when operation, it will start the swing function. Push the button for the second time, cancel the swing function. (The function is available matched with the concerned unit)

TIMER/CLOCK button:

Clock Setting: Normally display the clock set currently (display 12:00 for the first electrifying or resetting). When press the button for 5 seconds, the time display zone will flicker, then press【+】and 【-】 button and to adjust hour that uses 12-hour clock including “A.M.” and “P.M.” time; Press the button again to complete the setting.

Timer setting: Press the button to set TIMER ON/OFF, press the button then “ON” will flicker on the display screen. then press【+】 and 【-】 button and to adjust hour that uses 12-hour clock including “A.M.” and “P.M.” time; Press the button again to complete the setting. The “OFF” setting is the same methods.

Remark: When setting functions such as mode, temperature, air port and air velocity, display screen displays all presetting parameters and remains constant; after reaching presetting time, air conditioner will automatically start as per presetting state.

After setting timing ON and OFF function, pressing button of 【Timer/Clock】can

cancel timing setting.

SLEEP button:

1. Press the button to the sleeping indicator light of indoor unit flashes on;

2. After the setting of sleeping mode, the cooling operation enables the set temperature to increase 1℃ after 1 hour and another 1℃ automatically after 1hour.

3. After the setting of sleeping mode, the heating operation enables the set temperature to drop 2℃ after 1 hour and another 2℃ automatically after 1hour.

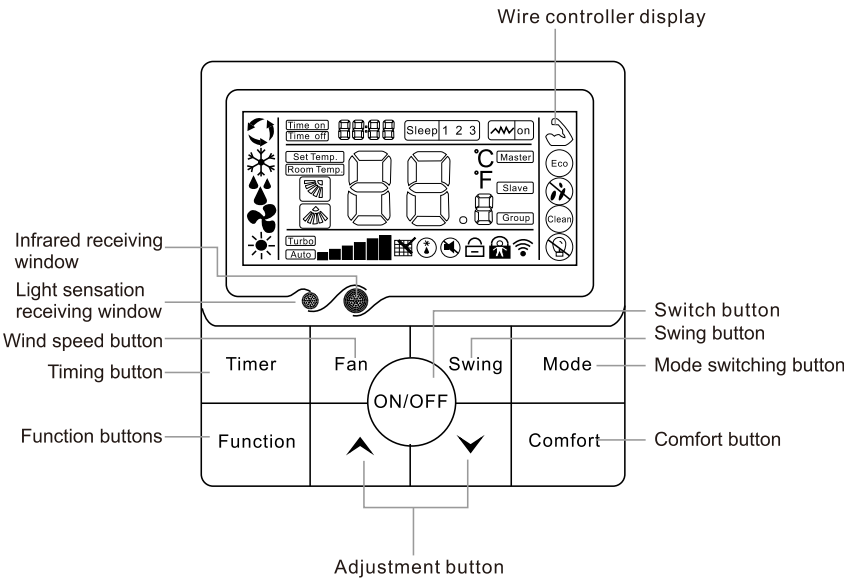
4. The air condition runs in sleeping mode for 7hours and stops automatically.

Remark: Press the mode or ON/OFF button, the remote controller clears sleeping mode away.

SCREEN button: Press the button to let the LCD display working or not by pressing the button.

1.3 Wired Controller XK-04

XK-04	Features
	**Technical indicator** 1. Power source: voltage DC 12V; 2. Work temperature range of PCB:(0~50)℃; 3. Work humidity range of PCB:RH20%~RH90%; 4. Button: Touch button 5. Dimensions(W*H*D):86*86*10.8mm
	Main functions 1. 9-keytouch button input 2. Buzzer prompt tone function 3.Comfort one-button setting 4. LCD+ white backlight 5. Display the failure of main controller 6. Ambient temperature detection sensor 7.Connect to indoor unit via 3-core shielded cable 8. Receive the signal of wireless remote control

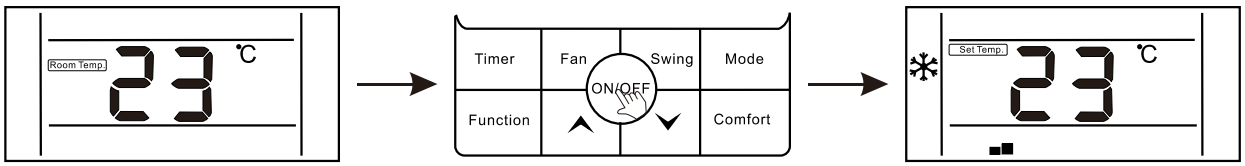


Detailed operation instructions (6)

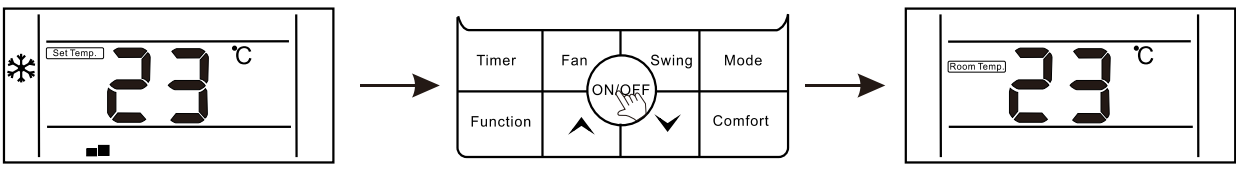
1.【ON/OFF button】

Press- "ON / OFF" button to start or shutdown the unit.

1.1.When the unit is running, users can regulate the operation mode, fan speed, setting temperature, special functions and other parameters on the wired controller

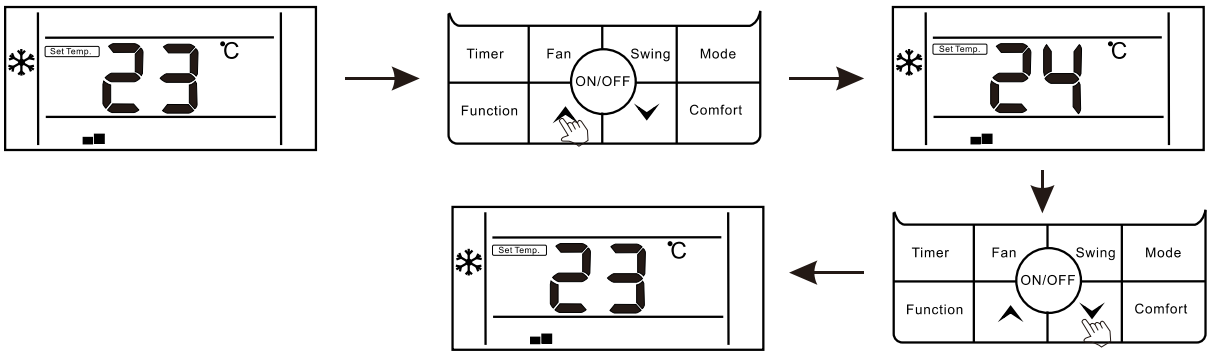


2.When the unit is standby, the wire controller displays indoor ambient temperature (Room temp.), the other content are not displayed.



2.【∧ / ∨ button】

2.1.When the unit is running, press" ∧ " or " ∨ "button to increase or decrease the setting temperature by 1℃. Under COOL, DRY, and HEAT modes, the setting temperature range is 16 ℃ ~ 32 ℃ ; The controller will display" Set temp." to show the setting temperature;

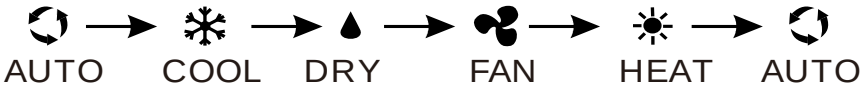


2.2. Under the function selection mode, press “∧ ”or“ ∨”button to select a function;

2.3.Under the timing mode, press " ∧ " or " ∧ "button to setting time.

3.【Mode button】

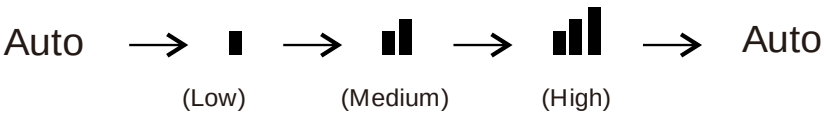
When the unit is running, press "MODE" button, the running mode will switch according to the following order.

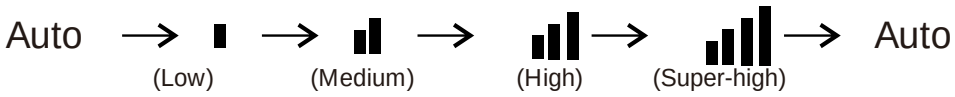


The initial setting temperature for each mode is 24 ° C, and there is no temperature setting and automatic wind under FAN mode.

4.【"Fan" button】

When the unit is running, press "Fan" button to switch fan speed in the following order:





5.【"Swing" button】

5.1. For the unit only has the function of up and down swing:

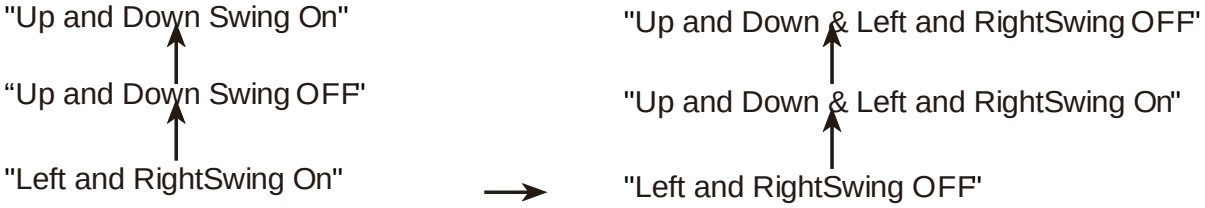
When the unit is running, press "Swing" button to enter or cancel up and down swing. At the time of opening up and down swing," " is lighting. At the time of closed, swing icon will disappear.If the unit has positioning swing function, press "Swing" button to regulate the swing angle in the order

5.2.For the unit only has the function of left and right swing:

when the unit is running, press "Swing" button to enter or cancel left and right swing. At the time of opening left and right swing," " is lighting. At the time of closed, swing icon will disappear. If the unit has positioning swing function, press "Swing" button to regulate the swing angle in the order

5.3.For the unit has the functions of left and right swing and up and down swing:

Press "Swing" button, the swing mode will switch in the following cycle order:

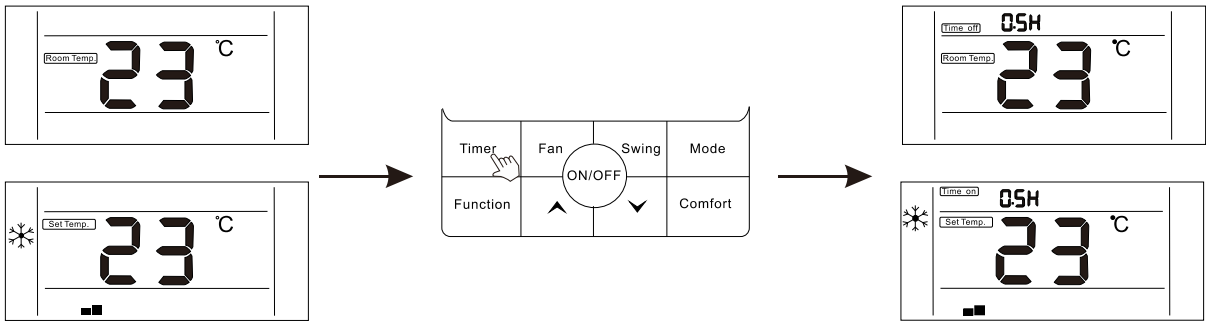


6.【"Timing"button】

Users can set shutdown timing time when the unit is running, and set starting-uptimingtime when the unit is standby.

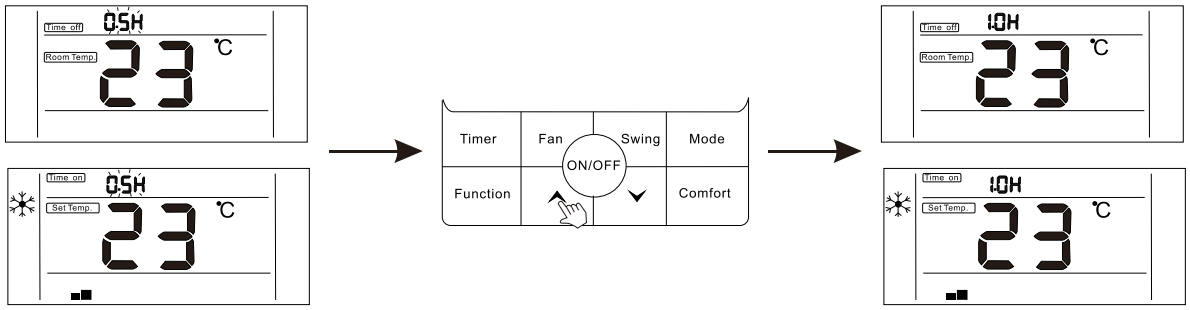
6.1.Press Timer button when the unit is running, the wired controller will display "Time off " and users can set the shutdown timing time; when the unit is standby, the wired controller will display" Time on " , and users can set the starting-up timing time

XK-04

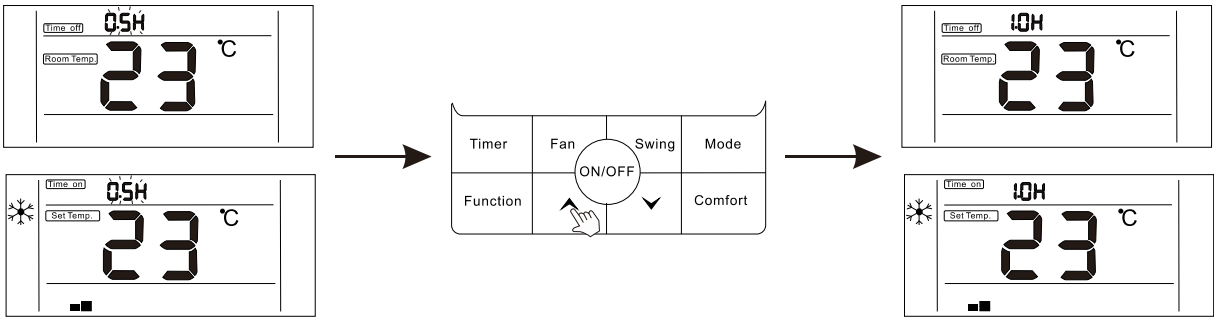


6.2.After entering timing time setting interface, the default timing time is 0.5H, at this moment, press" ∧ " or " ∧ "button to regulate the timing time. If the button is not pressed for 10 seconds, the timing setting will be canceled, and then return to the state of non-timing.

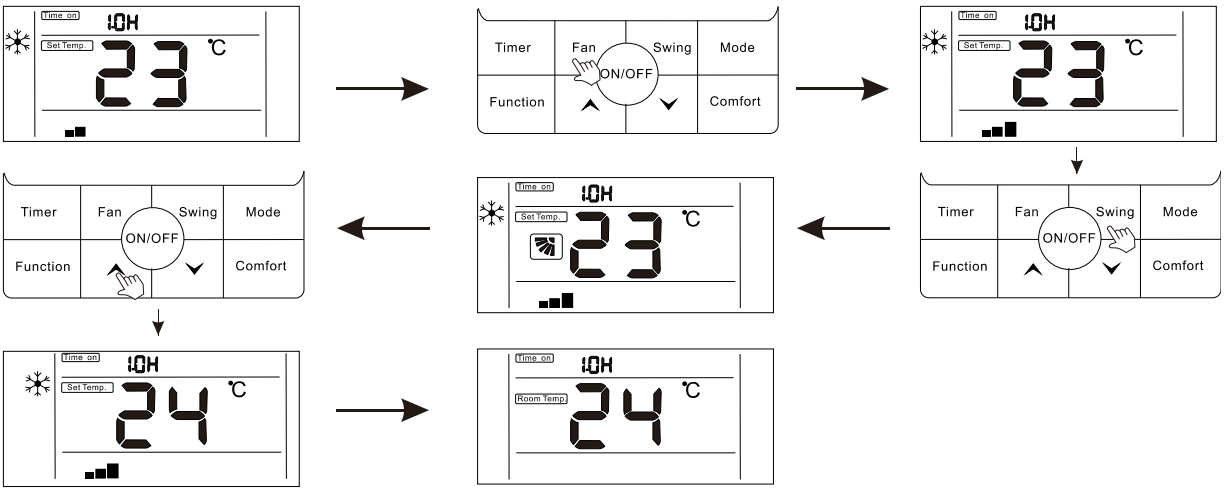
XK-04



6.3.After the setting of timing, press "Timer" button again to confirm. The timing setting is successful and the time bar will stop blinking.



6.4.After the setting "Timer On"function, you can adjust the fan speed, running mode, set temperature, and swing angle. If there is no operation for 10 seconds, standby screen will be displayed.



6.5.Timing range: 0.5～24 hours.

press " ∧ " or " ∧ "button once, the timing time will increase or decrease by 0.5 hours.When the timing time is more than 10 hours, press " ∧ " or " ∧ " button once, the timing time will increase or decrease by1 hour.

6.6.Press "Timer" button or "ON / OFF" button to exit Timer ON or Timer OFF.

Function description (6)

The wire controller is for the general-purpose, specific functions fo the controller are subject to the functions of your air conditioning unit.

Note: In the interface of function setting, press any button such as Timer, Fan, Swing, Mode, ON/OFF, and Comfort to exit the interface and conventional operation interface will display. If there is no operation for 10S, you can exit the interface.

Enter function: Press function button to enter function selection interface , press " ∧ " or " ∧ "button to select a function, and the corresponding icon will lash, press “function” button again to confirm the function.

Cancel function: Press function button to enter function selection interface, press " ∧ " or " ∧ "button to select a function, and the corresponding icon will lash, press “function” button again to cancel the function.

1.【"Turbo"】

Turbo function: The fan speed will be ultra-high in turbo mode and users can achieve rapid cooling or heating effect.

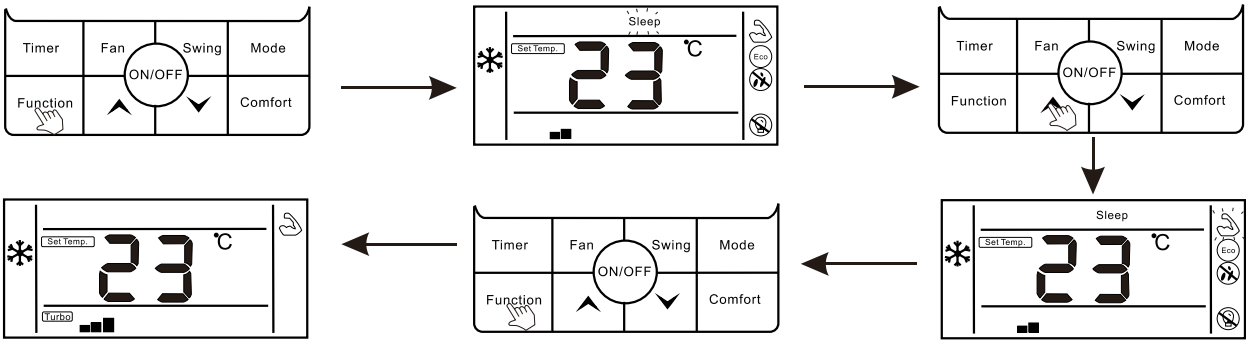
Enter turbo function:

1.When the unit is running in cooling or heating mode, press "Function" key to enter the interface of function selection.

2.Press " ∧ " or " ∧ "button to switch to turbo function, at this moment, "  " icon is flashing.

3.Press Function button to confirm turbo function, at this moment, icon "  " fan speed

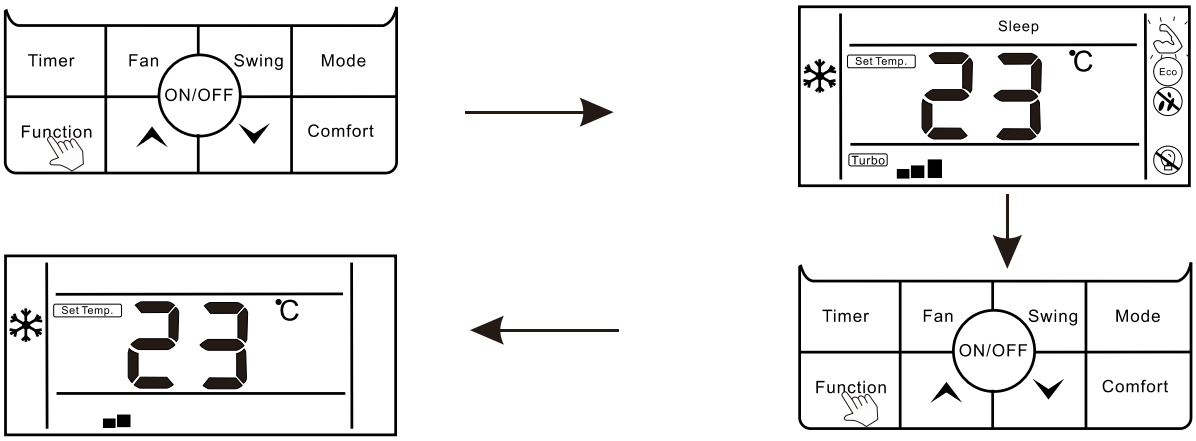
display is (Turbo and highest fan speed icon).



Cancel turbo function:

1. When turbo function is opened, press "Function" button to enter the interface of function selection.

2. Press " ∧ " or " ∧ "button to switch to strong function, at this moment, icon" " is flashing, press Function button to cancel strong function, and strong icon would not display



Note: The unit without turbo function can also set turbo function on the wired controller, the performance is high fan speed, but "Turbo " icon and " " icon do will not display.

2.【"Sleep"】

Sleep function: Make indoor unit will run according to pre-set sleep temperature curve, which

creates a comfortable sleep environment and improves sleep quality

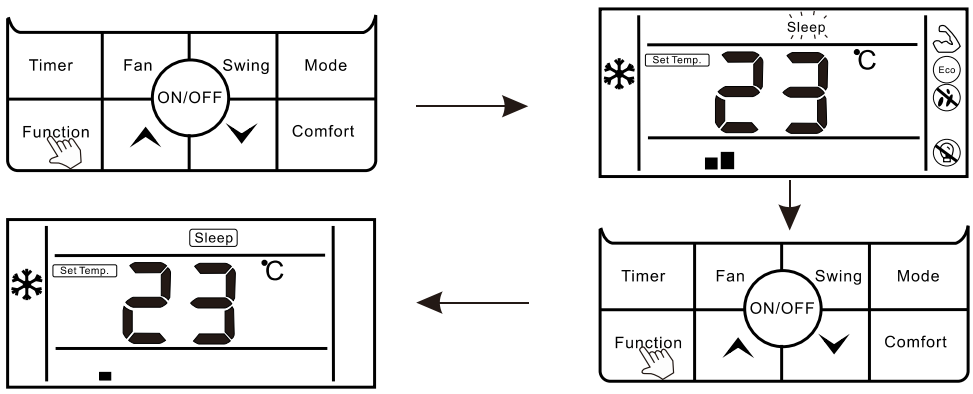
Enter sleep function:

1. In the state of running, press "Function" button to enter the interface of function selection.

2. Press " ∧ " or " ∧ "button to switch to sleep function, " Sleep "icon is flashing at this moment

3.Press " Function " button to open sleep function, at this moment, icon " Sleep " is lighting

XK-04

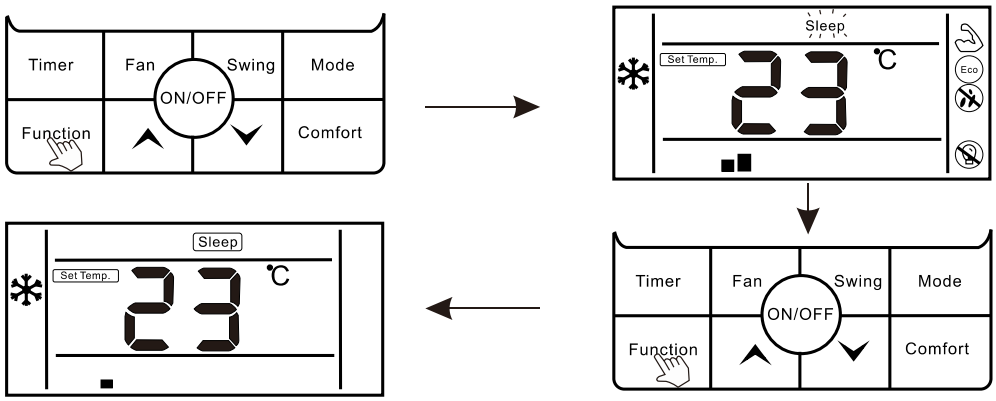


Cancel "sleep" function:

1. In the state of running, press "Function" button to enter the interface of function selection.

2. Press " ∧ " or " ∧ "button to switch to sleep function, " Sleep "icon is flashing

3.Press " Function " button again to cancel sleep function



3.【"ECO"】

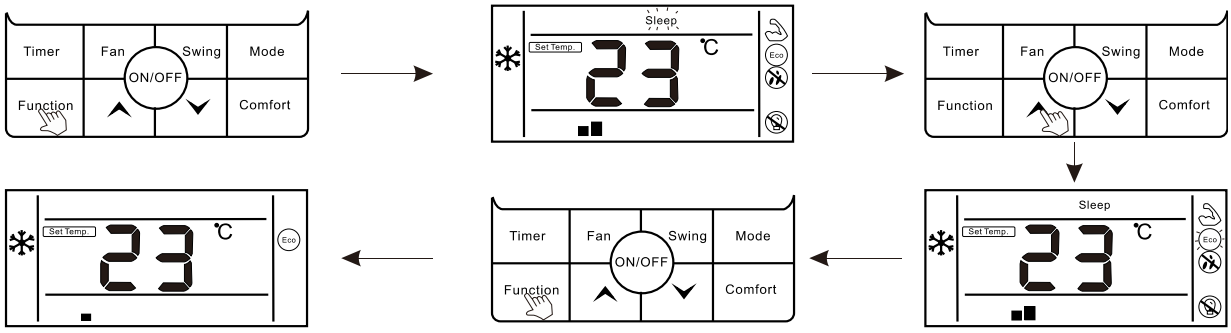
Enter ECO function:

1. Press "Function" button to enter the interface of function selection.

2. Press " ∧ " or " ∧ "button to switch to ECO function, at this moment " Eco "icon is flashing

3.Press "Function" button again to confirm ECO function, at this moment, " Eco "icon is lighting

XK-04



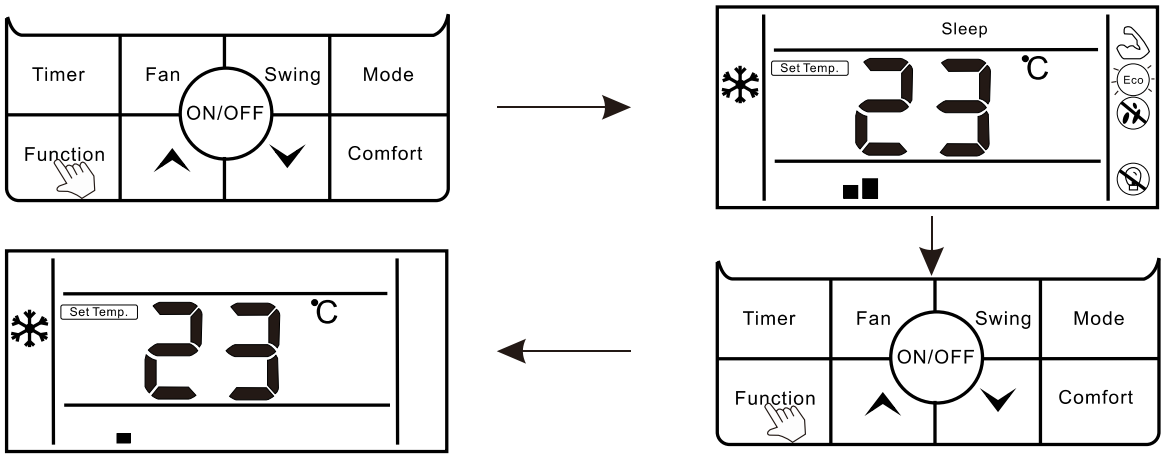
Cancel ECO function:

1. Press "Function" button to enter the interface of function selection.

2. Press " ∧ " or " ∧ "button to switch to ECO function, at this moment " Eco "icon is flashing

3.Press "Function" button again to cancel ECO function

XK-04



4. 【"Mildew-proof"】

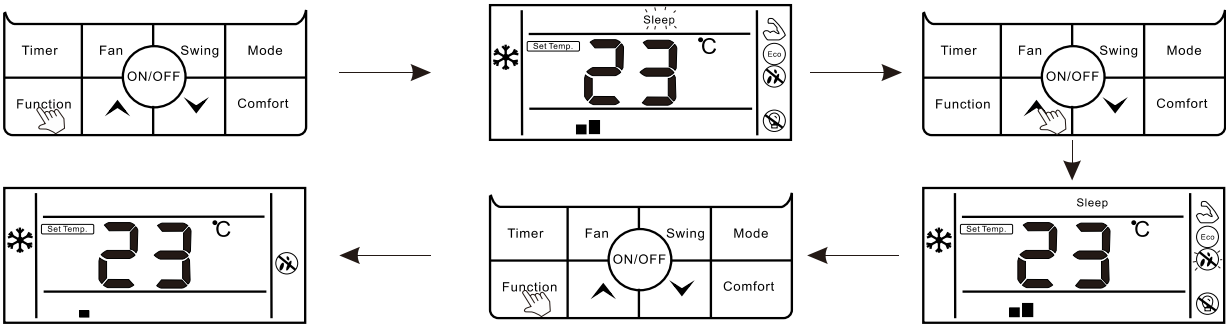
Mildew-proof function: After shutdown, the air conditioner would automatically dry the moisture in the evaporator of indoor unit, so as to avoid mildewing.

Enter mildew-proof function:

1.Under COOL and DRY mode, press "Function" button to enter the interface of function selection

2.Press " ∧ " or " ∧ " button to switch to the mildew-proof function setting interface,at this moment, icon " " is flashing;

3.Press “Function” button again to enter mildew-proof function, icon" "is lighting.

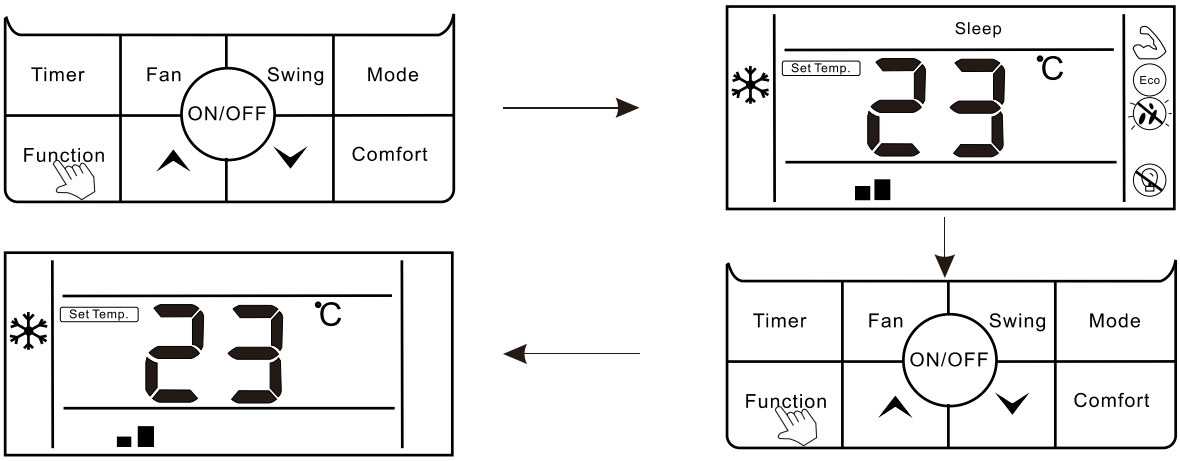


Cancel fungus-proof function:

1.When mildew proof function is ON, press "Function" button to enter the interface of function selection

2.Press " ∧ " or " ∧ " button to mildew-proof function icon " " is flashing;

3.Press “Function” button again to cancel mildew proof function,icon will " " disapper



5.【"Light Sensation"】

Light sensation function: Detect the On and Off of indoor lamplight and switch o low fan speed when the lamplight is off, which can reduce the noise and create a comfortable sleep environment for users

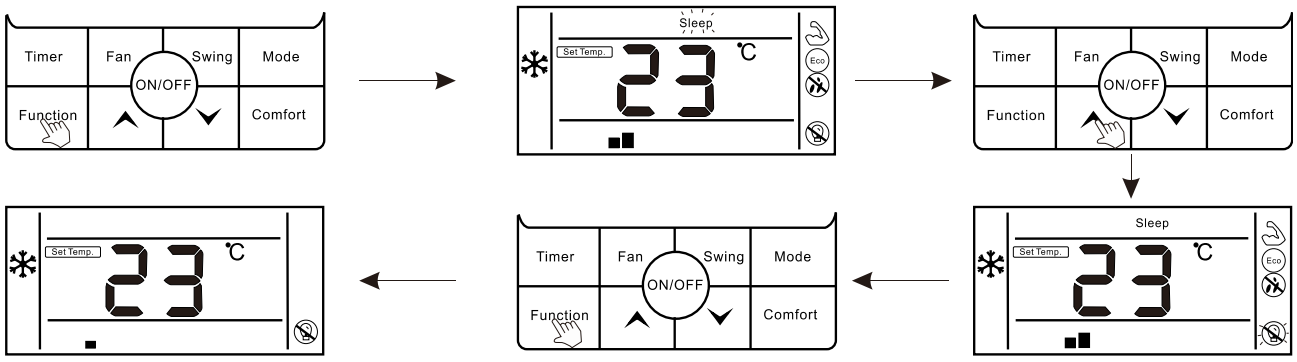
Enter light sensation function:

1.In the state of running, press "Function" button to enter the interface of function selection.

2.Press " ∧ " or " ∧ " button to light sensation function icon " " is flashing;

3.Press Function button again to enter light sensation function, at this moment, icon" " is lighting.

4.When light sensation function is on, if the indoor lamplight is OFF and lasts for 20minutes, the unit will automatically enter sleep mode. If the indoor lamplight is ON, and lasts for 20 minutes, the unit will cancel sleep mode and run according to the setting fan speed.

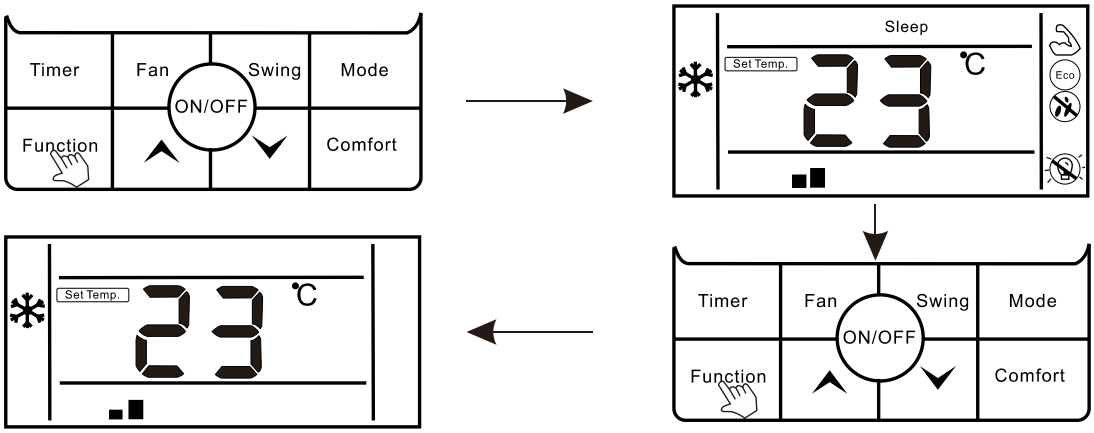


Cancel light sensation :

1.When light sensation function is on, press "Function" button to enter the interface of function selection.

2.Press " ∧ " or " ∧ " button to light sensation function icon " " is flashing;

3.Press Function button again to cancel light sensation function, icon " "will disappear



6.【Clean】

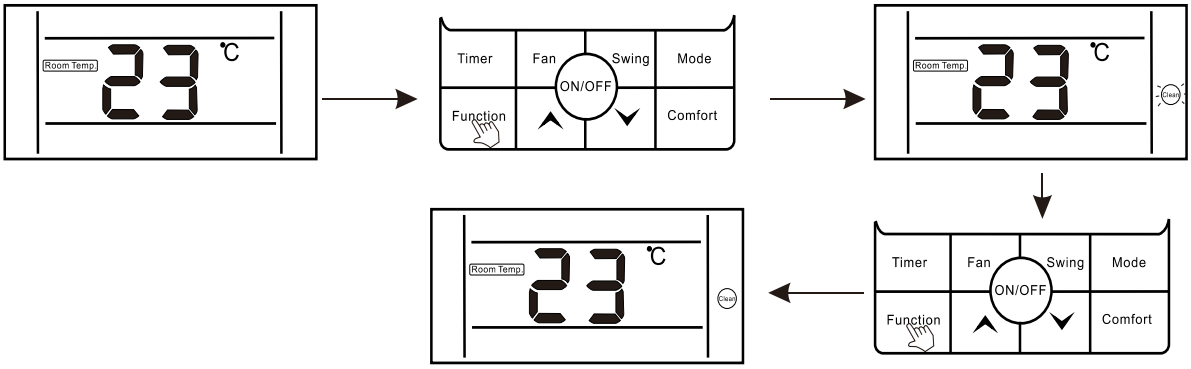
Clean function: The air conditioner can clean the evaporator automatically, which can not only keep air fresh, but also reduce the recession of cooling effect.

Enter clean function :

1.In the state of standby, press "Function" button to enter the interface of function selection

2.Press Function button again to confirm clean function, at this moment, icon " Clean "is lighting

3.When the unit is performing clean function, the wire controller will keep displaying icon" Clean ",until it is finished



Display prompt function (10)

1.【"WIFI"】 function display

If the unit is equipped with a WIFI function module, the icon " " is lighting

If the unit is not equipped with a WIFI function module, the icon " " does not display

2.【"Shielding"】function display

When unit is locked by centralized control, the wired controller will display

3.【"Mute"】 function display

When the unit enter silent function, display " " icon, when silent function is cancelled,the icon does not display.

Note: The unit without silent function can also set silent through wired controller, but it shows in the way of low wind grade, but " " does not display.

4.【"Oil Return / Defrost" 】function display

When the unit is running in the state of Oil Return or Defrost, " " icon is lighting on wire

controller.

When the unit has finished Oil Return or Defrost process, "  " icon does not display.

5.【"Filter Screen Clean"】function display

Filter screen cleaning reminder function: The unit can record its running time, when reaching the time set by the user, it will remind the user to clean the filter screen, so as to avoid prolonged cleaning and filter screen blockage, which can result in poor heating/cooling effect, abnormal protection, bacterial breeding, and other problems.

When the running time reaches the filter screen cleaning reminder time set by a user, the unit will give out a reminder of filter screen cleaning, wired controller displays"  " icon, reminding the user to clean filter screen. At this moment, long press "Timer" button for 5S to cancel the reminder, then the icon does not display. A filter screen cleaning reset signal is sent to the unit.

6.【Celsius and Fahrenheit switching】display

When users set Celsius to be valid, the wired controller will display Celsius temperature.

When users set Fahrenheit to be valid, the wired controller will display corresponding Fahrenheit temperature synchronously.

7.【"Child Lock" function display】

Press both" ∧ " or " ∧ " buttons for more than 5S to enter locking, the controller will display "  " . In the state of locking, operations on the wired controller are disabled (but remote control receiving is valid).

The method of unlocking: Press both" ∧ " or " ∧ " buttons for more than 5S or power off the unit to

release the locking ("  " does not display).

8.【Remote control 】function

The wired controller can receive remote control commands and update the current status

Start-up the unit with remote controller, wired controller work in accordance with the state set on the remote controller and displays corresponding working mode;

9. Room temperature sensor equipped on the wired controller

When the wire controller is equipped with a room temperature sensor and the sensor is not damaged, it is default that the ambient temperature detected by the sensoron the controller and the temperature value will be sent to the main PCB of the unit.

If the wire controller is not equipped with a room temperature sensor or the sensor is damaged, the room temperature will be detected by the temperature sensor of the unit itself.

10.Fault display

When the unit has fault, the time bar will directly display the fault code and flash, the display mode is Er: MM (MM is the fault code, please read the corresponding roduct manual).

Basic condition of wired controller

Name	Figure	Basic condition for operation
Wired controller		1. Power supply: voltage DC 12V; 2. Work temperature range of PCB:(-10~+70)℃; 3. Work humidity range of PCB:RH20%~RH90%;

2. Parameters Setting

Indoor unit’s parameters can be set by remote controller (YK-L) and wired remote

controller—for after-sales (In indoor side, after a new PCB was replaced, indoor parameters set is necessary).

2.1 Parameter setting table (General parameter)

Serial Number / Parameter	【04】	【05】	【15】
	Model of IDU	Capacity of IDU	Selection of room sensor
DUCT			
AMSD-H07/4R1	02	07	01
AMSD-H09/4R1	02	09	01
AMSD-H12/4R1	02	12	01
AMSD-H18/4R1	02	18	01
Ceilling & Floor			
AMCF-H09/4R1	13	09	01
AMCF-H12/4R1	13	12	01
AMCF-H18/4R1	13	18	01

Note:

【04】：Model of IDU

【05】：Capacity of IDU，

【15】：Selection of air return temperature sensor; 00 – sensor in indoor unit, 01—Sensor in wired controller

2.2 Working mode parameter (Heating only function)

Under heating only mode, IDU cannot receive signal of other working mode besides “OFF” signal.

Once change the parameter, need to power on again to activate the function.

Series No	Value	Meaning	Available mode
11	0	All mode	Cooling. Dehumidification. Swing. Heating. Auto
	1	No “Auto” mode	Cooling. Dehumidification. Swing. Heating
	2	Cooling	Cooling. Dehumidification. Swing
	3	Heating	Heating only

Note: The duct type & ceiling floor indoor unit produced before 2019.3 needs to update program for IDU PCB so that achieves heating only.

2.3 Parameter Setting by YK-L

Enter the setting interface

① Make sure the remote controller is ***off***

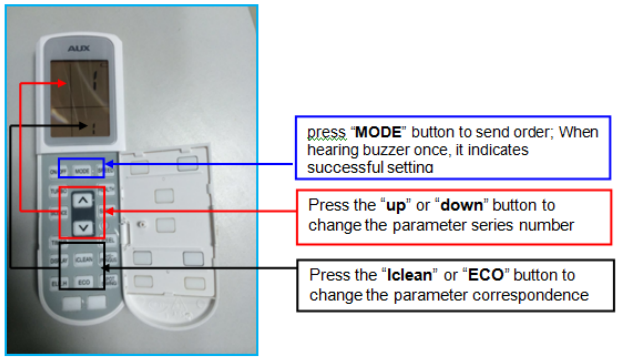
② Press the ***two white button*** at the down side simultaneously ***more than 10s*** to enter the address setting mode.

Parameter Setting

③ Press the **[Λ]** or **[V]** button to change the parameter series number

④ Press the **[IClean]** or **[ECO]** button to change the parameter correspondence

⑤ Press the **[MODE]** button to send order (Sent signal to display panels or receivers), Then can hearing buzzer once



For example:

If you changed a new PCB to 18K cassette indoor unit , then you should set the type of the unit , check the above【**Parameter Setting Items table**】--- Mode of IDU is 【04】, 18K cassette

parameter is 【37】

Change to【04】

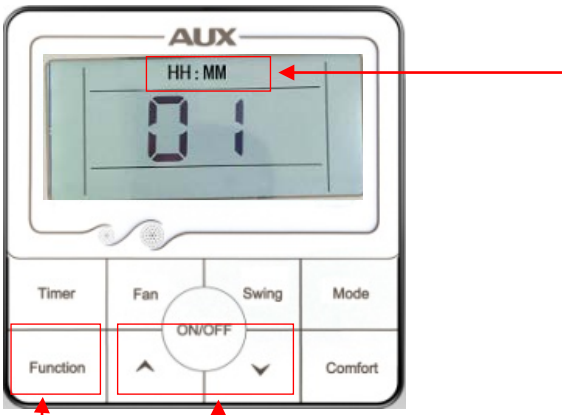
Change to【37】, then press【Mode】to confirm

2.3 Parameter Setting by XK-04

Parameter checking

Press the “FUNCTION” button for 5 seconds; enter into the parameter checking interface. the wired controller’s address will be displayed in the temperature zone of LED screen (press “FUNCTON” button, the wired controller’s address will flash, the wired controller‘s address can be changed through press the“⮝”or“⮟”, then press “FUNCTION” button to confirm);

In the timing setting zone: HH means series NO. **MM** means parameter value. After entering into IDU parameter checking , via pressing the“⮝”or“⮟”button ,you can check the parameter value of series NO.【04】【05】【1】.



means series NO.

means parameter value.

2. Press ⮝ ⮟ , change the parameter value

1. Press for 5S, enter parameter checking model

Parameter setting

Only in parameter checking model, **press** the “FUNCTION” button for 5 seconds,

Enter into parameter setting model.

The corresponding parameter valve **“MM”** began to flash, changing it through pressing

the“▲”or“▼”burton, after finished ,press the “FUNCTION” button to confirm. When finishing parameter setting, it will automatically go back to parameter checking model.

2. Press ▲ ▼ , change the parameter value.

1. Only in checking model, Press for 5s，enter parameter checking model

For example:

If you want to change the PCB from cassette type to mid duct type for 42k unit , you should set the type of the unit , check the above**【Parameter Setting Items table】**--- Mode of IDU is 【04】, 42K cassette parameter is 【11】, 42K mid duct parameter is 【39】

【0411】change to【0439】(step1)

① Press **"FUNCTION"** for 5S,enter parameter check model;

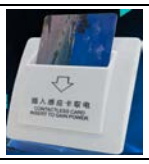
② Press the"⮝"or"⮟"button to get "**04 11**"

③ Press **"FUNCTION"** for 5S again, enter parameter setting model;

【0411】change to【0439】(step2)

3. Room Card Function

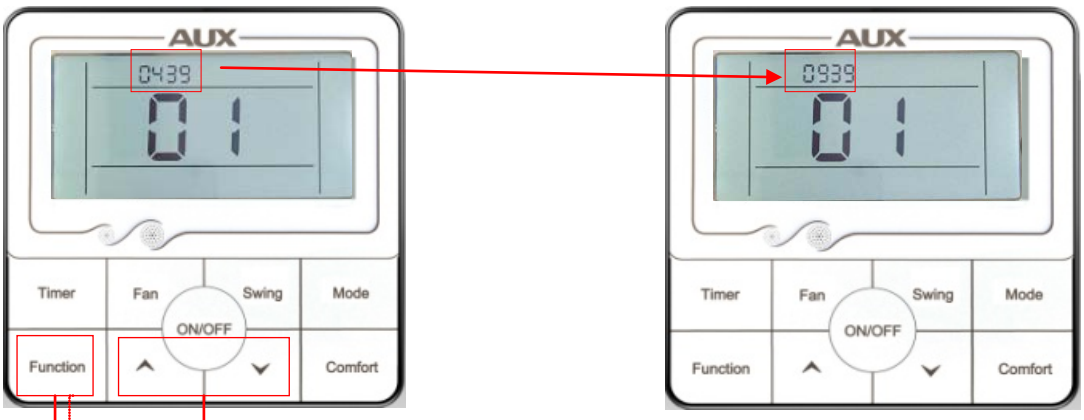
3.1 Function setting

Parameter setting	Model	Contact State	Operation model specification
0900	No (default)		Stand
0901	Room Card (optional)		The IDU Will be into standby mode, can be controlled by controller
			The IDU Will be into standby mode, can't be controlled by controller

※ How to set the room card function (Set method same as the above【Part 9 →2.2Parameter Setting by YK-L or 2.3 Parameter Setting by XK-04】

For example (XK-04)

Step 1

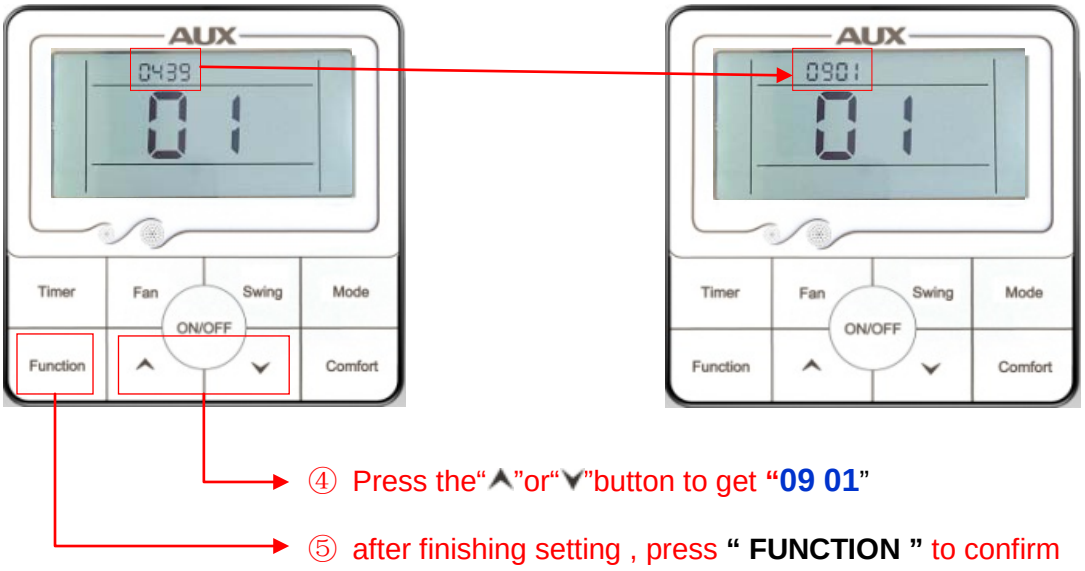


① Press **"FUNCTION"** for 5S,enter parameter check model;

② Press the"∧"or"∨"button to get "**09** 39"

③ Press **"FUNCTION"** for 5S again, enter parameter setting model;

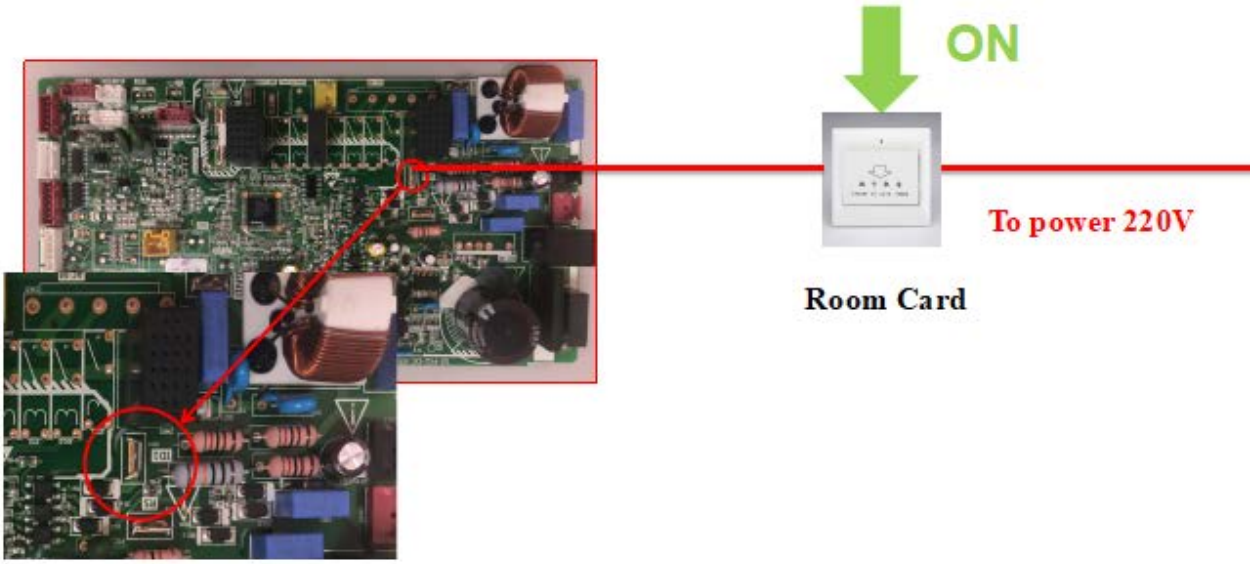
Step 2



3.2 Wiring diagram

When the room card is inserted, the air conditioning can be controlled; when you leave the room, the AC will standby, can’t be controlled.

【DUCT TYPE】and【Ceiling & Floor】



4. Wifi Module

4.1 Wi-Fi Module Configuration

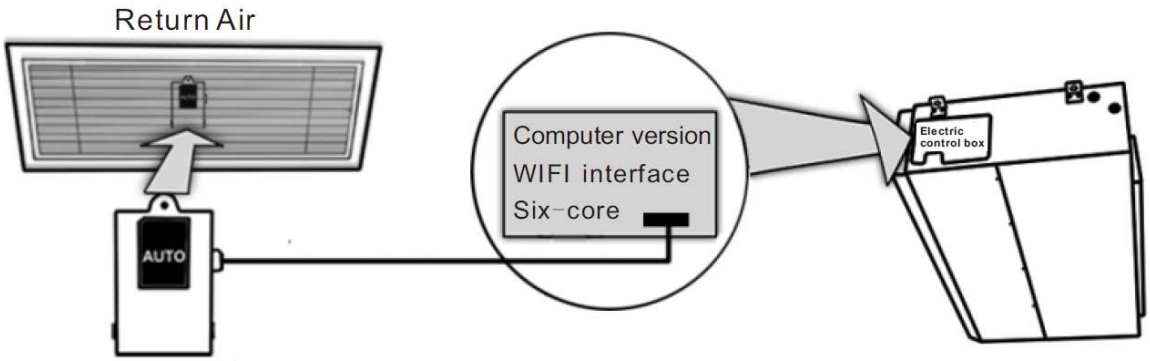
① APP Download

Mobile terminal scan the following dimensional code to download APP, or search “AC Freedom” in APPSTORE and Google store

.

② Light Commercial WIFI Module Installation

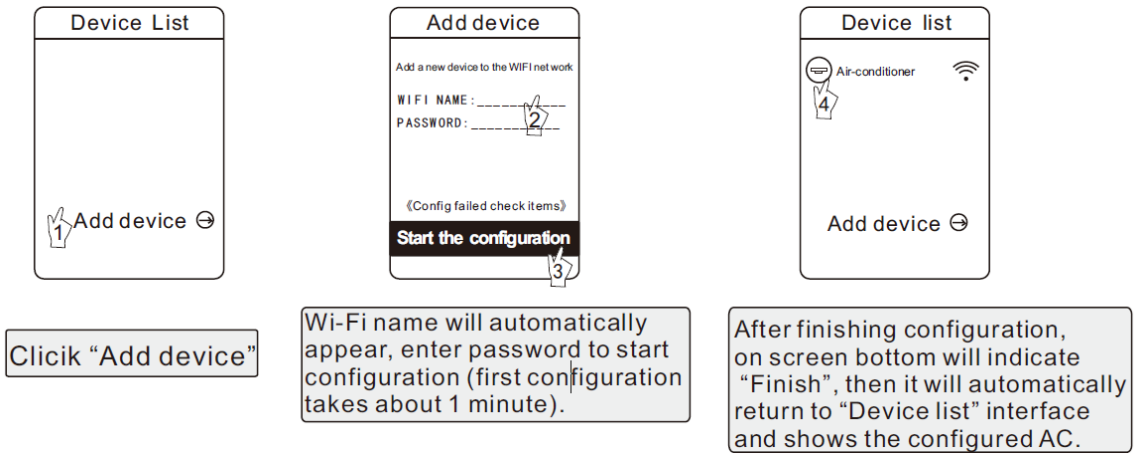
Connect the WIFI module communication wire to WIFI interfaces of main PCB, as shown below:



The WIFI module should be placed in the return air or some other place in WIFI area. (Customers buy the wireless router)

③ APP Configuration

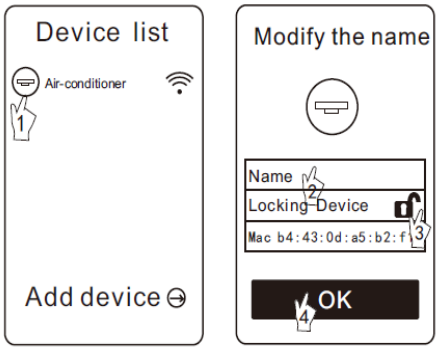
- Press "healthy" button 8 times consecutive, and buzzer even ring two sound then into the configuration
- Connect mobile terminals to WIFI, open APP “AC Freedom”, and then operate following the steps below:



Note: If the configuration fails or you change the password of wireless router, you need to reset the WIFI module to reconnect: Turn on the power of the module, then repeat the steps above for APP configuration.

4.2 AC management

① Modify AC name and locking function



Note:
If you had locked AC equipment, you need to unlock before connecting other mobile terminal. If the mobile terminal locked AC was accidentally lost, you need to reset WIFI module first, and then use the new mobile terminal to connect (Reset step is same with 1.3 APP configuration).

② **For other instructions, please refer to "HELP" in APP.**

③ **Remote-control device**

Connect the wireless router to internet, and then open the GPRS. It means the remote control device, voice control function only effective after connected to the Internet

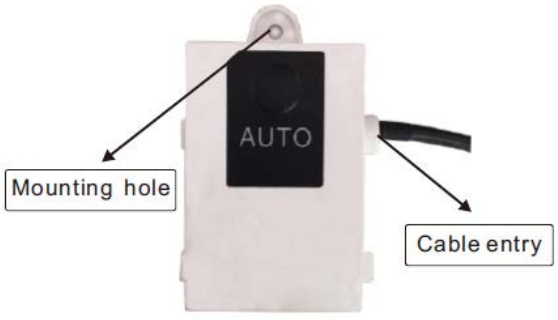
4.3 Trouble Shooting

If unable to properly configured or connect the WIFI box:

- Make sure the WIFI box for wiring is properly connected.
- Long press WIFI box 8 seconds to reconfigure the positive button. If the problem can't be solved, please contact after sales person.

4.4 Technical Parameters

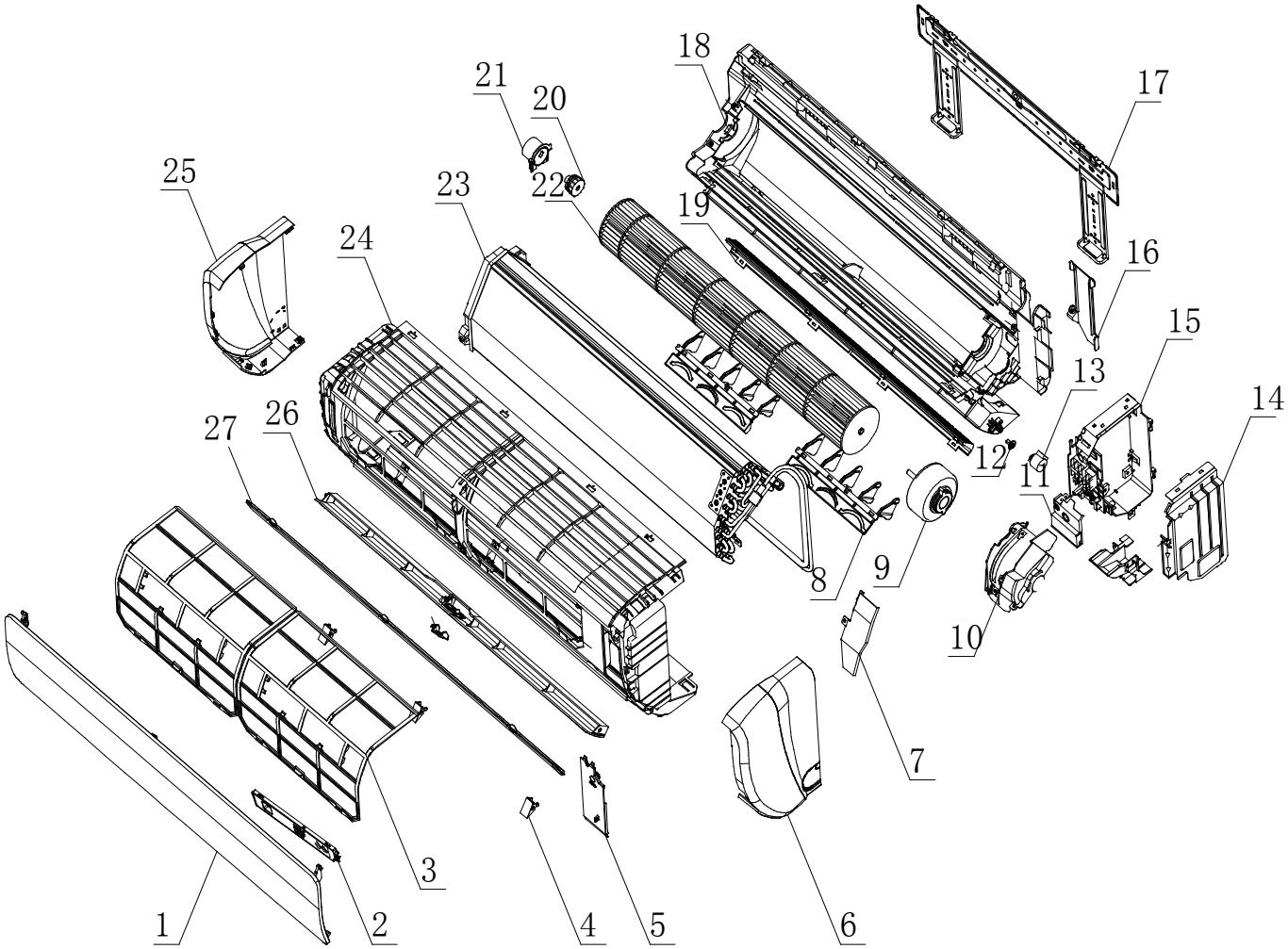
- Working temperature：0~50℃；
- Working environment humidity：20~90%RH；
- Dimensions：78 X 52 X 15.5
- Configuration cable wire length：1500mm



Part9 Explosive View

1. Wall Mounted

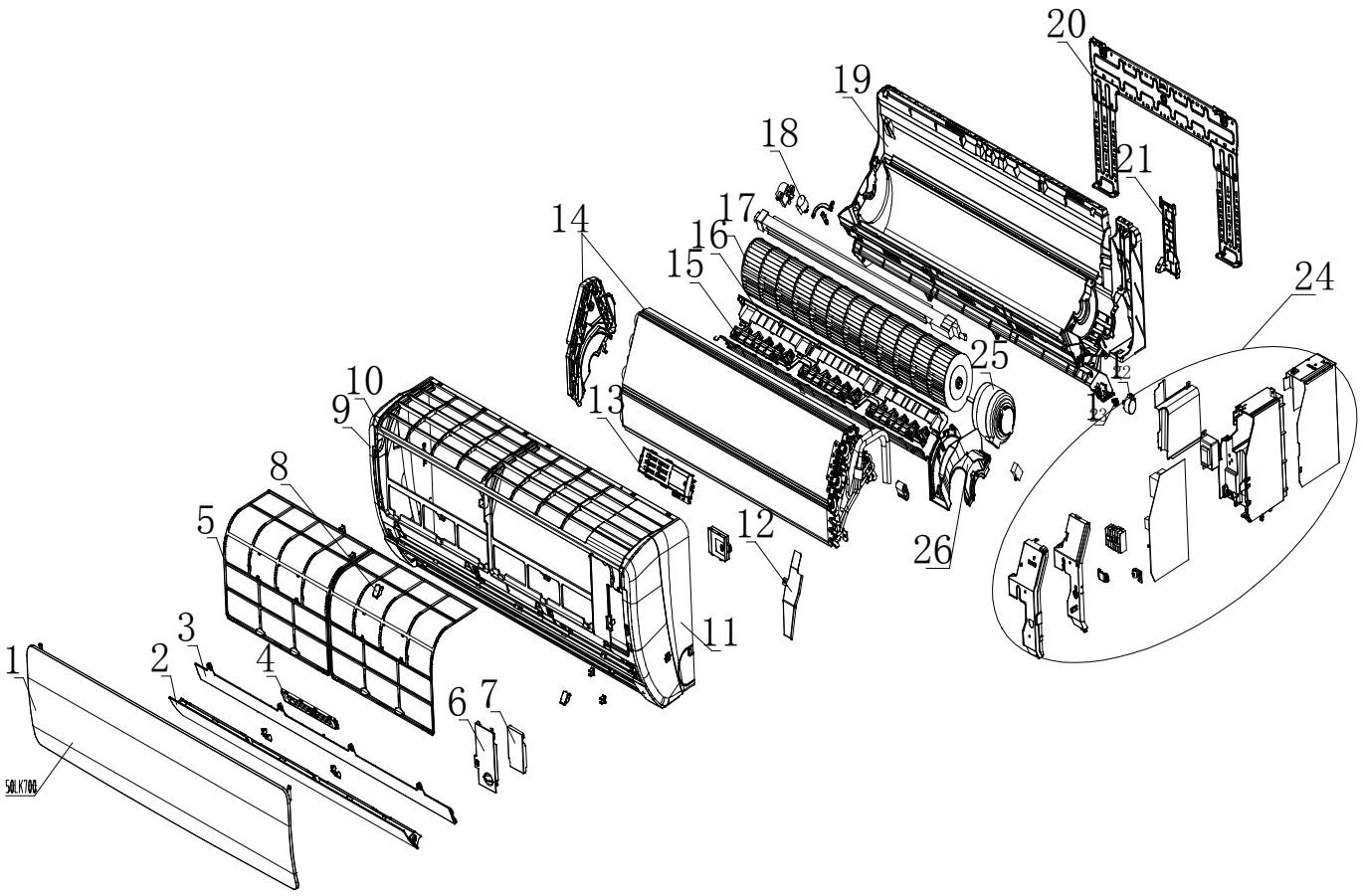
1.1 L Type (07K, 09K, 12K)



AUX DC Inverter Free Match 50HZ R410A

NO.	Material code	Part name	Qty
1	11220502004504	Panel	1
2	11222014000521	Display board assembly	1
3	11220508000142	Filter	2
4	11320096000105	Screw cover	3
5	11220509000062	Medium frame wiring cover	1
6	11320078000196	Right-side cover	1
7	11320065000028	Breakwater	1
8	11220513000067	Air blade	2
9	11230003000127	Indoor motor	1
10	11320052000032	Motor cover	1
11	11221526000003	Cover of electric controller box	1
12	11320079000013	Step motor shaft sleeve	1
13	11230002000058	Step motor	1
14	11321012000005	Controller box sheet-metal A	1
15	11222003002779	Main PCB	1
16	11320084000015	Pipe clamp	1
17	11321003000028	Mounting plate assembly	1
18	11320001000216	Chassis	1
19	11320005000386	Volute	1
20	11220551000003	Cross flow fan rubber bearing	1
21	11320080000007	Phubber bearing fixing peg	1
22	11220513000067	Cross flow fan assembly	1
23	11224003000659	Evaporator assembly (07/09)	1
	11224003000547	Evaporator assembly (12)	
24	11320002000310	Medium frame	1
25	11320078000197	Left-side cover	1
26	11320135000015	Air louver	1
27	11320061000275	Decoration board	1

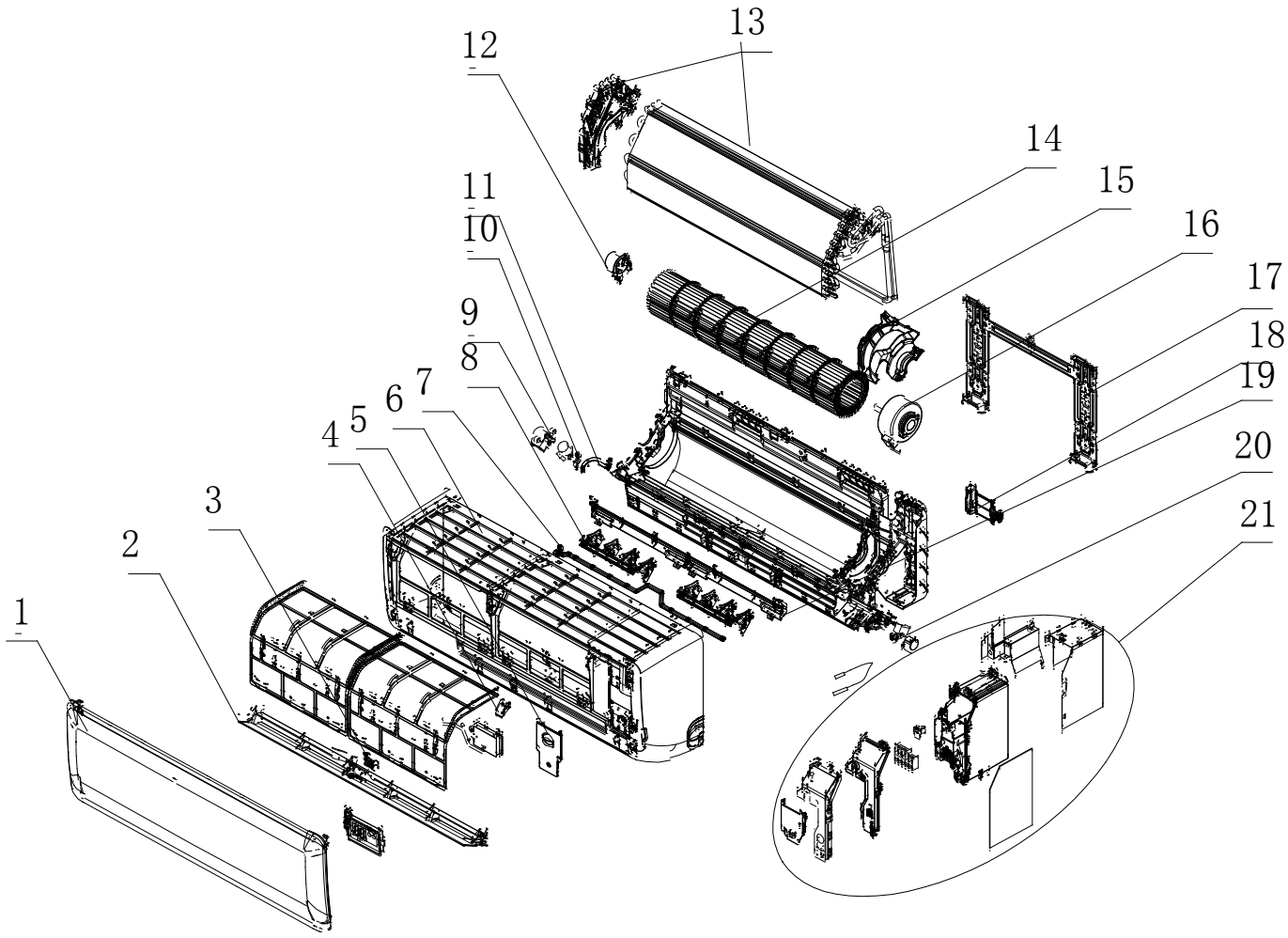
1.2 L Type (18K)



AUX DC Inverter Free Match 50HZ R410A

NO	Material code	Part Name	Qty
1	11320003003301	Panel	1
2	11320005000388	air louver (Horizontal)	1
3	11320094000054	Decoration board	1
4	11222014000522	Display board assembly	1
5	11220508000144	Filter	2
6	11320076000057	Medium frame wiring cover	1
7	11321071000006	Medium frame wiring cover scale board	1
8	11320096000104	Screw cover	2
9	11320078000207	Left-side cover	1
10	11320002000311	Medium frame	1
11	11320078000206	Right-side cover	1
12	11320065000028	Breakwater	1
13	11222001000112	Remote control	1
14	11224003000602	Evaporator assembly	1
15	11320017000107	Air blade	3
16	11320135000007	Volute	1
17	11220513000058	Cross flow fan assembly	1
18	11230002000071	Step motor	1
19	11320001000191	Chassis	1
20	11221500000028	Mounting plate assembly	1
21	11320084000015	Pipe clamp	1
22	11230002000071	Step motor	1
23	11320079000016	Step motor shaft sleeve	1
24	11222003002753	Main control assembly	1
25	11230005000013	Indoor motor	1
26	11320052000034	Motor cover	1

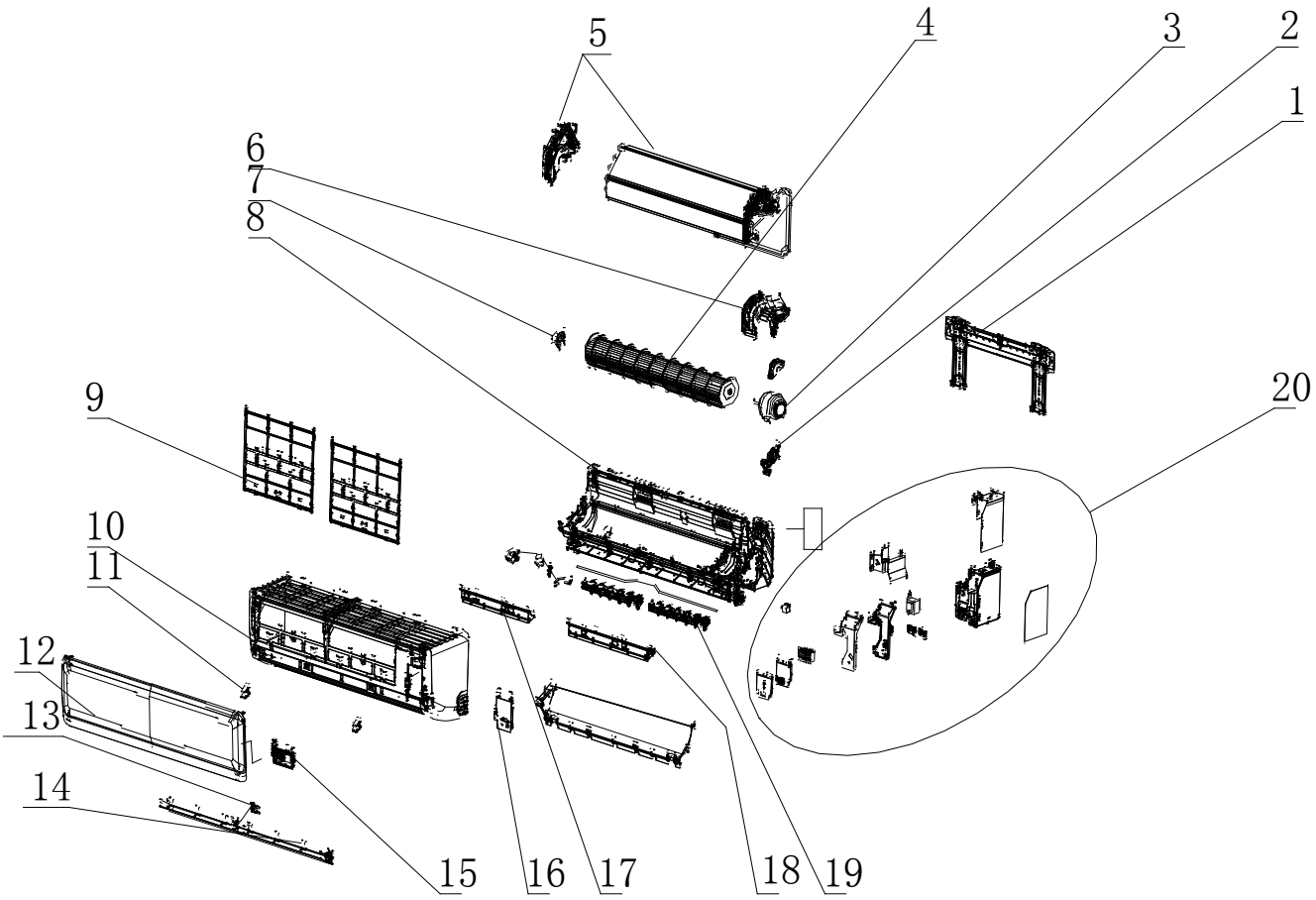
1.3 F Type (07K, 09K, 12K)



AUX DC Inverter Free Match 50HZ R410A

NO.	Material code	Part name	Qty
1	11220502004342	Decro panel	1
2	11320135000018	Air louver (Horizontal)	1
3	11220508000139	Filter	2
4	11320096000104	Screw cover	1
5	11320076000084	Medium frame wiring cover	1
6	11320002000305	Medium frame	1
7	11320085000094	Guide vane linkage	1
8	11320017000125	Left-right swing blade	2
9	11320127000007	Step motor bracket	1
10	11320091000014	Crank link	1
11	11320085000081	Guide vane linkage B	1
12	11320062000028	Bearing fixing bracket	1
13	11224003000649	Evaporator assembly (07/09)	1
	11224003000764	Evaporator assembly (12)	
14	11220513000065	Scroll fan	1
15	11320052000044	Fan motor cover	1
16	11230002000068	IDU fan motor	1
17	11221500000034	Mounting plate assembly	1
18	11320084000013	Pipe clamp	1
19	11320005000381	Horizontal louver	1
20	11320079000016	Step motor shaft sleeve	1
21	11222003002805	Main control assembly	1

1.4 F Type (18K)

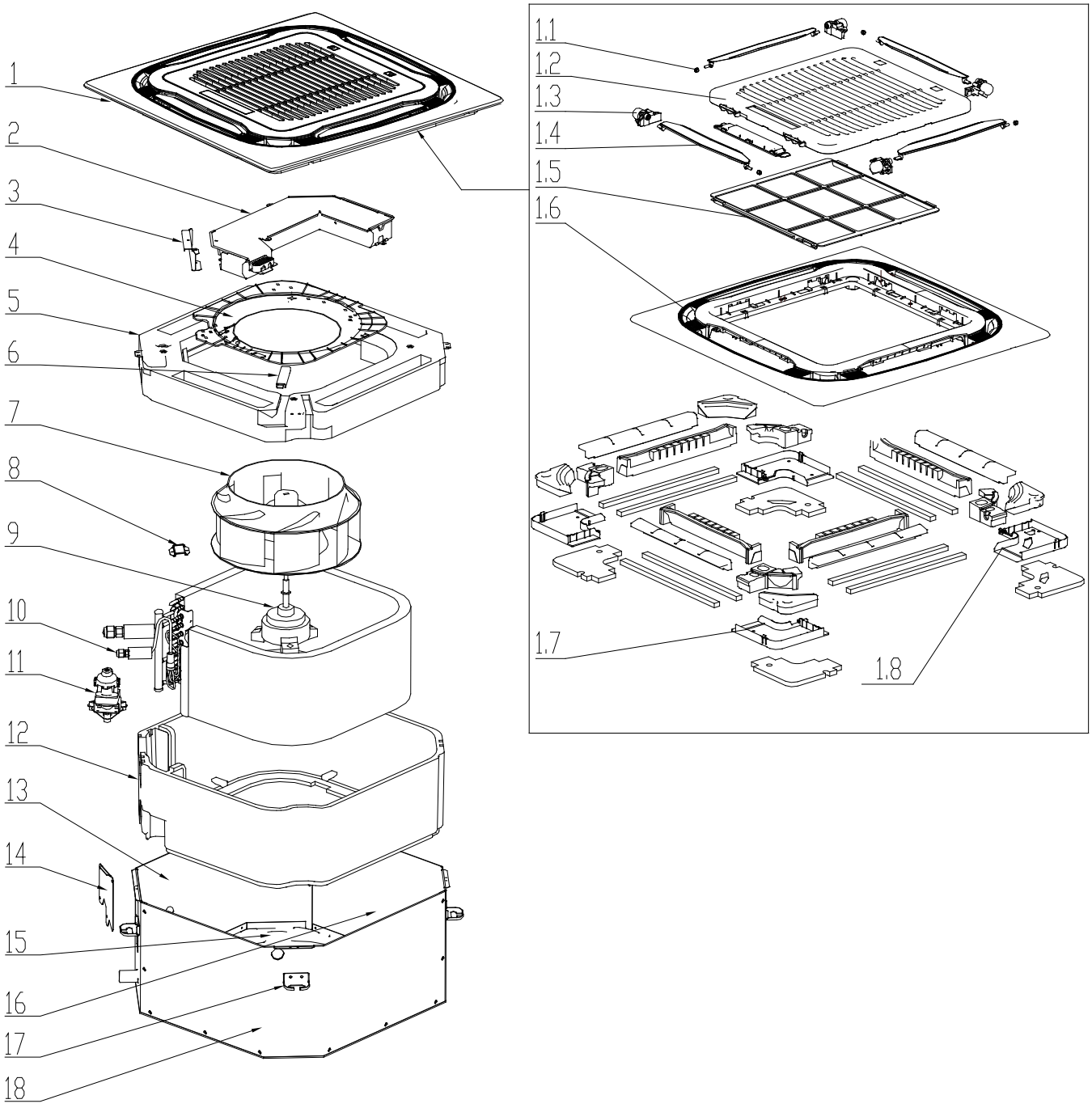


AUX DC Inverter Free Match 50HZ R410A

NO.	Material code	Part name	Qty
1	11321003000028	Mounting plate assembly	1
2	11320084000014	Pipe clamp	1
3	11230005000013	IDU fan motor	1
4	11220513000066	Scroll fan	1
5	11224003000695	Evap asm	1
6	11320052000043	Fan motor cover	1
7	11220551000003	bearing assembly	1
8	11220500000213	Chassis assembly	1
9	11220508000140	Filter	2
10	11320002000303	Medium frame	1
11	11320096000104	Screw cover	1
12	11320003002947	Decorate panel	1
13	11320080000007	Air guiding door fixing pin	1
14	11320005000379	Air louver (Horizontal)	1
15	11222014000608	Display board	1
16	11320076000057	Medium frame wiring cover	1
17	11328001000350	Base EPS B	1
18	11328001000351	Base EPS D	1
19	11320017000125	Left-right swing blade	2
20	11222003002796	Main control assembly	1

2. Cassette

09K,12K,18K

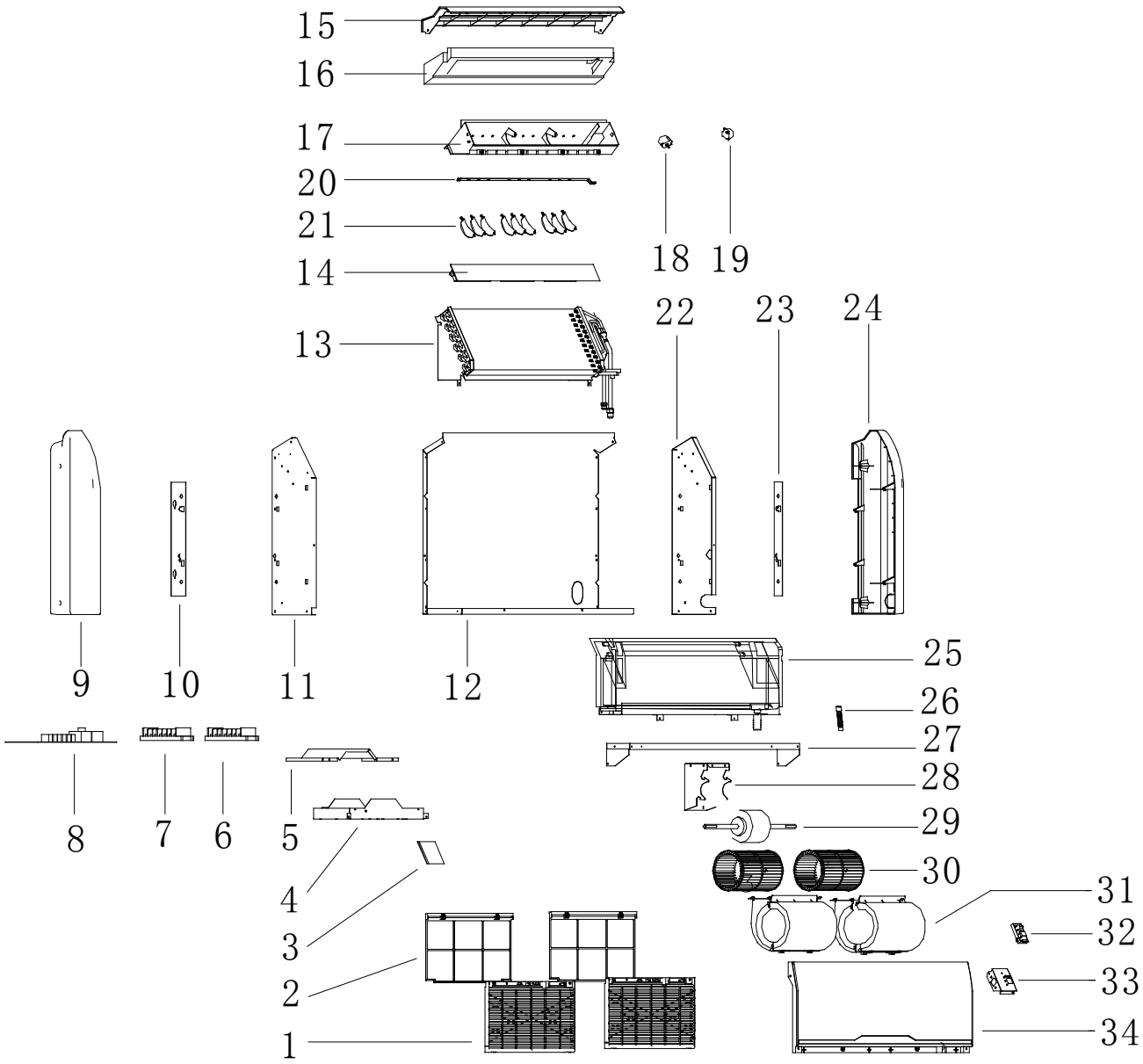


No.	Chinese Name	Part Name	BOM Code	Qty
1	面板	panel	16108022000017	1
1.1	导风门轴套	Shaft bushing of damper	16420009000009	1
1.2	回风格栅	air return grille	16420010000033	1
1.3	步进电机	Motor Assembly	16320005000042	4
1.4	导风条	Guide the wind vane	16420007000035	4
1.5	过滤网	Filter net	16420012000012	1
1.6	围框	panel frame	16420013000072	1
1.7	电机盖板	Electric cover plate（no air outlet）	16420014000041	2
1.8	电机盖板	Electric cover plate	16420014000040	2
2	电控总成	Electric board Assembly	16321005000024	1
3	电控盒	electric control box C	16421038000328	1
4	导风圈	Guide solar or lunar halo ABS-FR	16420004000008	1
5	接水盘	drain pan	16320005000039	1
6	过线夹	clamp	16420021000010	1
7	风轮	wind wheel	16444001000037	1
8	压线板	pressing line plate	16421008000022	1
9	电机	Fan motor	16430001000638	1
10	蒸发器总成	Evaporator assembly（09/12）	16324005000087	1
	蒸发器总成	Evaporator assembly（18）	16324005000081	1
11	排水泵	draining pump	16440001000020	1
12	地盘泡沫组件	Chassis foam unit	16320005000038	1
13	围板 B	Coaming B	16421010000072	1
14	阀板	Outlet valve plate	16421014000089	1
15	底盘组件	chassis assembly	16321001000071	1
16	围板 C	coaming C	16421010000073	1
17	挂耳	Hangers	16421040000042	4

18	围板 A	Coaming A	16421010000071	1

3. Ceiling Floor

09K,12K,18K



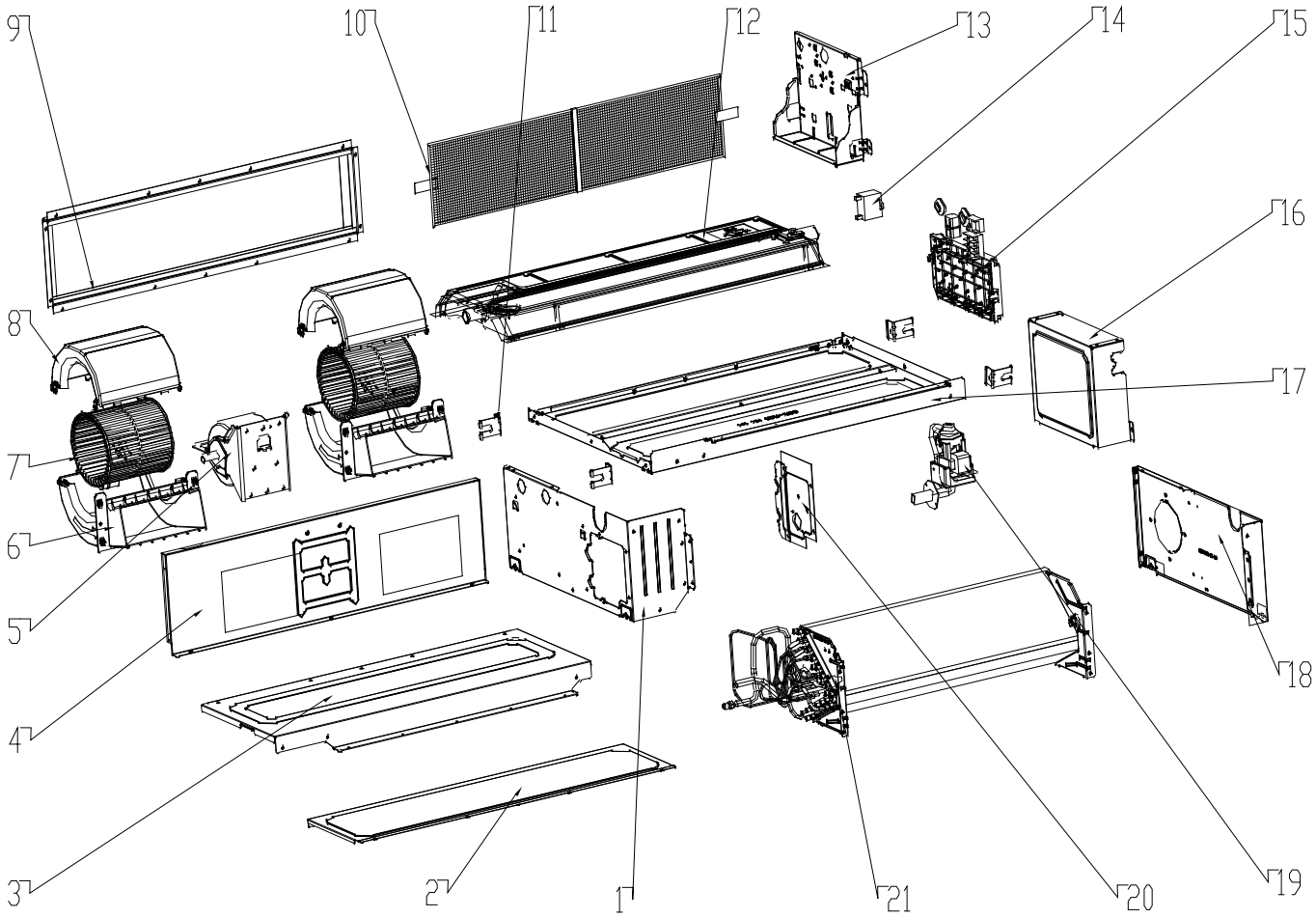
AUX DC Inverter Free Match 50HZ R410A

No.	Chinese Name	Part Name	BOM Code	Qty
1	格栅	air return grille	16420012000002	2
2	滤网	Filter net	16420010000002	2
3	左装饰板	Adornment board	16420015000002	1
4	电器盒	electric control box	16421038000364	1
5	电控盒盖	Electric cover plate	16421005000205	1
6	端子板	Terminal plate	16427001000087	1
7	端子板	Terminal plate	16427001000064	1
8	控制板	PCB	11222541000051	
9	左盖板	Left cover plate	16420014000007	1
10	左挂架	Left pylons	16421001000029	1
11	左侧板组件	Left side plate assembly	16321006000005	1
12	背板组件	chassis assembly	16421018000004	1
13	蒸发器总成	Evaporator assembly	16324018000015	1
14	导风门	Guide the wind vane	16420005000005	1
15	顶盖板	Top cover plate	16420014000016	1
16	顶泡沫	Top Foam	16428001000088	1
17	导风架	Holder support	16420006000007	1
18	步进电机	Motor Assembly	16430001000604	1
19	步进电机	Motor Assembly	16430031000001	1
20	垂直叶片连杆 A	Vertical vame connecting rod	16420008000003	1
21	垂直叶片	Vertical blade	16420007000008	9
22	右侧板组件	Right side plate assembly	16321006000006	1
23	右挂架	Right pylons	16421001000030	1
24	右盖板	Right cover plate	16420014000008	1
25	集水盘组件	Drain pan	16421002000503	1
26	塑料排水软管	Drain pipe	16432019000021	1
27	电机固定板	Motor fixing plate	16421002000190	1
28	直流电机架	Motor support	16421035000057	1

29	直流电机	Motor	16430001000504	1
30	风轮	Wind wheel	16444001000013	2
31	上蜗壳	Upper spiral case	16444002000014	2
	下蜗壳	Lower spiral case	16444002000015	2
32	R 显示灯板	Display lamp board	11222023000333	1
33	显示盒	Display box	16420017000002	1
34	面板	panel	16420013000019	1

4. Duct

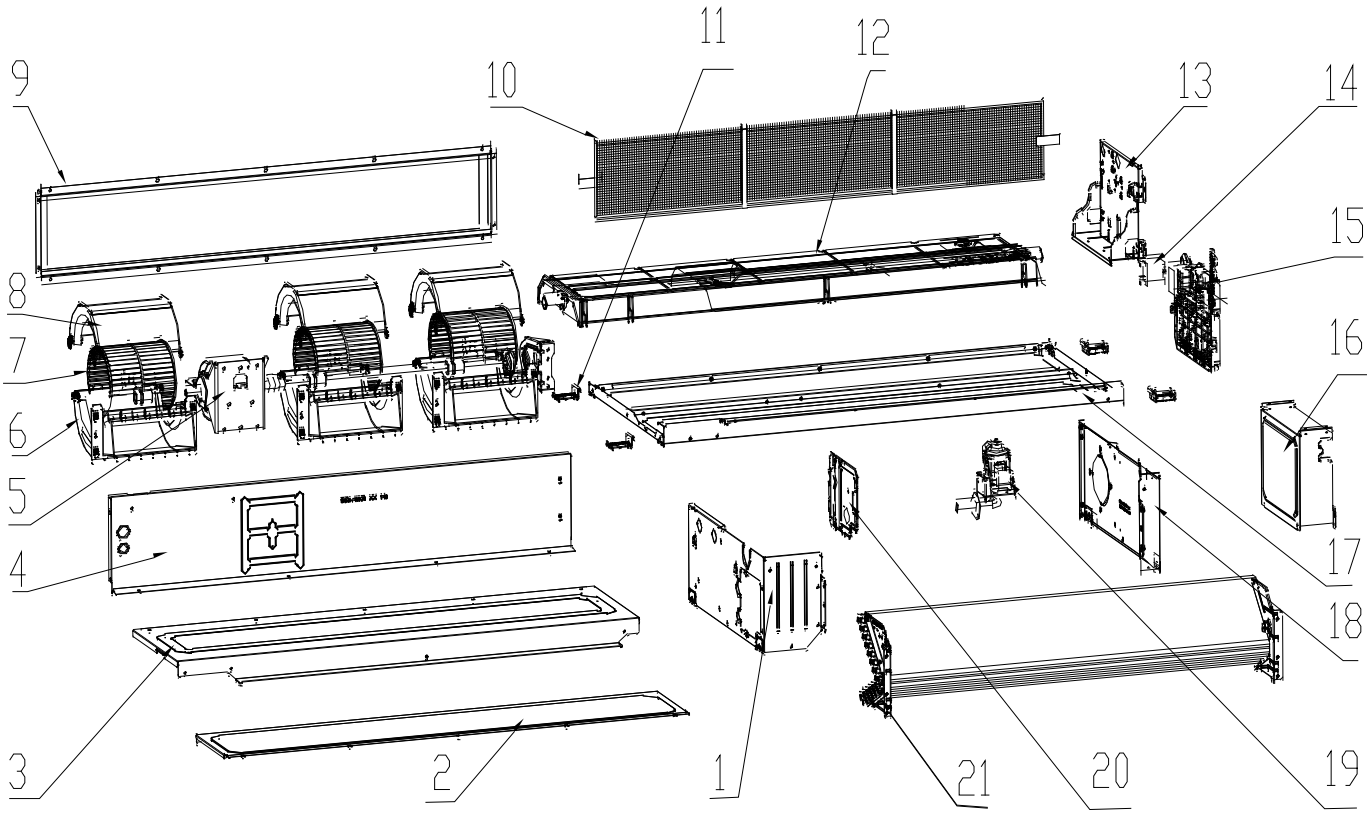
4.1 07K,09K,12K



AUX DC Inverter Free Match 50HZ R410A

No.	Chinese Name	Part Name	BOM Code	Qty
1	右侧板	Right plate	16421001000768	1
2	底盘 A	Chassis A	16421005000622	1
3	底盘 B	Chassis B	16421005000619	1
4	蜗壳固定板	Volute mounting plate	16421002000492	1
5	电机支架组件	Motor support	16430001000599	1
6	下蜗壳	Lower spiral case	16444002000023	2
7	风轮	Wind wheel	16444001000038	2
8	上蜗壳	Upper spiral case	16444002000022	2
9	过滤网框架	Filter framework	16444013000125	1
10	过滤网	Filter net	16444013000125	1
11	挂耳	hangers	16421040000058	4
12	接水盘组件	Drain pan	16320009000026	1
13	电控盒	electric control box	16421038000358	1
14	R 电解电容	Capacitor	11329003000022	1
15	控制板	PCB	11222541000051	1
16	电控盒盖	Electric cover plate	16421042000006	1
17	顶盖板	Top cover plate	16421005000616	1
18	左侧板	Left side plate assembly	16421001000767	1
19	排水泵	Drain pump	\	0
20	阀板	Outlet valve plate	16421014000116	1
21	蒸发器总成	Evaporator assembly	16324018000009	1

4.2 18K

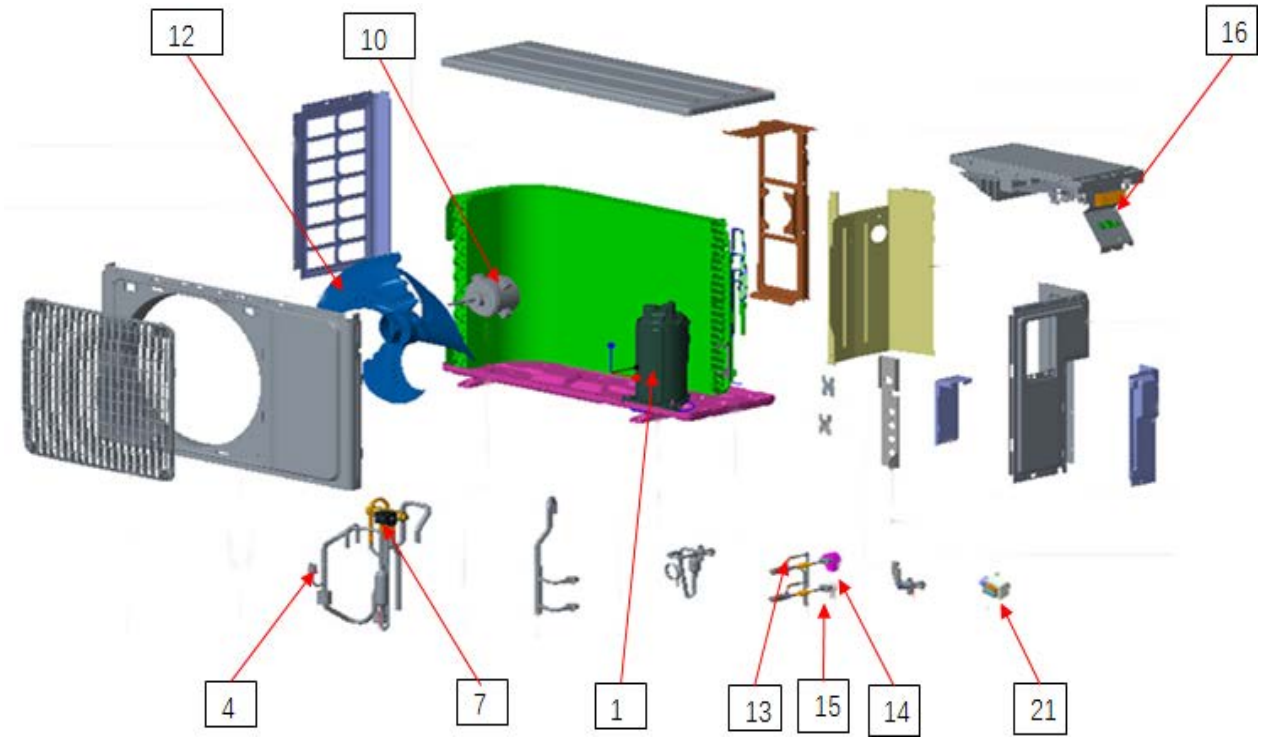


AUX DC Inverter Free Match 50HZ R410A

No.	Chinese Name	Part Name	BOM Code	Qty
1	右侧板	Right plate	16421001000768	1
2	底盘 A	Chassis A	16421005000620	1
3	底盘 B	Chassis B	16421005000623	1
4	蜗壳固定板	Volute mounting plate	16421002000493	1
5	电机及支架组件	Motor support	16430034000007	1
6	下蜗壳	Lower spiral case	16444002000023	3
7	风轮	Wind wheel	16444001000038	3
8	上蜗壳	Upper spiral case	16444002000022	3
9	过滤网框架	Filter framework	16321009000335	2
10	过滤网	Filter net	16444013000126	1
11	挂耳	hangers	16421040000058	4
12	接水盘组件	Drain pan	16320009000028	1
13	电控盒	electric control box	16421038000358	1
14	R 电解电容	Capacitor	11329003000022	1
15	控制板	PCB	11222541000051	1
16	电控盒盖	Electric cover plate	16421042000006	1
17	顶盖板	Top cover plate	16421005000617	1
18	左侧板	Left side plate assembly	16421001000767	1
19	排水泵	Drain pump	\	0
20	阀板	Outlet valve plate	16421014000116	1
21	蒸发器总成	Evaporator assembly	16324018000010	1

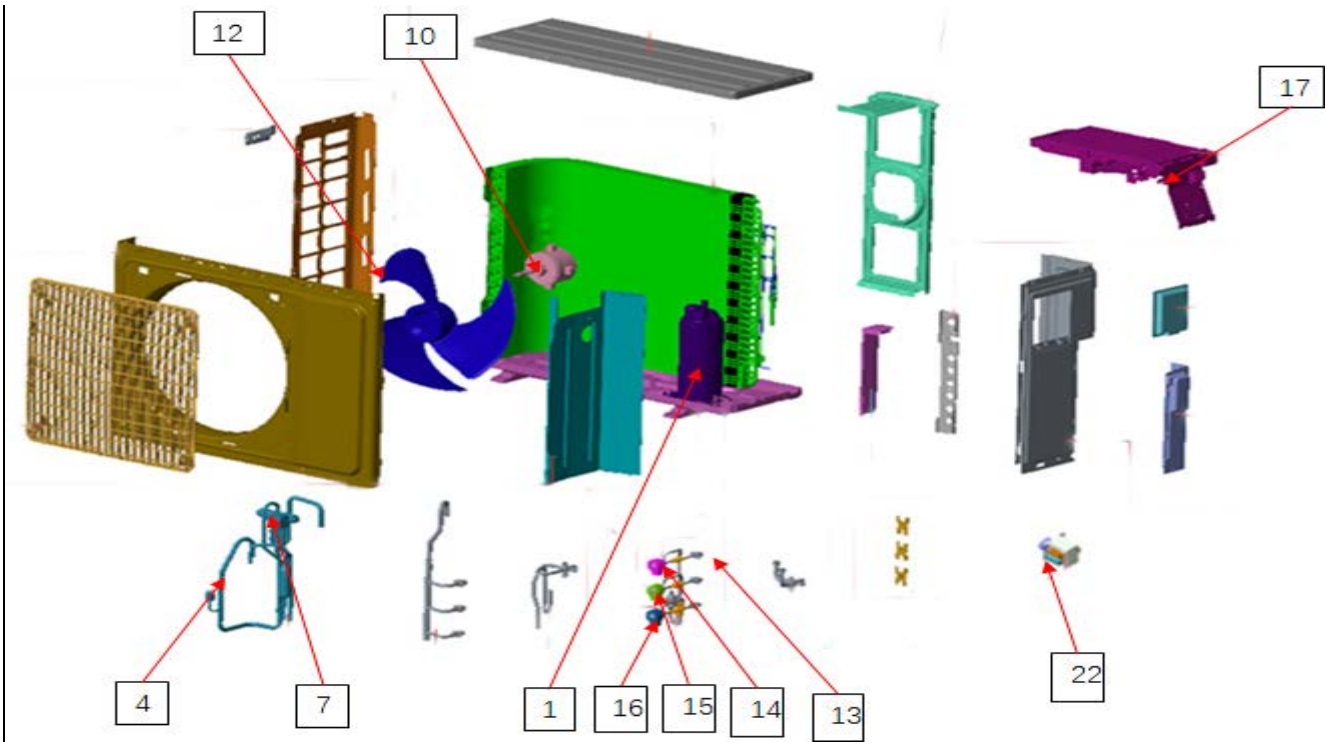
5. Outdoor Unit

5.1 14K， 18K



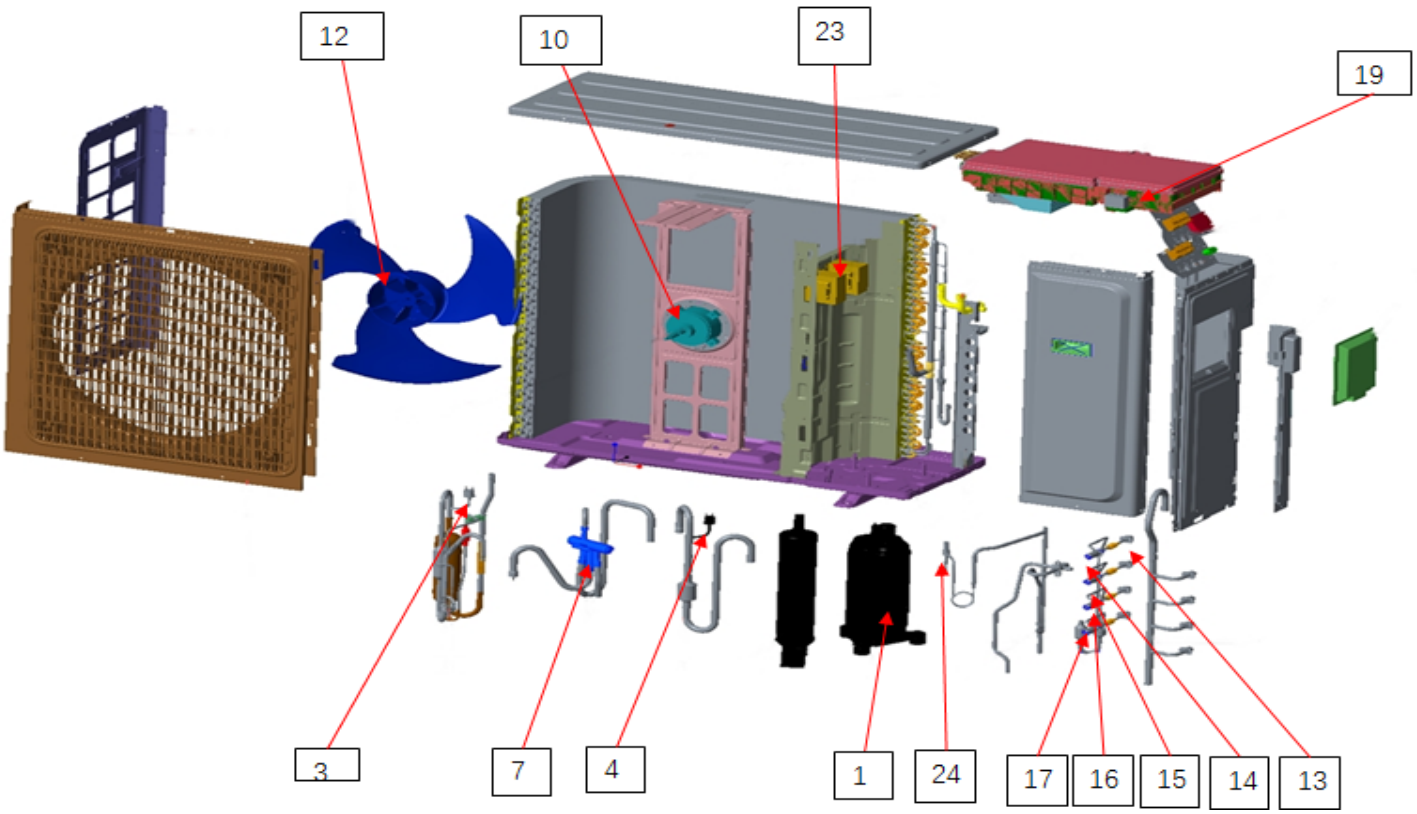
NO	(EN)	Code	Chinese Description	Qty
1	Compressor	11223003000285	压缩机及附件(美芝 ASN108D22UFZ)	1
4	low pressure switch	16442024000004	低压开关 H20PS C 0.15/0.05(弯管)	1
7	Four way valve body(Inclusion coil)	16441008000056	四通换向阀 DHF7/铜/弯口/220V/850/端子(R410a)	1
10	Fan motor	11230005000012	室外直流电机 D-40-8 310V/外置 线长 1050 TR	1
12	Fan	11320009000063	R 轴流风叶 1.8P 421*117 通透蓝 AS 全新料	1
13	EXV Body	16441014000045	电子膨胀阀阀体 1.8/DPF-TS6018-001-RK(R410a)降噪	2
14	EXV coil	16441015000015	电子膨胀阀线圈 QA(Q)1.5(红色插件) L=900	1
15	EXV coil	16441015000016	电子膨胀阀线圈 QA(Q)1.5(白色插件) L=900	1
16	Control assembly	11222550000024	R 主控制器 DLW-BP-DC4-1T2-14/18K(R410a)-E2(SY)	1
21	Reactor	11330034000020	R 电抗器 DK16-5-50 TR	1
26	Temperature sensors group	16430007000239	温度传感器 15K/20K/50K3950XH10 白 0.9m 组合封装	1
27	temperature sensor 1	16430007000241	温度传感器 20K3950XH8 白 0.75m 组合封装	1

5.2 21K， 27K



NO	(EN)	Code	Chinese Description	Qty
1	Compressor	11223003000259	压缩机及附件(美芝 ATM150D23UFZA2)无保护器	1
4	low pressure switch	16442024000004	低压开关 H2OPS C 0.15/0.05(弯管)	1
7	Four way valve body (Inclusion coil)	16441008000055	四通换向阀 DHF7/铜/弯口/240V/850/端子	1
10	Fan motor	11230005000046	室外直流电机 D-65-8 310VDC/外置 TR	1
12	Fan	11320009000064	R 轴流风叶新 2P 470*140AS 全新料 (通透蓝)	1
13	EXV Body	16441014000045	电子膨胀阀阀体 1.8/DPF-TS6018-001-RK(R410a)降噪	3
14	EXV coil (red)	16441015000015	电子膨胀阀线圈 QA(Q)1.5(红色插件) L=900	1
15	EXV coil (white)	16441015000016	电子膨胀阀线圈 QA(Q)1.5(白色插件) L=900	1
16	EXV coil (blue)	16441015000024	电子膨胀阀线圈 QA(Q)1.5(蓝色插件) L=900	1
17	Control assembly	11222550000023	R 主控制器 DLW-BP-DC4-1T3-21/27K(R410a)-E2(SY)	1
22	Reactor	11330034000012	R 电抗器 DK20-5.2-50 TR	1
27	Temperature sensors group	16430007000239	温度传感器 15K/20K/50K3950XH10 白 0.9m 组合封装	1
28	temperature sensor 1	16430007000240	温度传感器 20K3950XH4 蓝 0.8m 组合封装	1

5.3 36K

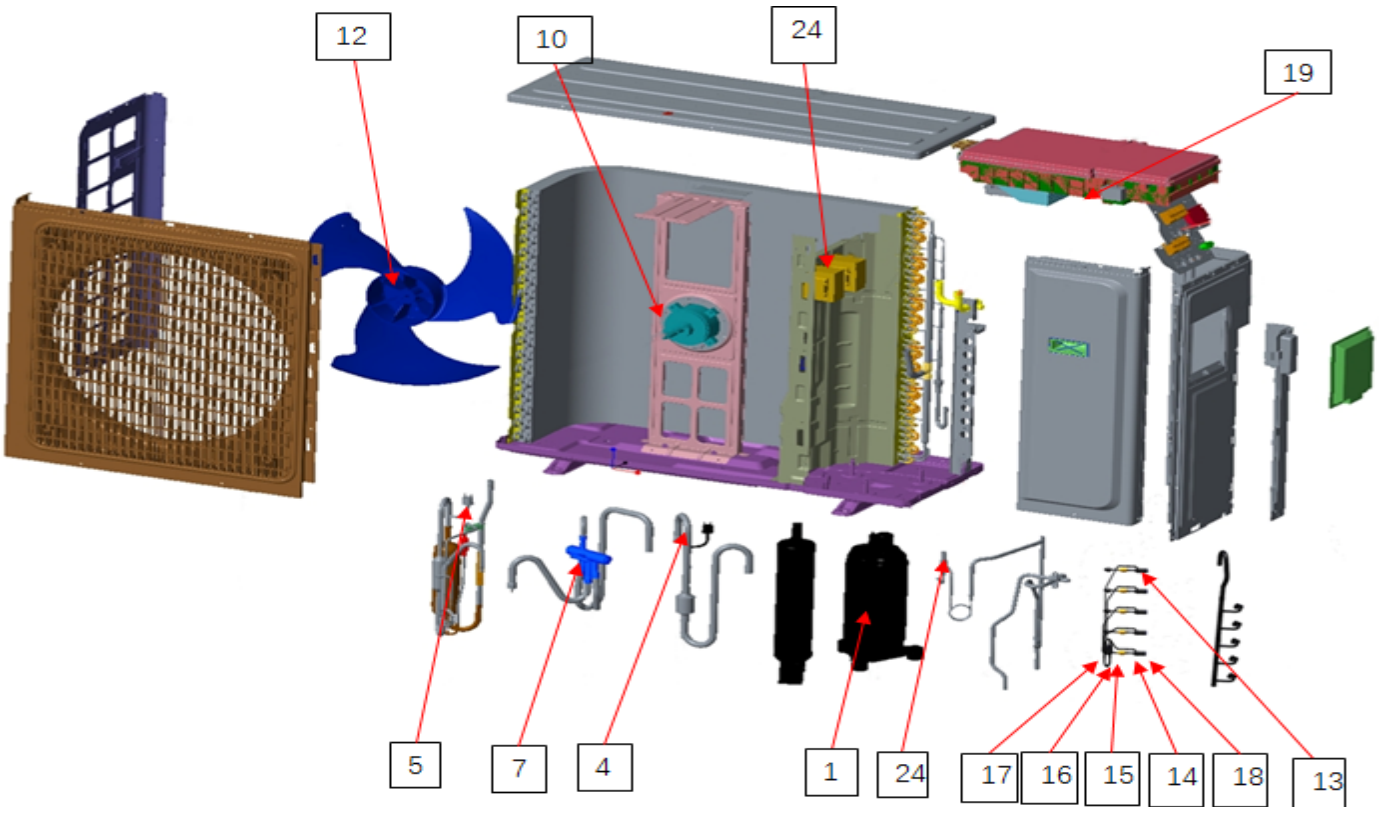


NO	(EN)	Code	Chinese Description	Qty
1	Compressor	16438004000118	压缩机 KTF310D43UMT	1
3	High pressure switch	16442024000038	高压开关 YK-4.2/3.3(弯管)	1
4	low pressure switch	16442024000036	低压开关 H20PS C 0.3/0.1(弯管)-YK	1
7	Four way valve body (Inclusion coil)	16441008000039	四通换向阀 DHF11/铜/直口/220V/850/端子	1
10	Fan motor	16430033000043	室外直流电机 D-310-120-8A 310V/内置 卧龙	1
12	Fan	11320009000061	R 轴流风叶新 3P 550*124 通透蓝 AS 全新料	1
13	EXV Body	16441014000045	电子膨胀阀阀体 1.8/DPF-TS6018-001-RK(R410a)降噪	4
14	EXV coil (red)	16441015000015	电子膨胀阀线圈 QA(Q)1.5(红色插件) L=900	1
15	EXV coil (white)	16441015000016	电子膨胀阀线圈 QA(Q)1.5(白色插件) L=900	1
16	EXV coil (blue)	16441015000024	电子膨胀阀线圈 QA(Q)1.5(蓝色插件) L=900	1
17	EXV coil (Black)	16441015000030	电子膨胀阀线圈 QA(Q)1.5(黑色插件) L=1000	1
18	Control assembly	11222550000042	R 主控制器 DLW-BP-DC4-1T4-(36/42K)-E2(SY)	1
23	Reactor	11330034000012	R 电抗器 DK20-5.2-50 TR	2
24	Solenoid value	16441012000041	电磁阀阀体 FDF2A ZB 6.35(R410a)(直)	1
25	Solenoid value coil	16441011000020	(ROHS)电磁阀线圈 FDF2A L=1000(蓝)	1
26	oil seperator	16442021000020	油分离器 VR160WH (7010001)	1
27	liquid and gas separator	16442023000051	气液分离器 QFQ-1.5L(φ16)	1
28	Temperature sensors group	16430007000217	温度传感器 20K3950XH12 白 1.3m 铜壳(组件)	1
29	temperature sensor 1	16430007000243	温度传感器 20K3950XH4 白 1.2m 组合封装	1
30	temperature sensor 2	16430007000239	温度传感器 15K/20K/50K3950XH10 白 0.9m 组合封装	1

NO	(EN)	Code	Chinese Description	Qty

1	Compressor	16438004000118	压缩机 KTF310D43UMT	1
4	low pressure switch	16442024000036	低压开关 H20PS C 0.3/0.1(弯管)-YK	1
5	High pressure sensor	16442024000038	高压开关 YK-4.2/3.3(弯管)	1
7	Four way valve body (Inclusion coil)	16441008000039	四通换向阀 DHF11/铜/直口/220V/850/端子	1
10	Fan motor	16430033000043	室外直流电机 D-310-120-8A 310V/内置 卧龙	1
12	Fan	11320009000061	R 轴流风叶新 3P 550*124 通透蓝 AS 全新料	1
13	EXV Body	16441014000045	电子膨胀阀阀体 1.8/DPF-TS6018-001-RK(R410a)降噪	5
14	EXV coil (red)	16441015000015	电子膨胀阀线圈 QA(Q)1.5(红色插件) L=900	1
15	EXV coil (white)	16441015000016	电子膨胀阀线圈 QA(Q)1.5(白色插件) L=900	1
16	EXV coil (blue)	16441015000024	电子膨胀阀线圈 QA(Q)1.5(蓝色插件) L=900	1
17	EXV coil (Black)	16441015000030	电子膨胀阀线圈 QA(Q)1.5(黑色插件) L=1000	1
18	EXV coil (Black)	16441015000031	电子膨胀阀线圈 QA(Q)1.5(黄色插件) L=1000	1
19	Control assembly	11222550000043	R 主控制器 DLW-BP-DC4-1T5-(36/42K)-E2(SY)	1
24	Reactor	11330034000016	R 电抗器 DK25-5-50	2
25	Solenoid value	16441012000041	电磁阀阀体 FDF2A ZB 6.35(R410a)(直)	1
26	Solenoid value coil	16441011000020	(ROHS)电磁阀线圈 FDF2A L=1000(蓝)	1
27	oil seperator	16442021000020	油分离器 VR160WH (7010001)	1
28	liquid and gas separator	16442023000051	气液分离器 QFQ-1.5L(φ16)	1
29	Temperature sensors group	16430007000217	温度传感器 20K3950XH12 白 1.3m 铜壳(组件)	1
30	temperature sensor 1	16430007000243	温度传感器 20K3950XH4 白 1.2m 组合封装	1
31	temperature sensor 2	16430007000238	温度传感器 20K3950XH4 蓝 1.4m 组合封装	1
32	temperature sensor 3	16430007000239	温度传感器 15K/20K/50K3950XH10 白 0.9m 组合封装	1

5.4 42K

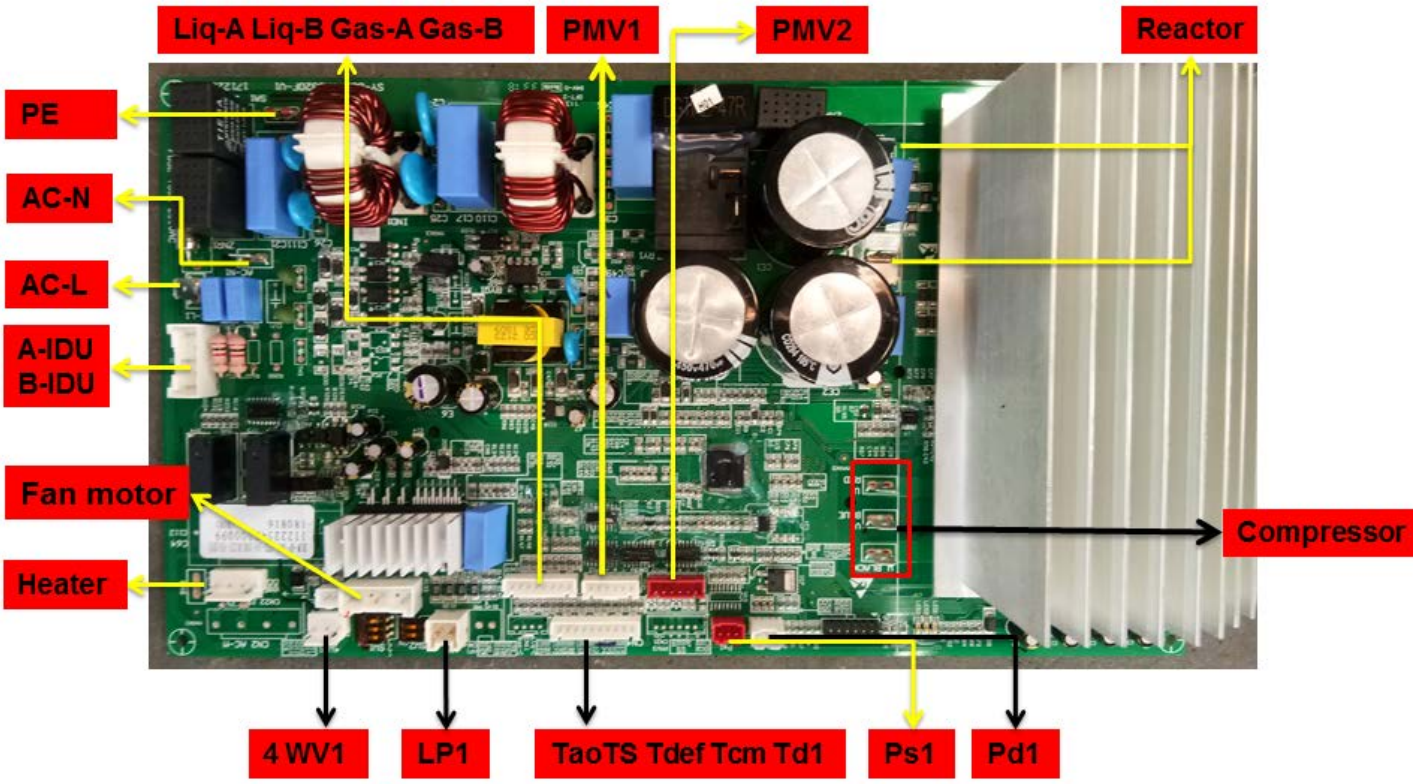


Part10 PCB Instruction

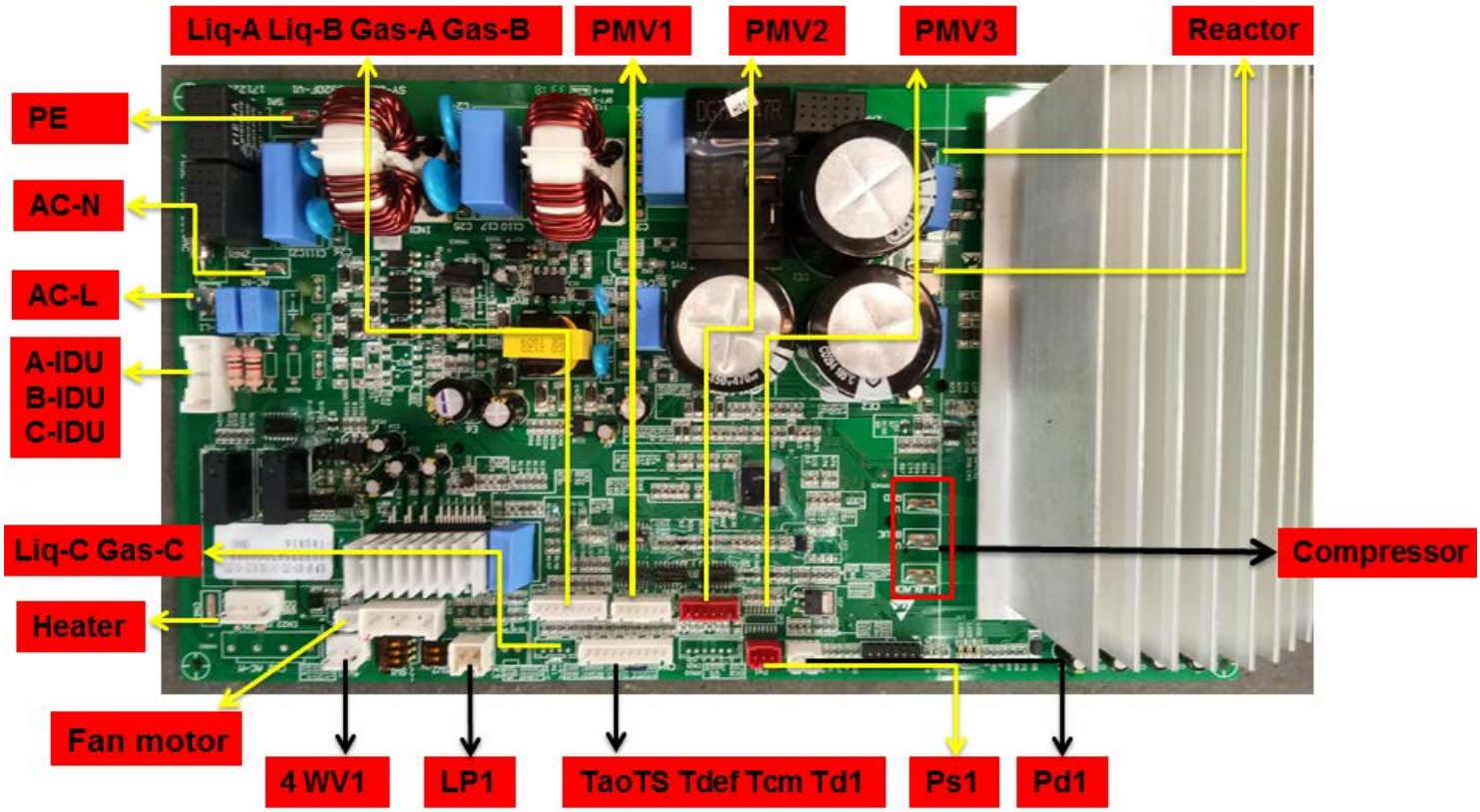
1. Outdoor Unit PCB

1.1 14K,18K

Main PCB and Driver modular



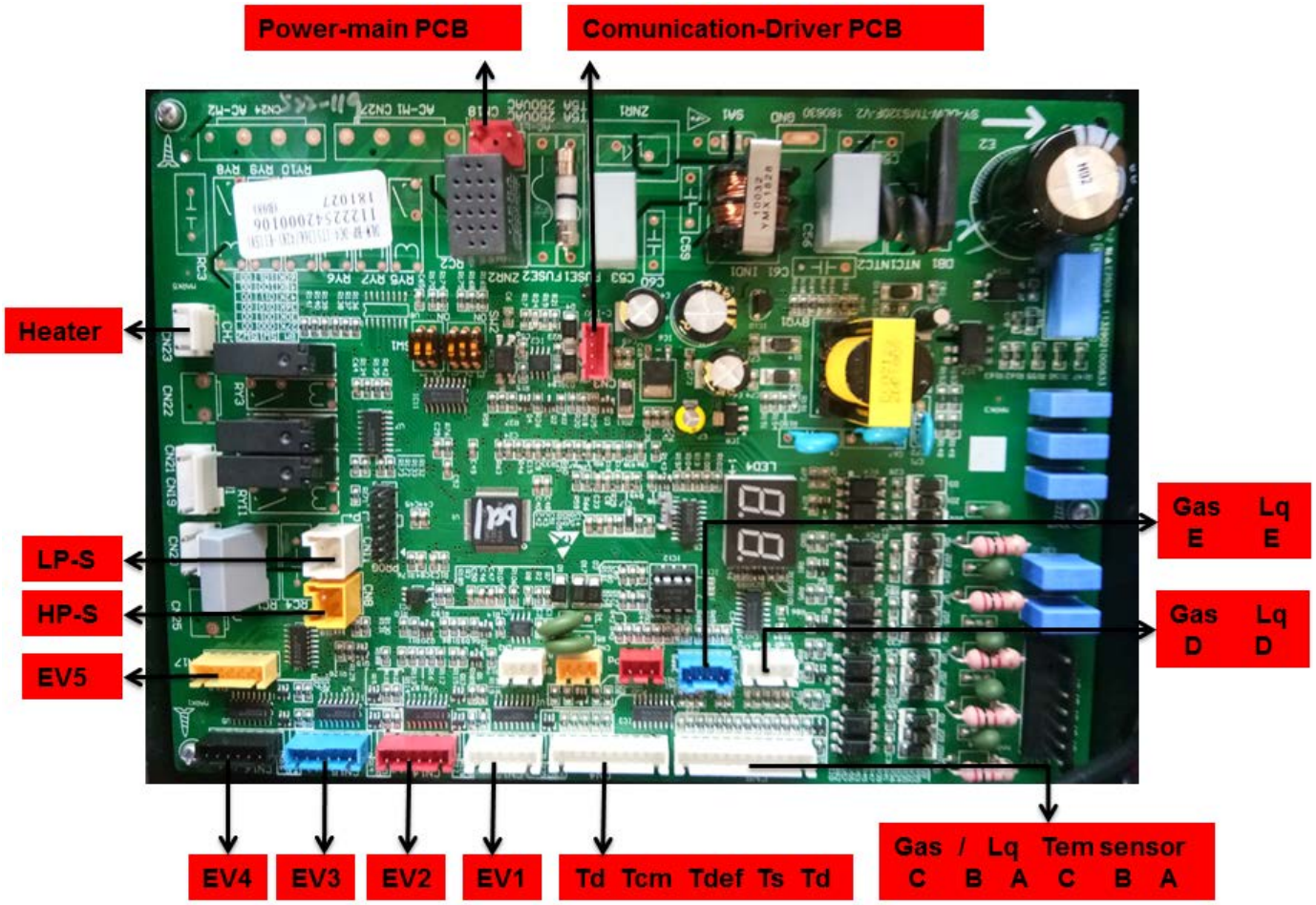
1.2 21K,27K



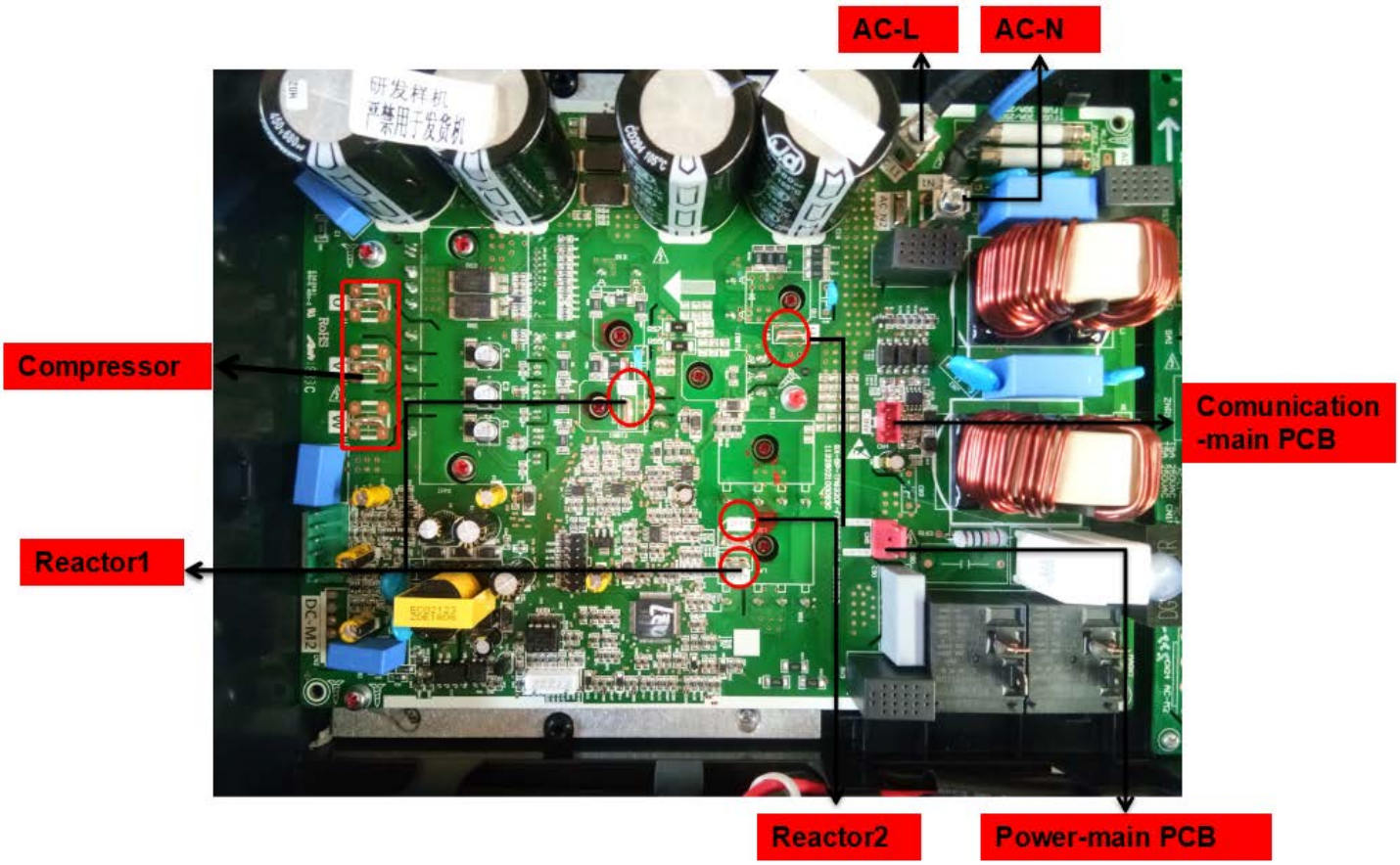
Main PCB and Driver modular

1.3 36K,42K

Main PCB

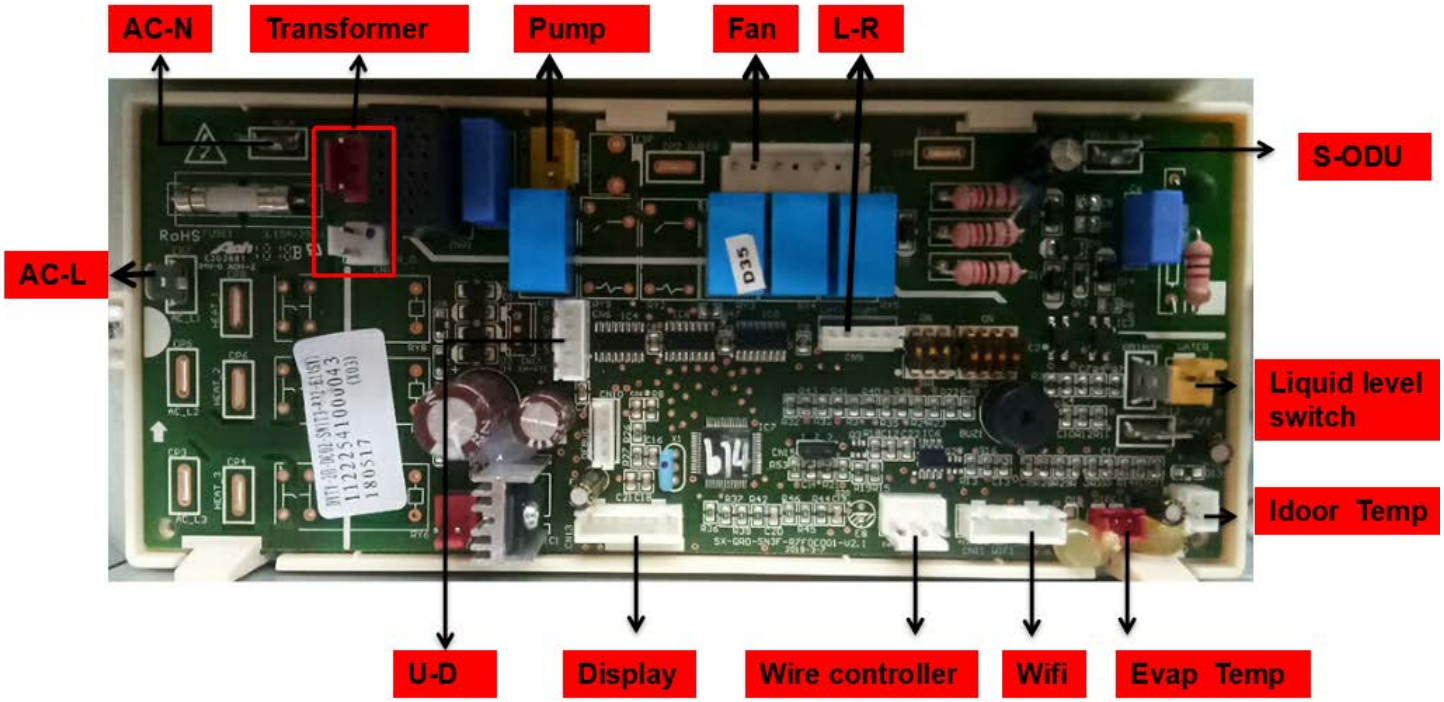


Drive Modular Board

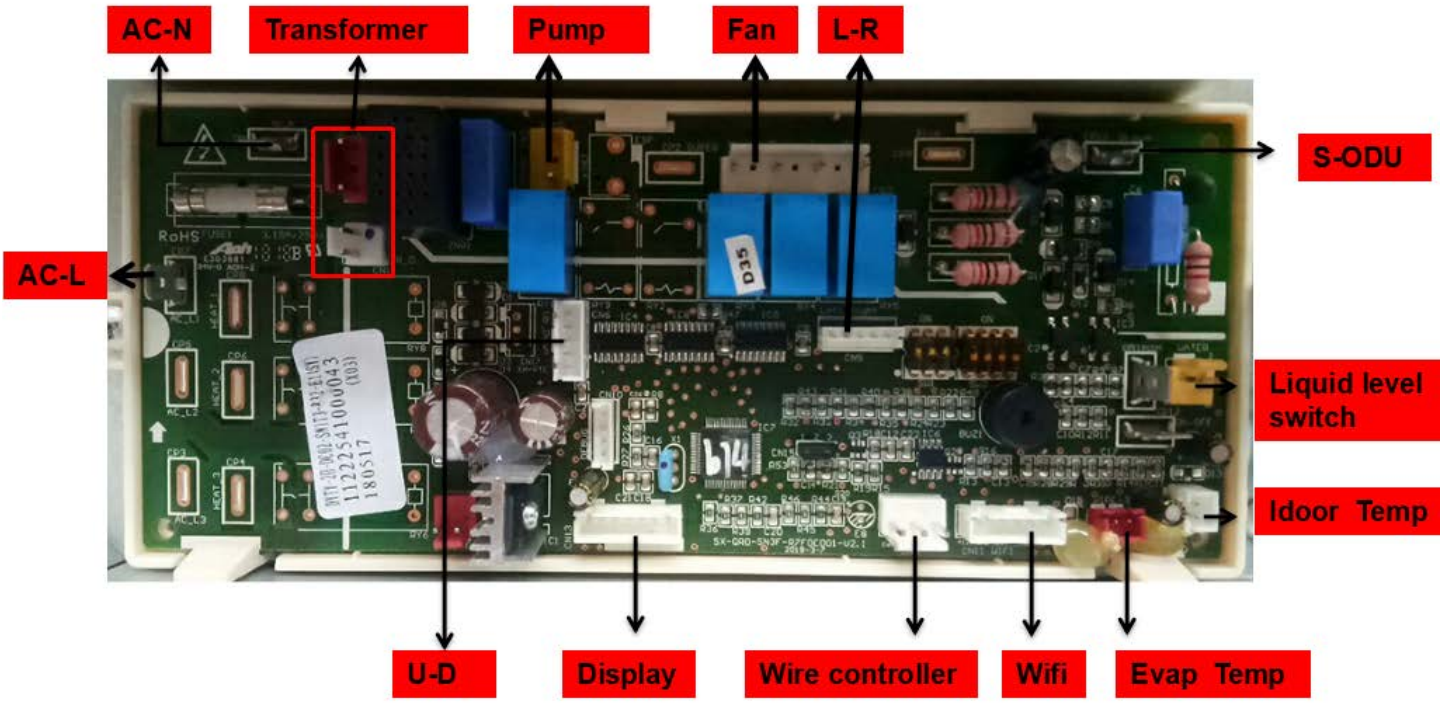


2. Indoor Unit PCB

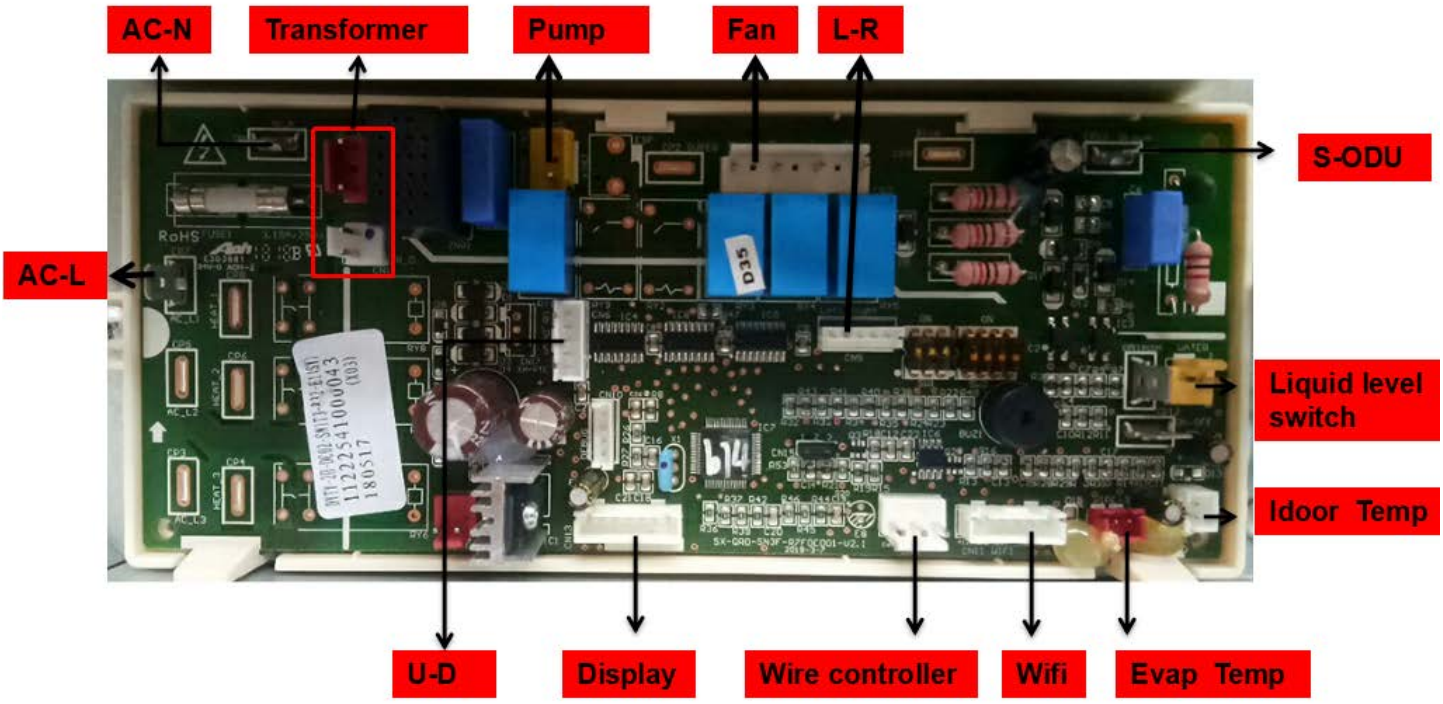
2.1 09K,12K,18K(Cassette)



2.2 09K,12K,18K(Ceilling&Floor) 11222541000043



2.3 07k,09K,12K,18K(Duct)



Part11 Trouble Shooting

CA/ CF/ Duct: Ceiling floor /Cassette/Duct unit ; WM: wall mounted unit

1. Fault code list (CA/ CF/ Duct NO.36; WM NO.48)

1.1Temp. sensor fault (CA/ CF/ Duct NO.9; WM NO.8)

Code display in IDU		Fault code description	Possible reason
CA/CF/Duct	WM		
A1	E1	Fault with the room temperature sensor on the N # indoor unit	Damage of the room temperature sensor on the indoor unit Poor contact of the room temperature sensor on the indoor unit Damage of wiring of the room temperature sensor on the indoor unit Damage of the main PCB on the indoor unit
A2	E3	Fault with the temperature Sensor in the Middle of N # indoor evaporator	Damage of the temperature sensor on the indoor unit Poor contact of the temperature sensor on the indoor unit Damage of wiring of the temperature sensor on the indoor unit Damage of the main PCB on the indoor unit
A3	H3	Fault with the liquid pipe temperature sensor on the N# indoor unit	Damage of the liquid pipe temperature sensor on the indoor unit Poor contact of the liquid pipe temperature sensor on the indoor unit Damage of wiring of the liquid pipe temperature sensor on the indoor unit Damage of the main PCB on the indoor unit
A4	H4	Fault with the gas pipe	Damage of the gas pipe temperature sensor

		temperature sensor on the N# indoor unit	on the indoor unit Poor contact of the gas pipe temperature sensor on the indoor unit Damage of wiring of the gas pipe temperature sensor on the indoor unit Damage of the main PCB on the indoor unit

Code display in IDU		Fault code description	Possible reason
CA/CF/Duct	WM		
C1	F6	Fault with the Enviromental temperature sensor on the outdoor unit	Damage of the Enviromental temperature sensor on the outdoor unit Poor contact of the Enviromental temperature sensor on the outdoor unit Damage of wiring of the Enviromental temperature sensor on the outdoor unit Damage of the main PCB on the outdoor unit
C3	F4	Fault with the discharge temperature sensor	Damage of the discharge temperature sensor on the outdoor unit Poor contact of the discharge temperature sensor on the outdoor unit Damage of wiring of the discharge temperature sensor on the outdoor unit Damage of the main PCB on the outdoor unit
C6	FA	Fault with the suction temperature sensor	Damage of the suction temperature sensor on the outdoor unit Poor contact of the suction temperature sensor on the outdoor unit Damage of wiring of the suction temperature sensor on the outdoor unit Damage of the main PCB on the outdoor unit
C8	E2	Fault with the Temperature Sensor in the middle of Outdoor condenser	Damage of the temperature sensor on the outdoor unit Poor contact of the temperature sensor on the

C 2		Fault with the Defrosting Temperature Sensor on Outdoor	outdoor unit Damage of wiring of the temperature sensor on the outdoor unit Damage of the main PCB on the outdoor unit

1.2 Communication fault (CA/ CF/ Duct NO.3; WM NO.5)

Code display in IDU		Fault code description	Possible reason
CA/CF/Duct	WM		
A9	5E/E5	Communication error between the outdoor unit and the N # indoor unit	Damage of the main PCB on the indoor unit Damage of the main PCB on the outdoor unit poor wiring
AA	E8/H2	Communication error between the wired controller and main PCB of the N# indoor unit	poor wiring Damage of the wired controller Damage of the main PCB on the indoor unit
D3(J3)	F8	Communication error between the driver PCB and main PCB of the outdoor unit	Damage of the driver PCB on the outdoor unit Damage of the main PCB on the outdoor unit poor wiring

1.3 IDU fault (CA/ CF/ Duct NO.3; WM NO.3)

Code display in IDU		Fault code description	Possible reason
CA/CF/Duct	WM		
A5	H1	Fault with the drainage on N# Indoor unit	Float switch disconnected or poor wiring Error setting of model parameters Drain plug Damage of the pump
A6	E4	Fault with the Fan motor of N # indoor unit	Low voltage poor wiring Damage of the main PCB on the indoor unit Damage of the motor
AD	P7	Indoor anti-freezing protection	Dirty Blockage of evaporator Indoor fan abnormal

1.4 Refrigerant circuit fault

(CA/ CF/ Duct NO.5; WM NO.6)

Code display in IDU		Fault code description	Possible reason
CA/CF/Duct	WM		
E3	P5	High discharge temperature Protection	Lack of the refrigerant Stop valve unopened Damage of the main PCB on the outdoor unit
E8	P4/P6	Cooling ：high temperature Protection of outdoor unit Heating: high temperature Protection of indoor unit	Cooling ：Poor condenser heat exchange Heating ：Poor evaporator heat exchange
F6/H4	H7	Low pressure protection	Lack of the refrigerant Heat exchanger viscera
FH	H5	Lower discharge temperature protection	temperature sensor shedding Damage of the main PCB on the outdoor unit
(B5)H5	P3	Lack of refrigerant	Lack of the refrigerant Stop valve unopened

1.5 ODU components fault (CA/ CF/ Duct NO.7; WM NO.10)

Code display in IDU		Fault code description	Possible reason
CA/CF/Duct	WM		
(B1)H1	P2	High pressure Switch Protection	System dirty blocking Damage of High Voltage Pressure Switch
H4	H6	Low pressure switch protection	Lack of the refrigerant Stop valve unopened damage of low press switch
E1	H8	Fault of four way valve	Damage of four-way valve Damage to coil of four-way valve
34	F3/LA/L2 /L3	Compressor failed to start	Compressor power line not connected
3E			Compressor sequence connection error

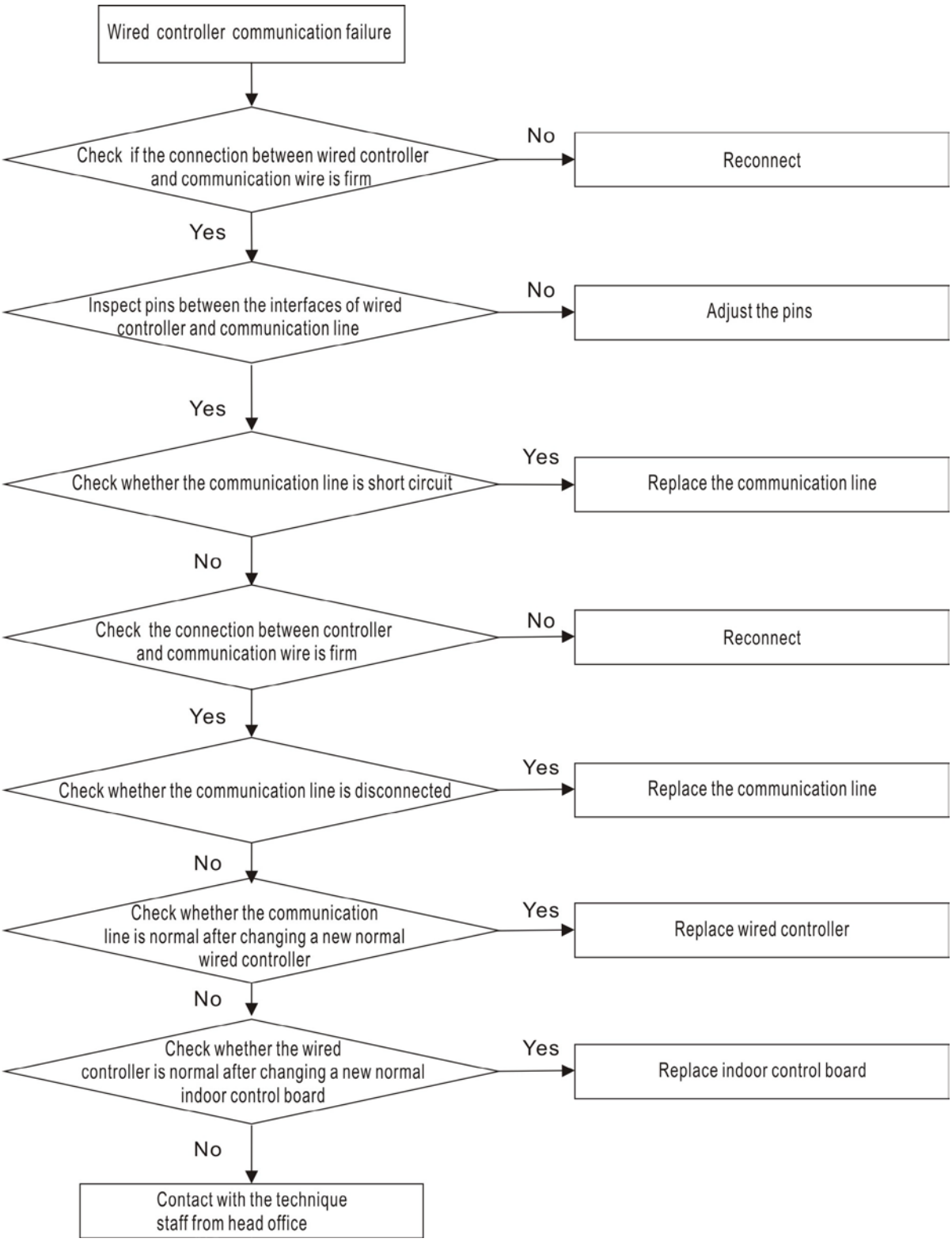
			Damage of compressor
3H	F1/LD/LE/LF	Fault with the Fan motor of outdoor unit	Damage of motor
3C	LF	Outdoor DC Fan Out-of-step Protection & over current protection	DC motor failure High Speed of DC Fan System dirty blocking

1.6 ODU electeic control fault (CA/ CF/ Duct NO.9; WM NO.16)

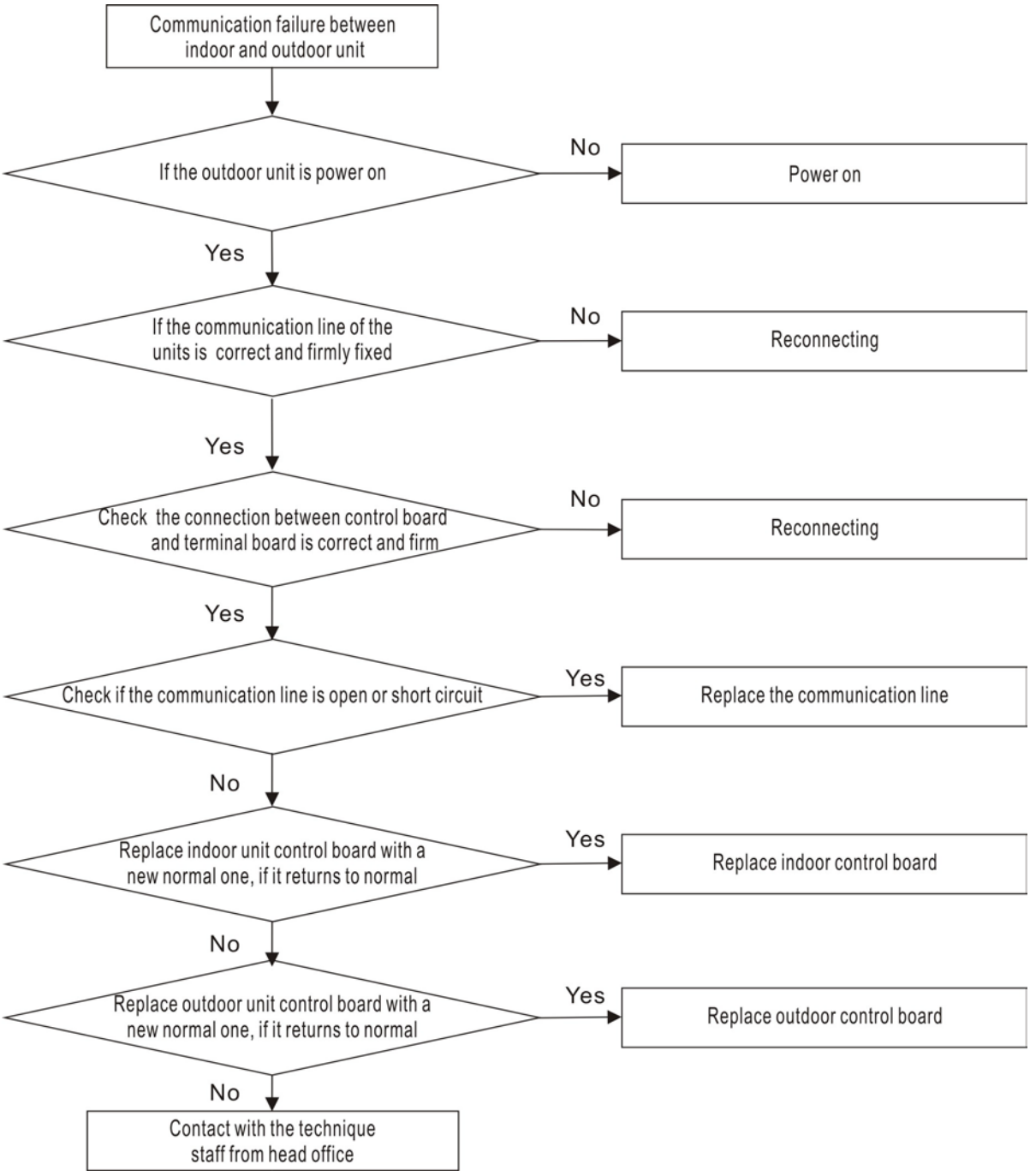
Code display in IDU		Fault code description	Possible reason
CA/CF/Duct	WM		
31	F1/L1/L4/L7/L8	IPM Module failure protection	compressor damage compressor IPM Module damage system blockage
32 J7	F9	Compressor drive hardware protection & Fault with the outdoor unit EEPROM	chip damage
35	P8/J8	Over-current Protection of the compressor drive modular	Excessive running current of the unit Voltage drops abruptly during operation
36	F7/L0/F1	Over-voltage Protection of the compressor drive modular	Excessive input voltage Lower input voltage
37	HE/HF	Abnormal temperature sensor in IPM/PFC module	Driver board IPM/PFC module device is broken
39	L9	Temperature of compressor drive modular too high protection	Compressor IPM Module sensor damage Poor contact between compressor IPM module andradiator
3J	LD	AD Abnormal Protection for Outdoor DC Fan Current Detection	Abnormal component of the fan driver modular
3F	F2/L5/L6/LC	Compressor drive PFC protection	Damage of the PFC circuit components Reactor damage
41	LH	IPM Protection of Outdoor DC Fan drive modular	The IPM Device of DC Motor is Bad

2. Failure analysis

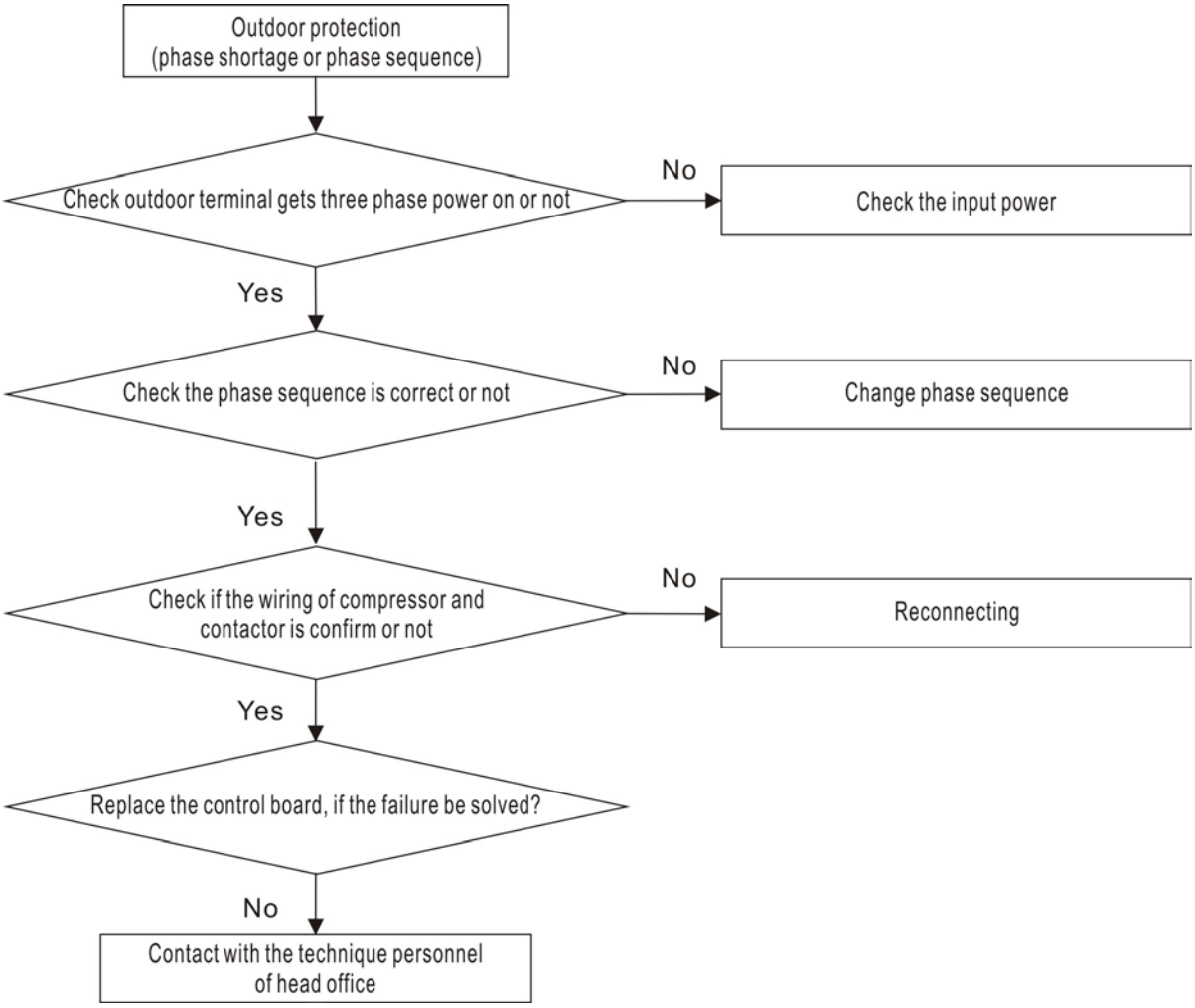
2.1【H2】Wired controller communication failure


Wired controller communication failure
Check if the connection between wired controller and communication wire is firm
No
Reconnect
Yes
Inspect pins between the interfaces of wired controller and communication line
No
Adjust the pins
Yes
Check whether the communication line is short circuit
Yes
Replace the communication line
No
Check the connection between controller and communication wire is firm
No
Reconnect
Yes
Check whether the communication line is disconnected
Yes
Replace the communication line
No
Check whether the communication line is normal after changing a new normal wired controller
Yes
Replace wired controller
No
Check whether the wired controller is normal after changing a new normal indoor control board
Yes
Replace indoor control board
No
Contact with the technique staff from head office

2.2【E5】Communication failure between indoor and outdoor unit

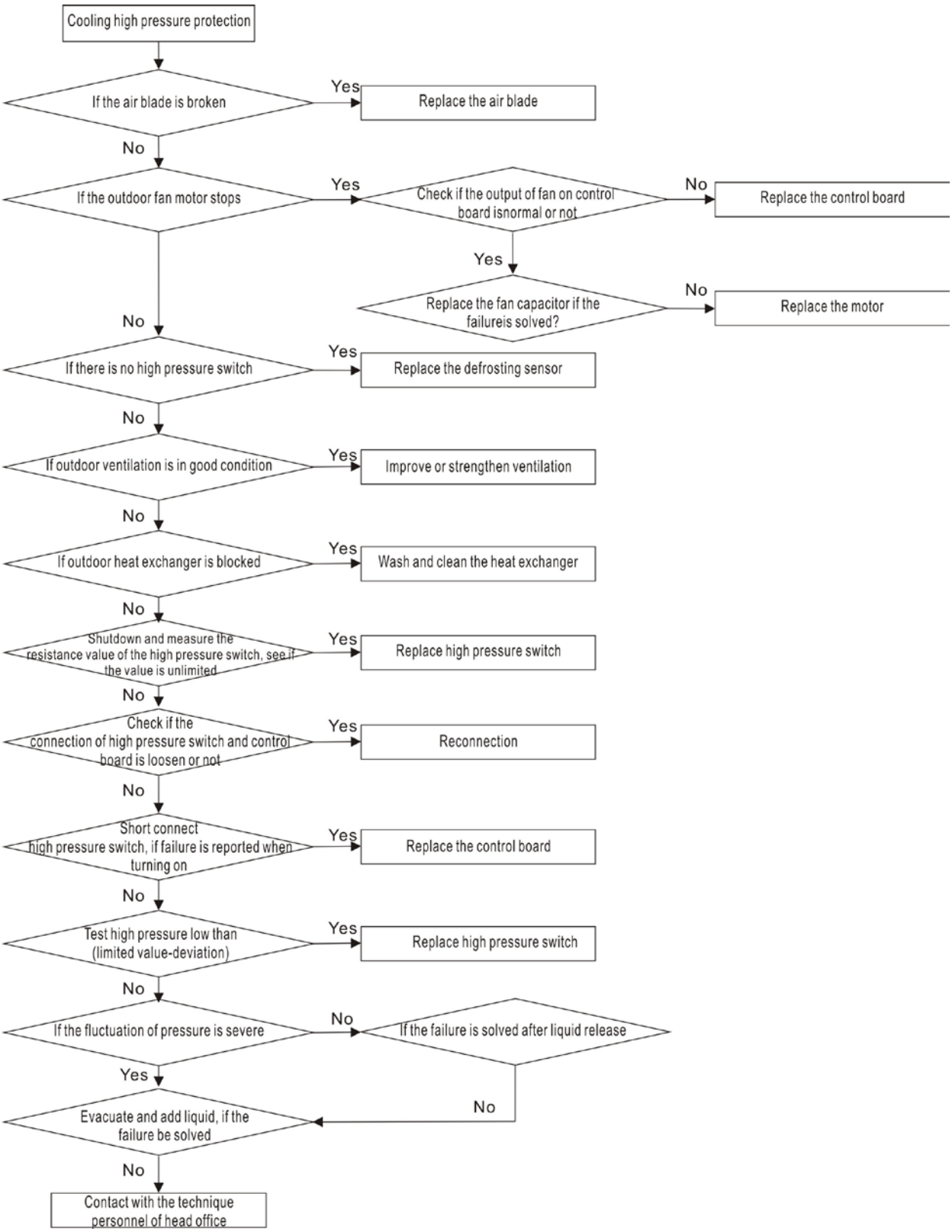


Outdoor protection(phase sequence)

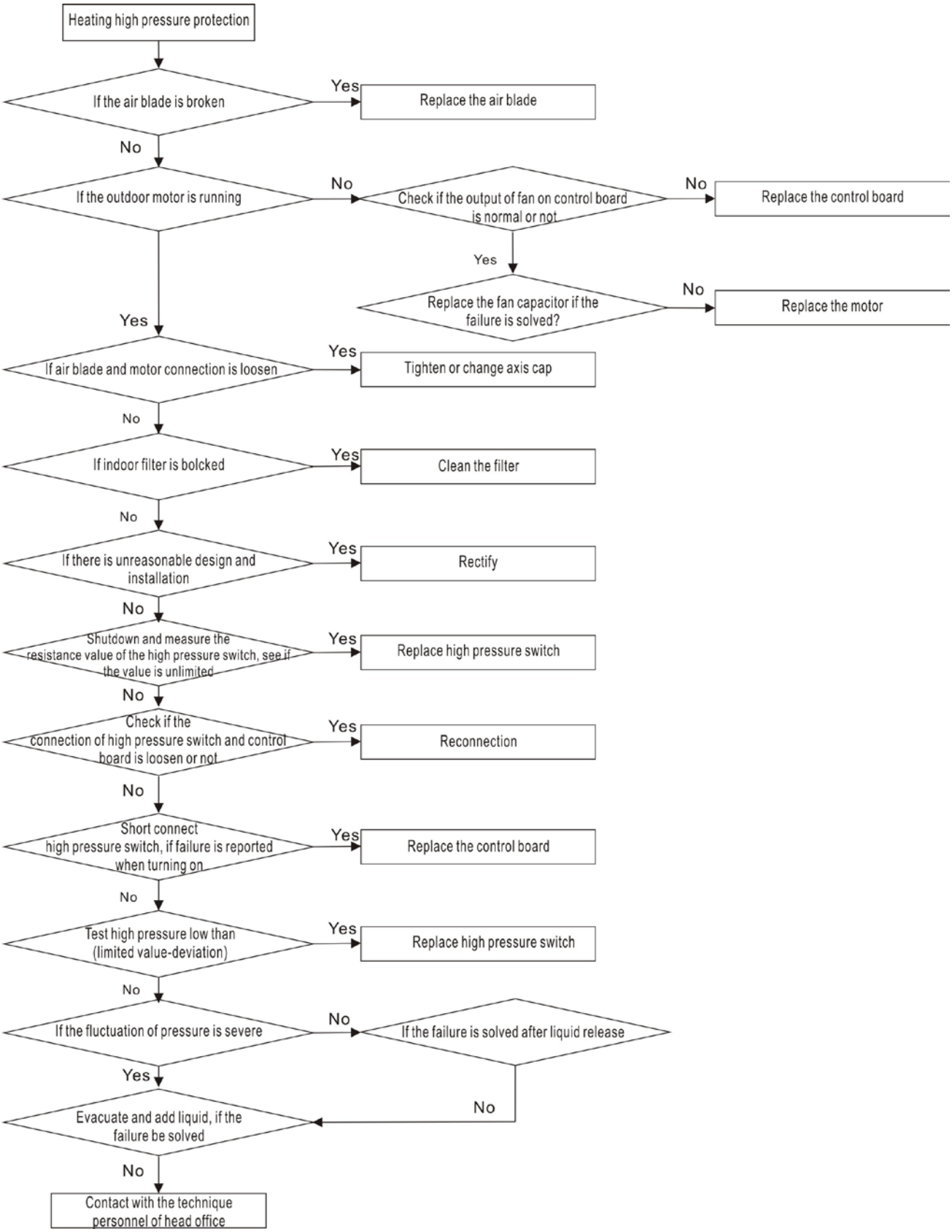


2.3【P2】high pressure protection

Cooling high pressure protection

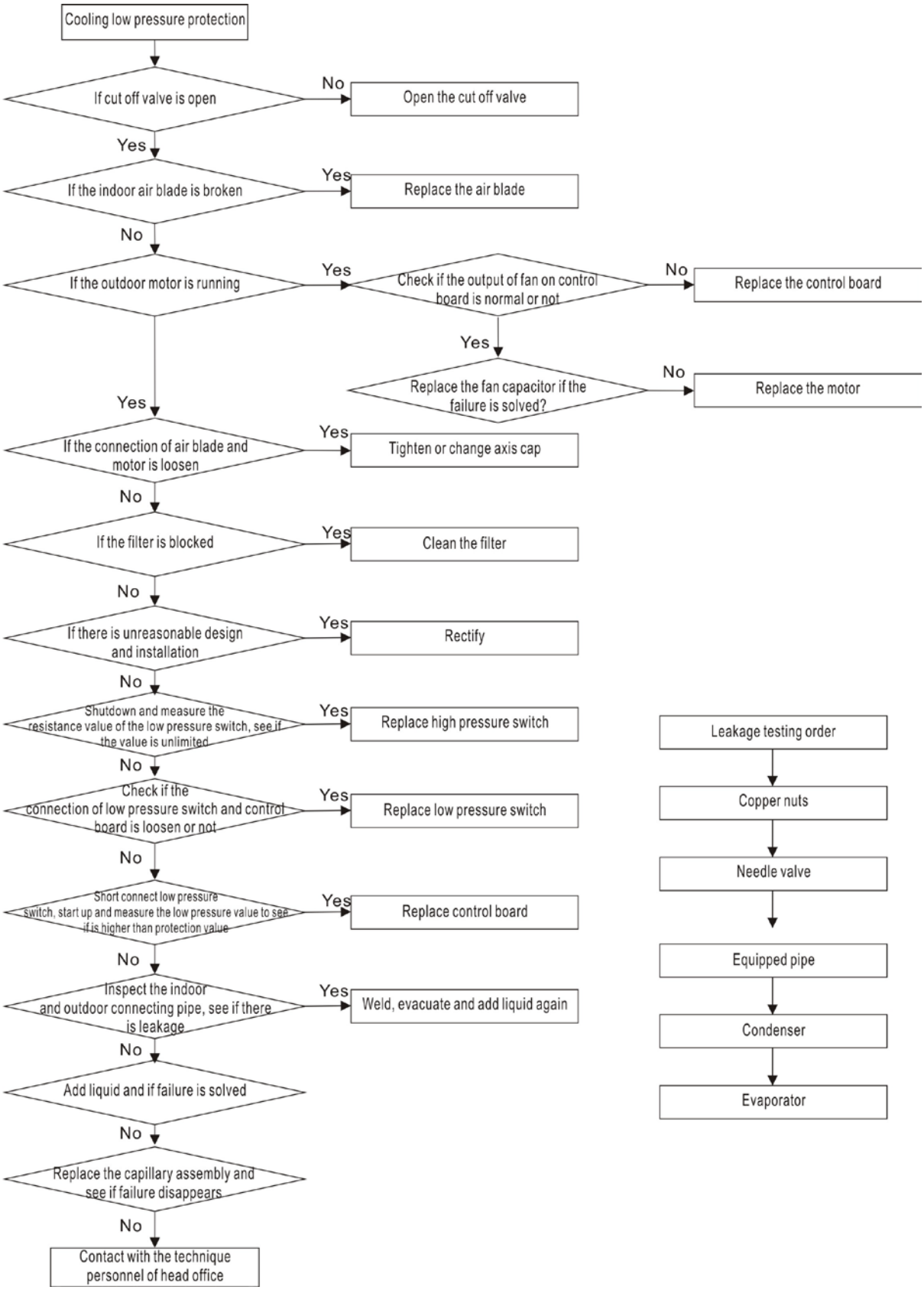


Heating high pressure protection

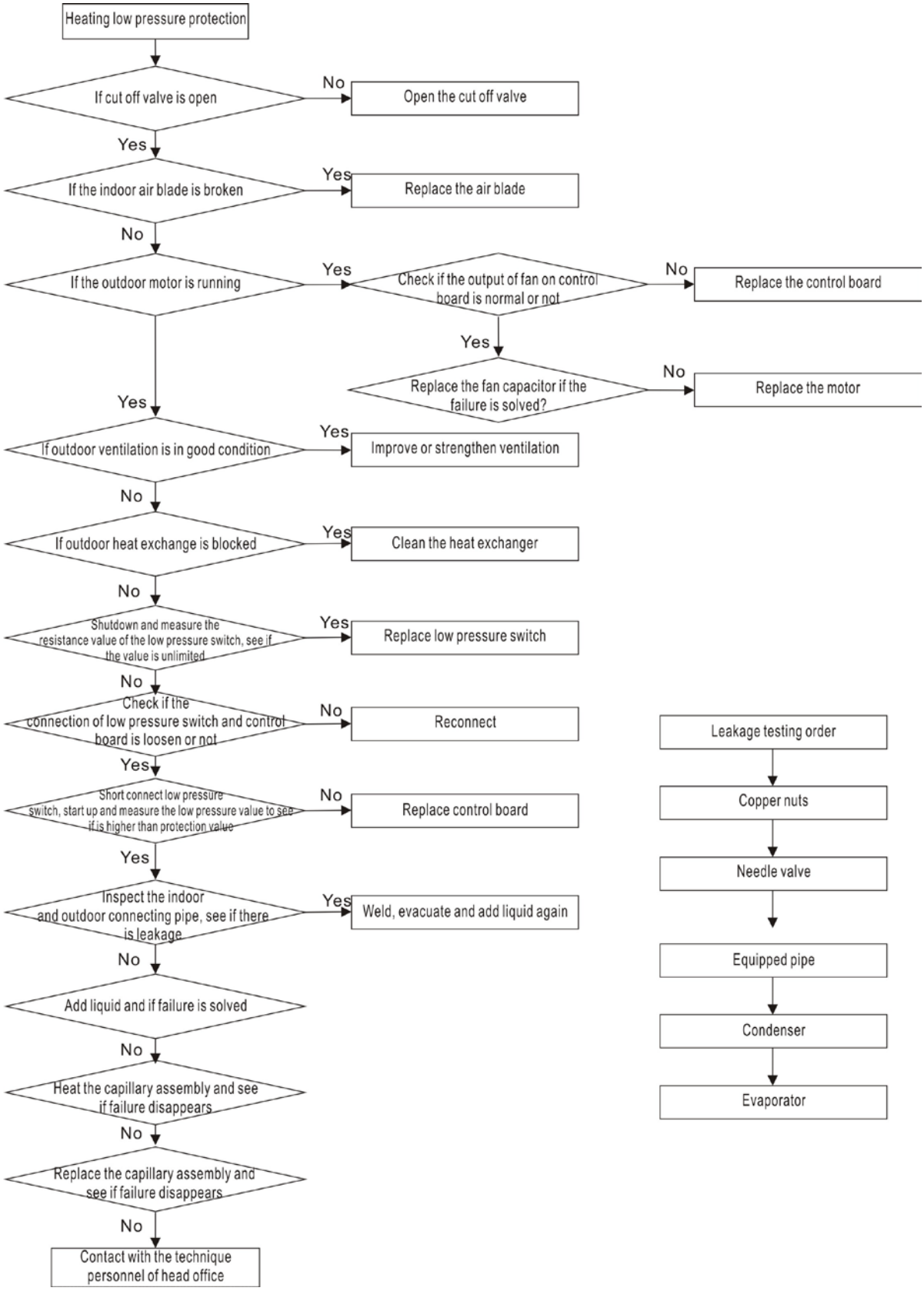


2.4【H6】low pressure protection

Cooling low pressure protection

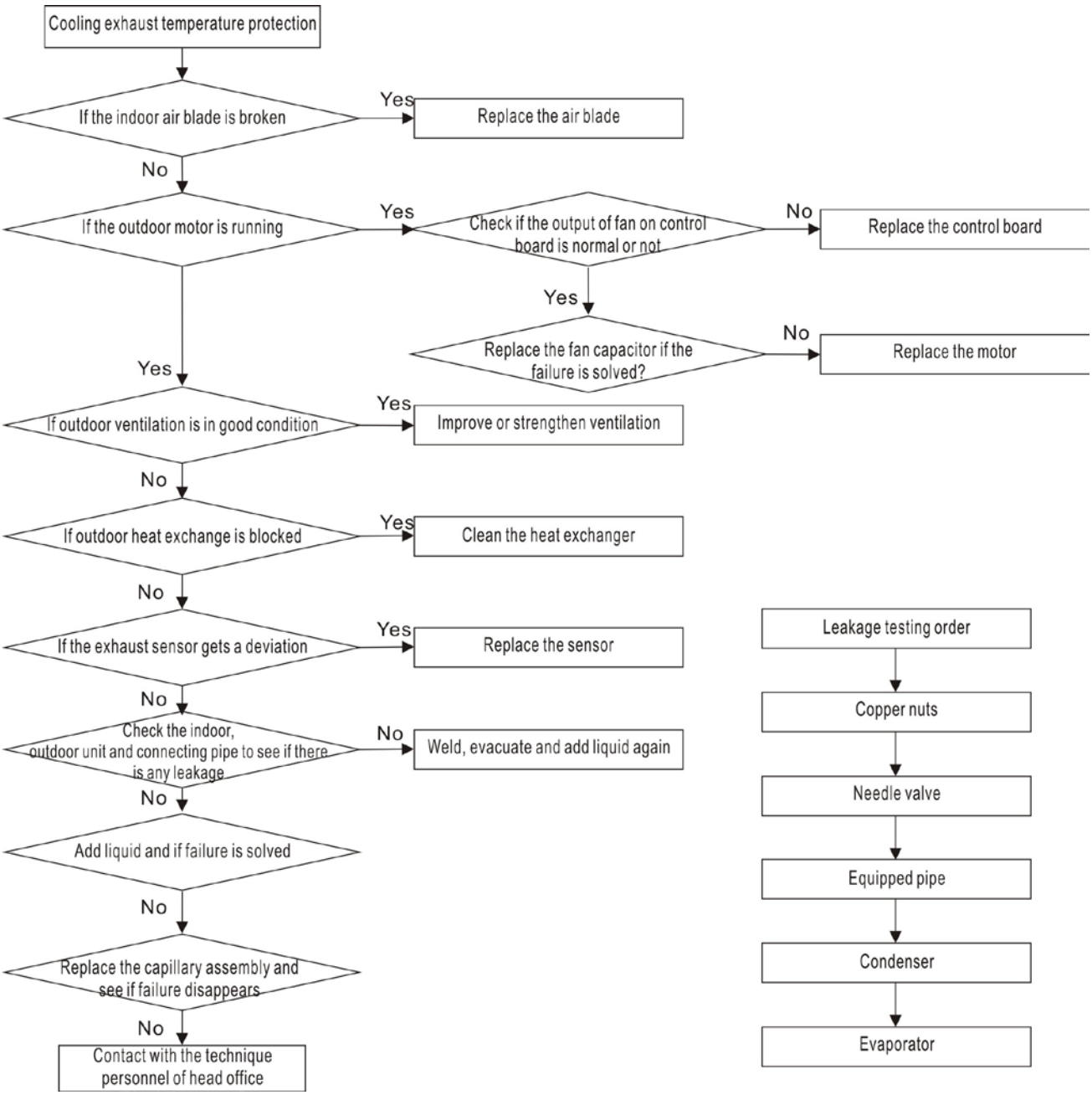


Heating low pressure protection

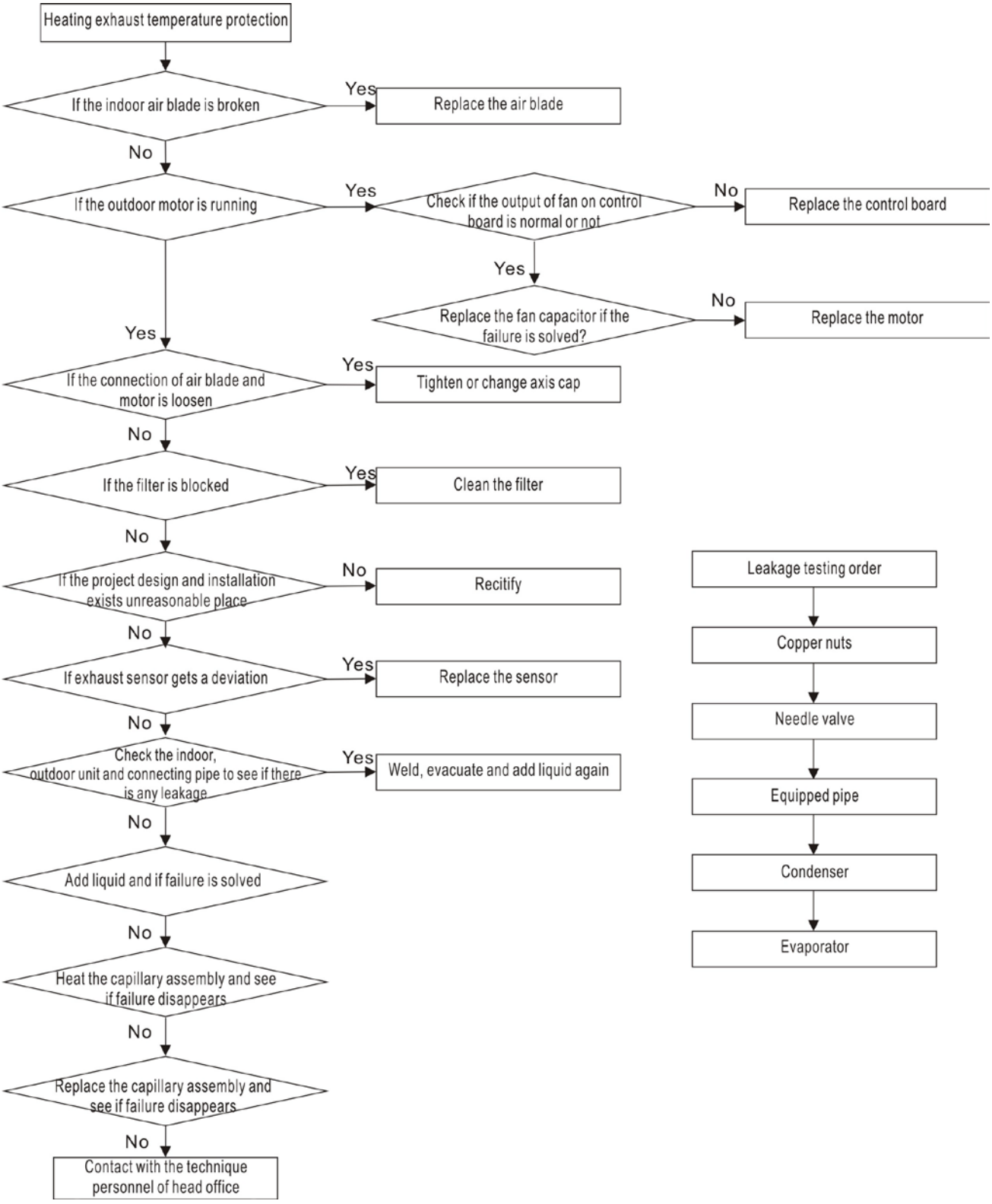


2.5【P5】High exhaust temperature protection

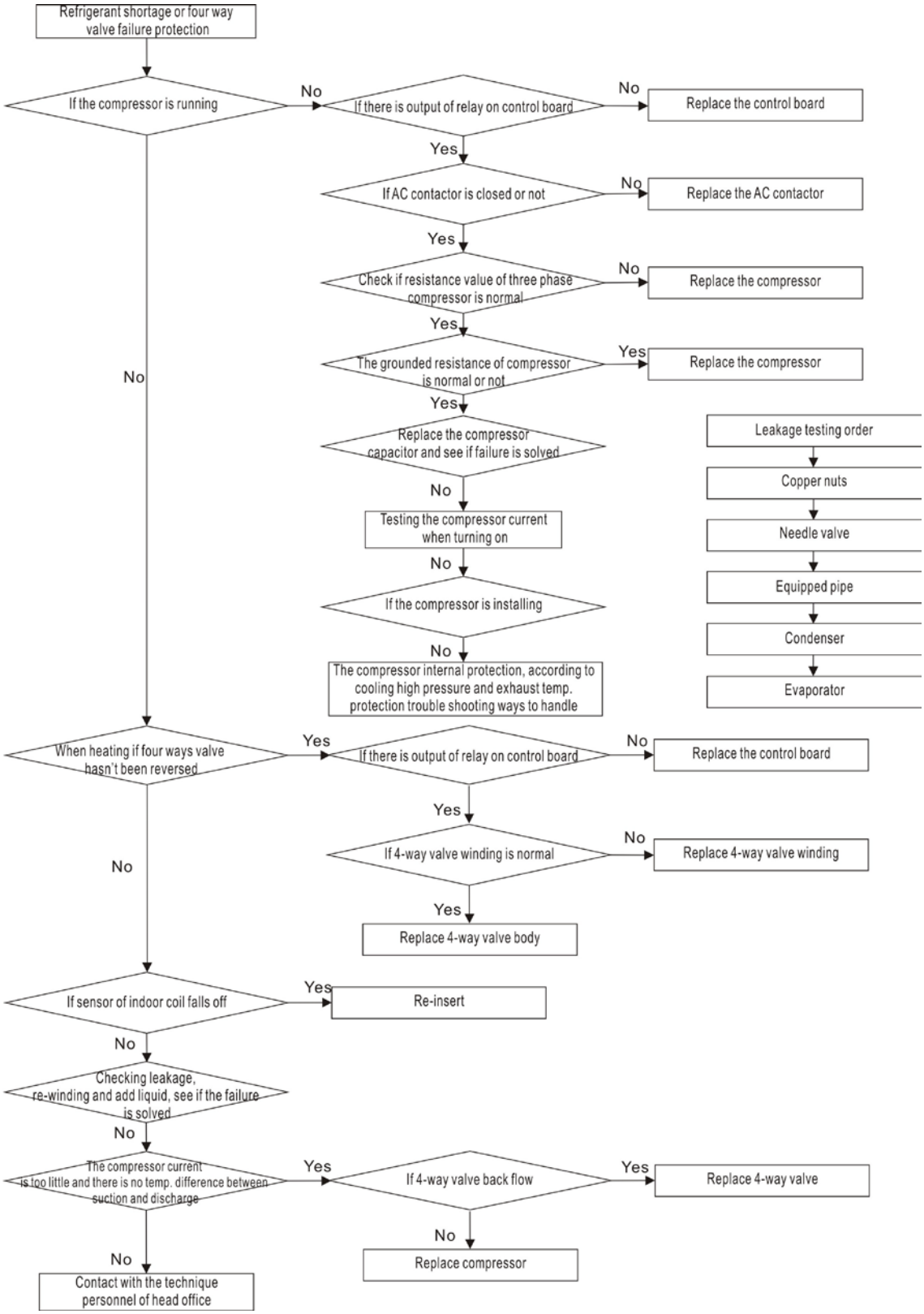
Cooling exhaust temperature protection



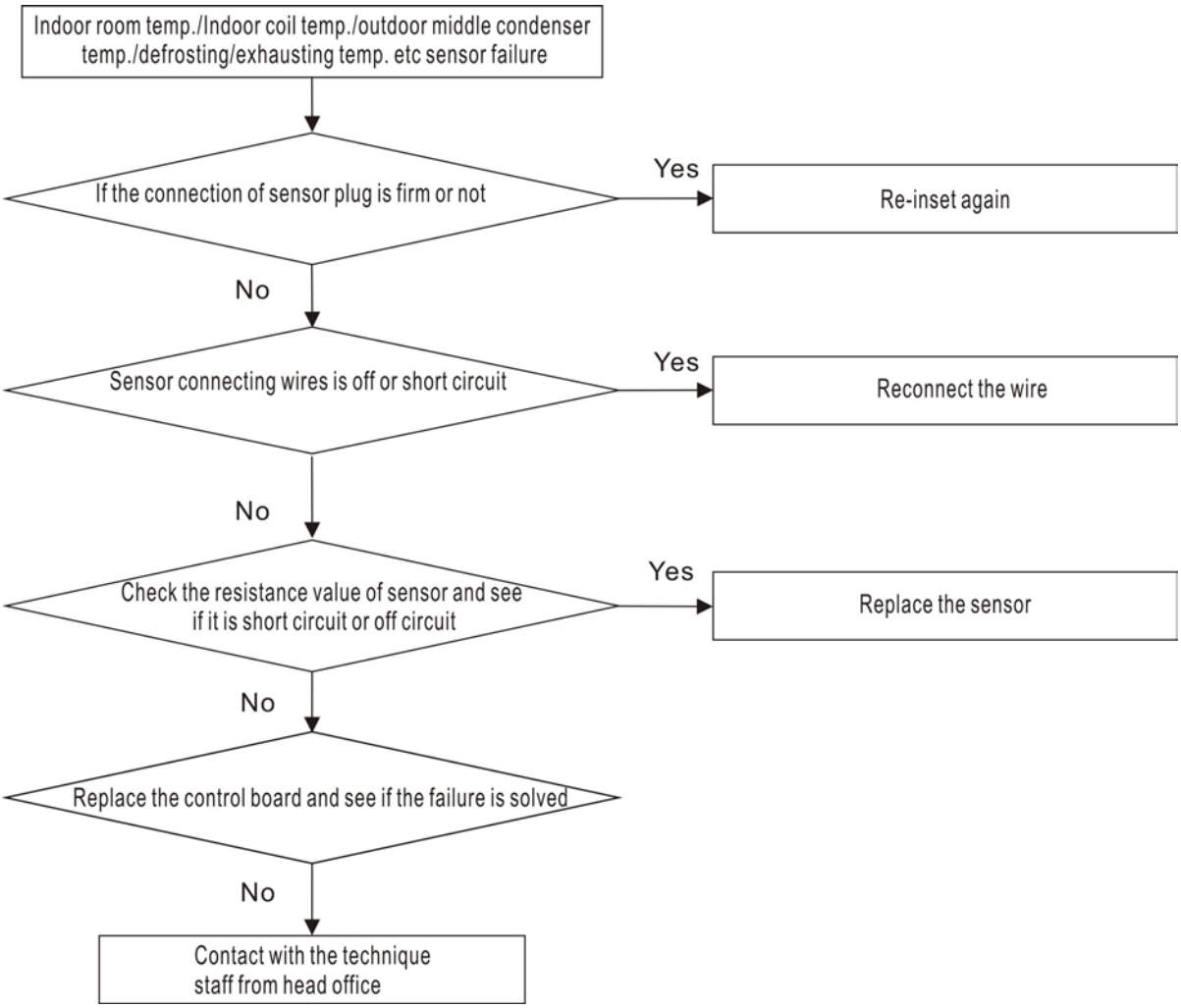
Heating exhaust temperature protection



2.6【H8】four way valve failure protection



2.7 Sensor failure protection



更新记录表

更新时间	更新版本	更新人	更新内容
2020.4.3	20200403	尹春梅	1.删除详细参数表，以 EXCEL 为准 2.删除安装部分，以研发说明书为准 3.更新单风轮 36/42K 数据、3D 爆炸图、电气原理图、尺寸图
2020.4.13	20200413	尹春梅	1.故障表，商用内机 F6 → F6(H4) 2.故障表，外机 F0/LE→F1/LD/LE/LF 3.故障表，外机电控 P8→P8/J8 4.故障表，外机电控 F7/L0→F7/L0/F1 5.故障表，新增故障代码 37
2020.6.9	20200413	尹春梅	1.更新风管尺寸